Bundle Public Research, Development & Innovation Committee - Velindre University NHS Trust 7 April 2022

0.0.0 14:00 - PRESENTATIONS

0.0.1 Memory Mates – Bringing Nursing Research to Life

To be supported via a presentation by Michele Pengelly, Supportive Care Lead Nurse

0.0.1 Memory Mate presentation for RDI April 2022.pptx

1.0.0 14:20 - STANDARD BUSINESS

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

1.1.0 Apologies

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

1.2.0 In Attendance

Michele Pengelly, Supportive Care Lead Nurse (for Item 0.0.1)
Professor Mererid Evans, Velindre Futures Director and WCRC Director (for Item 4.1)

1.3.0 Declarations of Interest

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

1.4.0 Review of Action Log

Led by Dr Jacinta Abraham, Executive Medical Director

1.4 RDI PUBLIC ACTION LOG_13.01.2022 UPDATED.xlsx

2.0.0 14:25 - CONSENT ITEMS

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

2.1.0 FOR APPROVAL

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

2.1.1 Minutes from the meeting of the Public Research, Development & Innovation Sub-Committee held on the 13th January 2022

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

2.1.1 RDI Public Minutes 13.01.2022_FINAL.docx

2.2.0 FOR NOTING

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

2.2.1 Summary of the Minutes from the meeting of the Private Research, Development & Innovation Sub-Committee held on the 13th January 2022

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

2.2.1 Summary of the RDI Private Minutes 13.01.2022_FINAL.docx

3.0.0 14:40 - MAIN AGENDA

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

3.1.0 Executive Summary Highlights

Led by Dr Jacinta Abraham, Executive Medical Director

3.1 RDI 07Apr2022_ExecutiveBriefing_JAbraham.docx

3.1 RDI 07Apr2022_ExecutiveBriefing_JAbraham.pptx

4.0.0 STRATEGY, PERFORMANCE AND DELIVERY

Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee

4.1.0 14:50 - Wales Cancer Research Strategy (CReSt)

To be supported via a presentation by Professor Mererid Evans, Velindre Futures Director and WCRC Director
Please note : This paper will be sent under separate cover to Committee Members and it is not for circulation to the wider public.

4.2.0 15:10 - Velindre Futures Research and Development Cancer Strategy ^Oral Update

Led by Libby Batt, Head of R&D Cancer Strategy

4.3.0 15:20 - New Velindre Cancer Centre (nVCC) Research Development and Innovation Update

Led by Robyn Davies, Head of Innovation

4.3 nVCC - RDI Update - nVCC Project Board Mar 2022 v0.1.docx

4.3 nVCC-RDI Update Report - March 2022 v0.1 HM.docx

4.4.0 15:30 - Trust Research, Development and Innovation Performance Report

Led by
• Sarah Townsend, Head of R&D / Christopher Cotterill-Jones, Research Delivery Manager
• Jonathan Patmore, Finance Manager
• Edwin Massey, Consultant Haematologist / Peter Richardson, SMT Lead RD&I / Sian James, RD&I Facilitation Lead - WBS Representatives
• Professor Jane Hopkinson, Velindre Professor of Nursing and Interdisciplinary Cancer Care
• Robyn Davies, Head of Innovation

4.4 CoverForPerformanceReport_RDI_SubCommittee07Apr2022.docx

4.4 RDI_PerformanceReportFY2021_22.docx

5.0.0 16:00 - ANY OTHER BUSINESS

Prior Approval by the Chair Required

6.0.0 16:05 - HIGHLIGHT REPORT

Members to identify items to include in the Highlight Report:
• For Escalation
• For Assurance
• For Advising
• For Information

7.0.0 DATE AND TIME OF THE NEXT MEETING

The next meeting is arranged to be held on Thursday 21st July2022 at 10:00 via Microsoft Teams.

8.0.0 16:10 - CLOSE

The Committee is asked to adopt the following resolution in accordance with the Public Bodies (Admission to Meetings) Act 1960:
The Committee hereby resolves that the remainder of the meeting be conducted 'In-Committee - Private Part B'

Memory Mates – bringing nursing research to life

Michele Pengelly
Supportive care Lead nurse
April 2022

What is Memory Mate?

In September 2020, a new, patient-centred initiative launched at Velindre Cancer Centre (VCC) called “Memory Mate”.

Memory Mate is the product of an exciting, six-year collaborative partnership between VCC, people affected by cancer and Cardiff University to develop a toolkit of resources which also includes trained VCC staff, to help support patients with memory problems safely through their cancer treatment.

The Research

2014/15
Tenovus cancer and dementia case study

2018/19
Welsh Dementia Action Plan –
Making Memory Mate

2020/21
Economic and Social Research Council –
Memory Mate Evaluation

PROTOTYPE DEVELOPMENT: evidence based synthesis

- Findings from ethnographic Tenovus study of cancer treatment in dementia
- Results of cancer and dementia systematic review
- Review of guidelines, approaches and techniques to aid memory in dementia
- Review of theories underpinning interventions in dementia to aid memory

Prototype resource for helping people with memory problems and cancer

COPRODUCTION

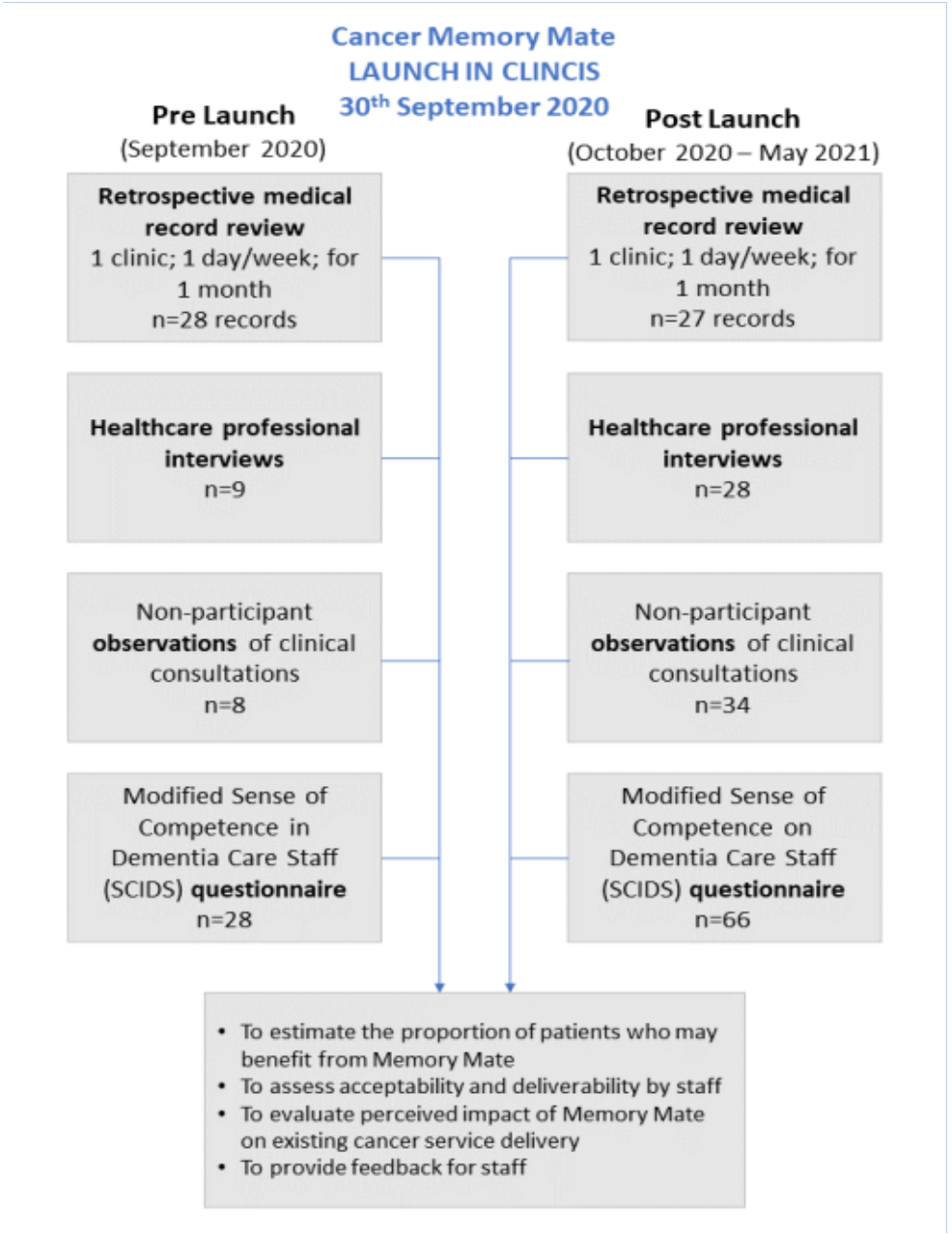
Coproduction process to tailor the resource in partnership with patients, carers, cancer experts and dementia experts

Cancer Memory Mate

PATIENT AND PUBLIC INVOLVEMENT – Dynamic Memory Mate advisory group

The Research

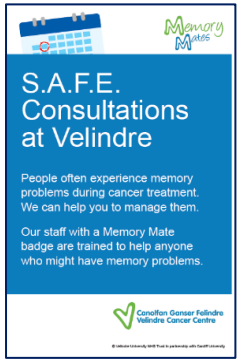
- Mixed-methods evaluation
- Field notes written at observations and interviews
- Framework analysis (based on Normalisation Process Theory (NPT) by May et al. 2009) to analyse qualitative data (interviews and observations)
- Descriptive statistics to analyse questionnaire data

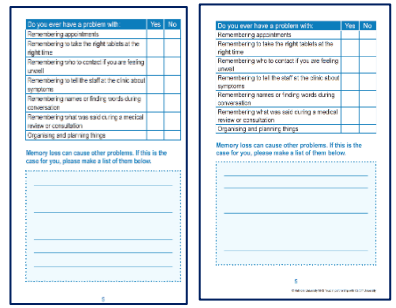


From theory to practice.....

The Memory Mate toolkit includes:

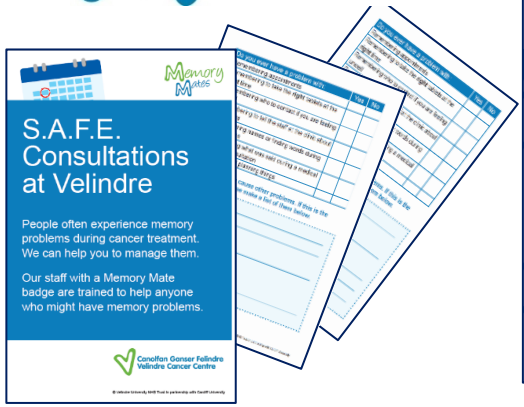
- A three-minute animation to run on Velindre social media and on patient information screens throughout the Cancer Centre raising awareness of memory problems in treatment, normalising and signposting to help
- A checklist for staff to help recognise a patient with a memory problem.
- An information booklet for patients and carers with techniques and tools to aid memory and help manage through cancer treatments and to seek help, for example, a personalised medicine reminder.
- English and Welsh versions of all resources are available.

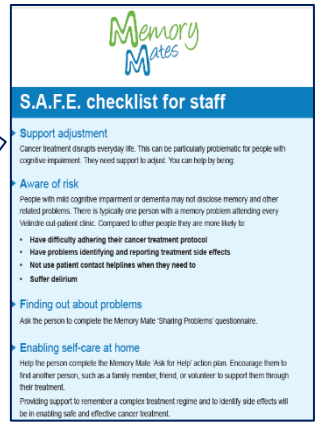




From theory to practice.....

Memory Mates





https://www.youtube.com/watch?v=5fDhCAG0yHg

From theory to practice.....

Guidance for memory mates

Thank you for agreeing to be a memory mate and helping Velindre patients who are concerned about their memory to get safely through their treatment with some extra help and support

If you are approached by a patient, family member or member of staff about help with memory:

Step 1

Check out that the patient or family is happy to speak to you

Step 2

Find an appropriate time and place to have a conversation and go through the plan

Step 3

Go through toolkit with patient and/family and find their specific individual concerns and help make a plan as directed in the booklet

Step 4

Consider any supportive services that may be helpful. The **supportive care team** can help with help with befriending, potential for social services referral, key safe, resources such as clocks, talking thermometer, ready meal delivery services, community cancer support services in their locality eg Sandville, Maggies, appropriate support groups. Remember the carer's need too as they may need access to carers support, referral for carer's assessments and a Velindre carers passport

Phone Leigh-Anne Porter on ext 6132

or

email: VCC.supportivecare@wales.nhs.uk

Step 5

Consider offering written information such as the top tips for memory, diet, pain etc available from the patient information and support services manager Bi-lingual, Easy read information and other languages information is also available

Step 6

Document in Canisc or the patient's medical records any support given or referrals made

For more information and practical advice, please visit the Velindre Cancer Centre website: http://www.velindrecc.wales.nhs.uk/dementia

Memory Mates must not write any medication details on the medication checker. This is for the patient or family member/carer only.

From theory to practice..... VCC Memory Mates

- Alex Worgan – HCA and chair of patient and carer dignity group
- Leigh-Anne Porter – Patient and carer information and support services Manager
- Michele Pengelly – Supportive care lead nurse
- Debbie Phillips – Operational services assistant
- Gail Williams – Oncology breast CNS
- Sarah Lawson – Staff nurse
- Kate Hammond – Patient Experience manager
- Rhian Burke – Neuro-oncology CNS
- Amy Matthews-Stanbury – Clinical Trials Nurse
- Annette Harding - Radiotherapy helper
- Andrea Bryant - Review Radiographer
- Karen Kay –Staff nurse
- Karen Arndell – Clinical sister OPD
- Jeanette Miller – Ward manager
- Cathryn John – Clinical sister
- Rachel Condick - Melanoma CNS
- Deborah Connelly – Colorectal and anal cancer CNS
- Marian Smith – Staff nurse OPD
- Esther Bryant - Research Nurse

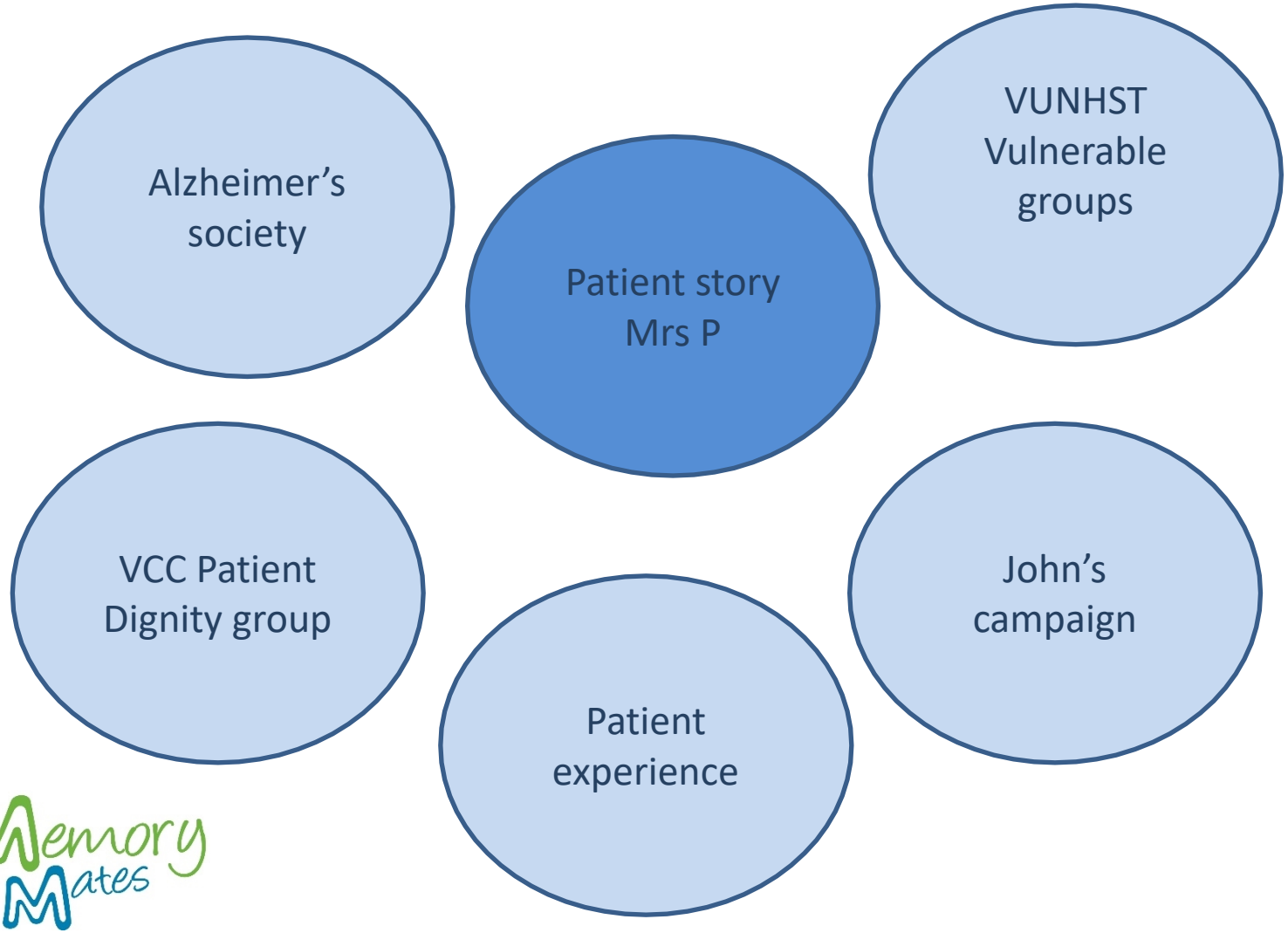
The Challenges

- Communications
- Covid restrictions
- Patient experience feedback (CIVICA)

"Nobody knows about the Memory Mate." (HA2 – Post launch – February 2021)

"N10 also suggested that there should be a "*mandatory or statutory training*" " *to raise awareness for everyone.*"" (N10 – Post launch – March 2021)

The reasons to continue..



"[Na1] has already talked to three patients about Memory Mate." (Na1 – Post launch – December 2020)

"[HA1] had really good feedback from patients." (HA1 – Post launch – January 2021)

Memory Mates

Cyfeillion Cofio

Thank you!

PUBLIC RESEARCH, DEVELOPMENT & INNOVATION SUB-COMMITTEE ACTION LOG					
Minute Number	**Action**	**Owner**	**Progress to Date**	**Target Date**	**Status (Open/Closed)**
Actions agreed at the Committee on 28th April 2021					
5.1	Research Development & Innovation Intellectual Property Workshop - discuss and plan structure for a half-day workshop	Robyn Davies	**07/04/2022 Update** - Workshop to be included on the 2022/2023 Trust Board Development Programme, scheduled date to be agreed. 13/01/2022 Update - Meeting with AGORIP has taken place to arrange putting together a workshop. 21/10/21 Update - This will now be taken forward following the commencement of Mr Robyn Davies, Head of Innovation and it is planned to schedule the workshop for early 2022. 22/07/2021 Update - Following the recent appointment of the new Head of Innovation plans have been initiated to take this forward.	15/11/2022	**IN PROGRESS**
Actions agreed at the Committee on 22nd July 2021					
2.1.1	Minutes - Item 5.1 Beatson West of Scotland Cancer Centre - Paper to be circulated and presented to the RD&I Sub-Committee when available. Idea is to scope out other centres and see what they are doing with research, what their setup and numbers are, as a way of seeing if there are any lessons to be learnt.	Sarah Townsend	**07/04/2022 Update** - Data to be presented to EMB in June, prior to the next Sub-Committee in July 2022. 13/01/2022 Update - The project manager starts shortly and plans have been initiated to take this forward. 21/10/2021 Update - Project on hold until the recently appointed Velindre Futures Project Manager is in post, who is currently working their notice period.	21/07/2022	**IN PROGRESS**
Actions agreed at the Committee on 21st October 2021					
3.1	Executive Summary Highlight - Jacinta Abraham and Dr Janet Birchall to meet with the FAIR Project Team to provide them with feedback from the JET meeting.	Jacinta Abraham	**07/04/2022 Update** - Jacinta Abraham has provided feedback to Stuart Blackmore and Janet Birchall on the FAIR Project following the JET Meeting.	07/04/2022	**COMPLETE**
4.4	ARF - Meeting to discuss the Trust's Fellowship Scheme	Jane Hopkinson	**07/04/2022 Update** - Jane Hopkinson and Libby Batt met on the 17/02/2022 to discuss the Trust Fellowship Scheme. Libby described the fellowship set up for medics and the benefits for the individuals and VCC. A discussion followed with Libby Batt, Jane Darmanin and Sarah Townsend about the potential for set-up of a Velindre Healthcare Fellowship scheme.	07/04/2022	**COMPLETE**
Actions agreed at the Committee on the 13th January 2022					
5.1	Feedback to ARCHUS the grammatical and editorial amendments required to the Cardiff Cancer Research Hub proposal.	Libby Batt	**07/04/2022 Update** - Libby Batt fed back to Phil Hodson re Archus and also the need for an Executive Summary. A Proposal went to Trust Board in February 2022 who endorsed the joint proposal subject to appropriate Heads of Terms.	07/04/2022	**COMPLETE**
5.1	Meeting to discuss how Blood and Stem Cells can be considered within the proposal for the Cancer Research Hub going forward.	Libby Batt	**07/04/2022 Update** - Meeting held on the 23rd March at 10.00am with Edwin Massey/Libby Batt to discuss how the blood and stem cells can be considered within the proposal for the Cancer Research Hub going forward.	07/04/2022	**COMPLETE**
5.2	Share the New Velindre Cancer Centre (nVCC) Research Development and Innovation Update with Rachel Hennessey to signpost and support further engagement on this.	Sian James	**07/04/2022 Update** - The nVCC update was shared to Rachel Hennessey and Alan Prosser on the 13th January 2022.	07/04/2022	**COMPLETE**
5.3	Meeting to discuss the champion role outlined in Area 5 of the UK Vision for Clinical Research: Recovery, Resilience and Growth (RRG) to ensure this fits with the general format with how champion roles are taken forward by the Trust.	Christopher Cotterill-Jones	**07/04/2022 Update** - Meeting arranged for the 12th April at 11.00am with Donna Mead to discuss further.	07/04/2022	**IN PROGRESS**

5.3	Provide further details on the purpose of innovation partnerships in the next iteration of the RD&I Performance Report for the Sub-Committee.	Robyn Davies	**07/04/2022 Update** - Robyn Davies has added more detail to the annual report on the partnerships developing.	07/04/2022	**COMPLETE**
7.0	Support the development of a draft Highlight Report for approval by the Committee Chair.	Emma Stephens	This has been drafted and will be submitted to the March 2022 meeting of the Quality, Safety & Performance Committee	07/04/2022	**COMPLETE**

Minutes of the Velindre University NHS Trust
Public Research, Development & Innovation (RD&I) Sub-Committee

Date 13/01/2022
Time 10:00 – 12:15
Location via Microsoft Teams
Chair Professor Andrew Westwell, Independent Member

PRESENT		
Professor Andrew Westwell	Independent Member (Chair of meeting)	AW
Professor Donna Mead OBE	Chair of Velindre University NHS Trust	DM
Vicky Morris	Independent Member	VM
ATTENDEES		
Steve Ham	Chief Executive Officer	SH
Dr Jacinta Abraham	Executive Medical Director and R&D Lead	JA
Nicola Williams	Executive Director of Nursing, AHPs and Health Science	NW
Matthew Bunce	Executive Director of Finance	MB
Professor Jane Hopkinson	Velindre Cancer Centre Professor of Nursing and Interdisciplinary Cancer Care	JH
Edwin Massey	Deputy Medical Director, Welsh Blood Service	EM
Alan Prosser	Interim Director, Welsh Blood Service	AP
Sian James	RD&I Facilitation Lead, Welsh Blood Service	SJ
Paul Wilkins	Interim Director of Velindre Cancer Services	PW
Robyn Davies	Head of Innovation	RD
Jonathan Patmore	RD&I Finance Business Partner	JP
Emma Stephens	Head of Corporate Governance	ES
Christopher Cotterill-Jones	Research Delivery Manager	CCJ
Libby Batt	Research, Innovation & Improvement Lead	LB
SECRETERIAT		
Amy Groves	Business Support Officer	AG
Melanie Findlay	Business Support Officer	MF

1.0.0	**PRESENTATIONS**	
1.1.0	**Breast Cancer Research within Velindre University NHS Trust** Professor Andrew Westwell welcomed and introduced Dr Annabel Borley, Consultant and SST Lead, Clare Boobier, Lead Research Nurse and Carys Evans, Patient Participant in the Breast SST Clinical Trial, all of whom had joined the meeting to provide a short presentation to the Sub-Committee on Breast Cancer Research within Velindre University NHS Trust.	

	The following key highlights were noted: - Circa 1.6 million in income for the Trust has been generated over the last 6 years. - The trials serve to improve patient treatments and outcomes. - Support learning and development that can often lead to routine clinical practices. - Provide the opportunity to access novel therapies and gain experience. - Promote job satisfaction amongst staff. - Support a high-profile reputation for the Trust. The Sub-Committee also learned about the many challenges with clinical trials that have to be overcome, including how they are becoming increasingly complex with fewer eligible patients and resource capacity increasingly constrained by the ongoing pandemic. The Sub-Committee welcomed learning firsthand more about the recent experience of a participant in one of the clinical trials and how this had been an extremely positive experience in what was one of the most difficult and challenging periods of their life. The Sub-Committee commended the ongoing commitment of staff working in the Breast Clinical Trials Unit and the excellent work they are undertaking. JA and NW both congratulated the team on their projects and expressed how they admired Carys Evans for sharing her personal journey and real-life experience with the Sub-Committee. VM raised the question of what the Trust can do to help in terms of education and future development. Clare Boobier advised of the challenge to ensure a pipeline of the required talent and skill set, and that there are vacancies at the moment. The unit is currently looking at developing an integrated role where nursing staff work in the clinical trials unit for a year and then rotate back out to the wards. DM and SH raised that they are also looking at RD&I in the wider sense across the Trust, the Trust needs to consider how it can increase the allocation for research time as part of core business. SH echoed this and stated that we really need to think about as a Trust how we can ensure to build on the aspirations we have in this space and address the challenges. AW thanked colleagues for providing the Sub-Committee with their presentation and advised that whilst they were welcome to stay for the remainder of the meeting we would now move onto the Sub-Committee's Standard Business and Main Agenda if they wished to part the meeting.	
2.0.0	**STANDARD BUSINESS**	
2.1.0	**Apologies** Apologies had been received from: 1. Sarah Townsend, Head of Research and Development	

	2. Peter Richardson, Head of Quality Assurance & Regulatory Compliance, Welsh Blood Service 3. Eve Gallop-Evans, Consultant, Velindre Cancer Service 4. Huw Llewellyn, TCS Project Director 5. Beryl Pugh, Patient Liaison Representative	
2.2.0	**In Attendance** Additional attendees : 1. Clare Boobier – Lead Research Nurse 2. Dr Annabel Borley, SST Lead 3. Carys Evans – Patient Participant in Breast SST Clinical Trial	
2.3.0	**Declarations of Interest** There were no declaration of interests for any agenda items.	
2.4.0	**Matters Arising - Action Log** JA took the Sub-Committee through the action log and the Sub-Committee **APPROVED** the Action Log and further updates captured in the meeting for the record.	
3.0.0	**CONSENT ITEMS**	
3.1.0	**FOR APPROVAL**	
3.1.1	**Minutes from the last Public Research, Development & Innovation Sub-Committee held on the 21st October 2021** The Sub-Committee **CONFIRMED** that the Minutes of the Public meeting on the 21st October 2021 were an accurate and true reflection, subject to a few minor typos that will be adjusted for the final record.	
3.2.0	**FOR NOTING** It was confirmed that there were nil items to be received **For Noting** under the Consent Agenda for today's meeting.	
4.0.0	**MAIN AGENDA**	
4.1.0	**Executive Summary Highlights** JA provided a presentation to the Sub-Committee and highlighted the following: - NHS Research & Development Leadership Group Work Plan. - Health and Care Research Wales Spending Plan. - COVID-19 and Research. - Trust coordination role as "One Site" Wales. - Collaboration agreement with Oncacare. - Welsh Blood Service Component Development Research Laboratory.	

	- Innovation activity including the "Scaling up Innovation and Transformation Award" and Real time Information Technology Towards Activation (RITTA) Project. It was noted the presentation would be attached to the minutes from today's RD&I Sub-Committee for the record. ****Action**:** Secretariat. AW congratulated the team for all the exciting things happening. The Sub-Committee **DISCUSSED** and **NOTED** the **Executive Summary Highlights.**	**AG**
5.0.0	**STRATEGY, PERFORMANCE & DELIVERY**	
5.1.0	**Velindre Futures Research and Development Cancer Strategy Update** LB introduced the first report that had been prepared to provide the Sub-Committee with a high-level summary on progress on key activities relating to **Velindre Futures Overarching Cancer RD&I Ambitions 2021-2031**, and highlighted the following: - There is now a strategic leadership group in place for Velindre Futures. - The implementation team have all now been appointed. - There are ongoing discussions with other Health Boards and a piece of work has been created to look at the research activity that happens in Aneurin Bevan. - The priority over the last few months has been to focus on the Cardiff Research Hub. This is a Tripartite Agreement between Cardiff and Vale Health Board, Cardiff University and Velindre and the purpose is for this to be able to deliver high risk early phase trials and in time advanced therapeutics. LB then introduced the second report for the Sub-Committee which was a joint proposal and clinical specification document that links with the Cardiff Cancer Research Hub. LB explained that the proposal document sets out the following: - Context, strategic ambitions, case for change, pillars of work associated with the Cancer Research Hub and the infrastructure needed. - This proposal has been endorsed at the Cancer Collaborating Group, the Trust Executive Management Board and the Strategic Development Committee, and the next stage in the process is for this to be received by the Trust Board. - A Cancer Research Hub Project Board has been established to feed into the Tripartite Partnership Board that meets every 8 weeks. - There is a need for a mix model of funding and discussions are already underway with Cardiff ECMC, Wales Cancer Research Centre and Advanced Therapy Wales. DM highlighted that the document currently reads as if there are multiple authors which will need to be addressed for the final proposal. ****Action**:** LB agreed to feedback to Archus the grammatical and editorial amendments required to the Cardiff Cancer Research Hub proposal.	**LB**

	DM suggested the definition of research in cancer care (within the document) was too narrow, there was a no mention of quality of care and patient experience. It was highlighted that the clarity would be required in terms of where Intellectual Property Rights (IPR) would reside across the Tripartite partner organisations. A query was raised regarding the VUNHST's early phase trials nurse workforce and whether they would all transfer across to the Cancer Research Hub. In response LB confirmed that additional funding for new trial staff is being looked at and the workforce model will include and some of this will involve new staff some existing VUNHST and CVUHB staff. AW stated that there would be a need for a contractual agreement, which clearly sets out the agreed arrangements for intellectual property and how this is identified and protected. This is currently a strategic planning document, however more work will be required to establish and confirm the necessary finer details. EM stated that he would like the opportunity to assess how Blood and Stem Cells could also be considered within the Cancer Research Hub. ****Action**:** LB to discuss with EM how Blood and Stem Cells can be considered within the proposal for the Cancer Research Hub going forward. SH reported that it has been a huge step forward to get to this point in the process with the three complex organisations working together and now the details need to be refined so we can get the Cancer Research Hub fully established and in place. VM queried when we could expect this to be a final proposal. LB clarified that there is no confirmed date presently, however, the Project Board is meeting on the 25th January 2022 where this will be considered and addressed. The Sub-Committee **DISCUSSED** and **NOTED** the **Velindre Futures Research and Development Cancer Strategy Update reports.**	**LB**
5.2.0	**New Velindre Cancer Centre (nVCC) Research Development and Innovation Update** AW confirmed RD would lead this item on behalf of HL, who unfortunately was unavailable to join for today's meeting. RD stated that the report was there for reference and invited any questions from the Sub-Committee that he was happy to address / facilitate. AW queried the funding and accountability arrangements in place. RD advised that some items are on hold currently and that there are mixed methods of funding in place. JA advised that this report was being provided for information to the Sub-Committee and that further discussion was required and underway to support the necessary governance arrangements underpinning the reporting relationship with this Sub-Committee, which will be further developed going forward. SJ raised that engagement with the Welsh Blood Service would be welcomed and beneficial in this space to ensure that this is mapped across	

	the whole organisation and would be of interest to the General Services Manager at the Welsh Blood Service, Rachel Hennessey. **** ACTION**:** SJ to share **New Velindre Cancer Centre (nVCC) Research Development and Innovation Update** with Rachel Hennessey to signpost and support further engagement on this. The Sub-Committee **NOTED** the content of **New Velindre Cancer Centre (nVCC) Research Development and Innovation Update**.	**SJ**
5.3.0	**Trust Research, Development and Innovation Performance Report, Quarter 3 2021/2022** CCJ ran through the Quarter 3 RD&I Performance Report and highlighted the following: - The RD&I Division is meeting regularly with the Joint Research Office (JRO) that has been established between Cardiff & Vale University Health Board (CVUHB) and Cardiff University (CU). This is a great opportunity for Velindre to share expertise and identify efficient processes to deliver studies in a streamlined approach across all three organisations. - There is a secondment appointment from Velindre going across to Cardiff and Vale and we can utilise the Secondee to improve joint working between the organisations. - The R&D Small Grant Scheme, the panel considered 10 applications and supported 6, 2 have since been withdrawn so the scheme is currently supporting 4 projects detailed in the Performance Report. - UK Vision for Clinical Research: Recovery, Resilience and Growth (RRG), there is the intention to go live with action area 1 to improve the speed and efficiency of study set up from the 1st April 2022. - Research portfolio. - Velindre Futures Cancer RD&I Ambitions which has already been covered earlier in the meeting. DM queried action area 5 of the UK Vision for Clinical Research: Recovery, Resilience and Growth (RRG), if there is to be a champion role then we need to include that with our other champion roles and ensure it fits with the general format with how champion roles are taken forward. ****ACTION**:** CCJ to discuss further with DM the champion role outlined in Area 5 of the UK Vision for Clinical Research: Recovery, Resilience and Growth (RRG) to ensure this fits with the general format with how champion roles are taken forward by the Trust. JP outlined the financial highlights contained in the RD&I Performance Report, namely: - Pay is moderately below target as there are a few vacancies. - Reimbursement from commercial trials have held up very well. - Confident in the end of year financial position and will meet overall budget responsibilities. - Need to draw down less money than anticipated from the Trust and Charity. - Overall, a very good financial position.	**CCJ**

	MB queried the application of colour coding used in the Finance Report and whether it needed to be amended as it suggests red represents poor performance and green represents good performance, but it doesn't in this case; Jon Patmore clarified that coding was agreed to be unnecessary for future reports. DM queried where the AstraZeneca funding would go to. JP advised this is new income for reaching particular milestones within the year and is included within the division's revenue funding plan. DM advised she would discuss the allocation of this AstraZeneca funding with SH outside of the meeting. JH outlined the Nursing and Interdisciplinary Research highlights within the Performance Report which included an overview of the key achievements since March last year: - 18 Velindre Healthcare researcher led, Research, Innovation and Improvement Projects. - 23 Velindre healthcare researcher authored outputs. - 10 funding applications have been submitted and 5 have been successful. - An outline application for research for patient and public benefit has also been invited through to full application. - Celebration event held for education initiatives and the group continue to meet to develop education training to support capacity building in healthcare research within the cancer centre. JH highlighted that staff time to undertake research is an issue and we need to look at upskilling nurses and therapists to be able to undertake research. DM endorsed the point about staff time to perform research and highlighted that one of the best applications received through the small grants funding could not be taken forward due to time constraints which is very disappointing. AW also further supported the need to seek opportunities for upskilling as this was also really important. RD provided some of the highlights from the innovation activity detailed within the Performance Report. DM highlighted that the list on page 19 needs to contain more information as to the purpose of partnerships and how they are developing. It is difficult to be assured by partnerships on the report in its current state. ****ACTION**:** RD to provide further details on the purpose of innovation partnerships in the next iteration of the RD&I Performance Report for the Sub-Committee. The RD&I Sub-Committee **NOTED** and **DISCUSSED** the **RD&I Integrated Performance Report for Quarters 3 of the Financial Year 2021 / 2022**	**RD**
6.00	**ANY OTHER BUSINESS:** DM reported that Dr Seema Arif has been awarded an MBE and she would like to formally recourd our congratulations and admirations for Seema by the Sub-Committee.	

7.0.0	**HIGHLIGHT REPORT TO THE TRUST QUALITY SAFETY & PERFORMANCE COMMITTEE** It was agreed by the Sub-Committee that a Highlight Report to the Quality, Safety & Performance Committee would be prepared in readiness for its meeting in March 2022. ES agreed to support this, in ST's absence. ****ACTION**:** ES to support the development of a draft Highlight Report for approval by the Committee Chair.	**ES**
8.0.0	**DATE AND TIME OF THE NEXT MEETING:** 07/04/2022 at 14:00 – 16:30 via Microsoft Teams.	
9.0.0	**CLOSE** That representatives of the press and other members of the public be excluded from the remainder of this meeting having regard to the confidential nature of the business to be transacted, publicity on which would be prejudicial to the public interest in accordance with Section 1(2) Public Bodies (Admission to Meetings) Act 1960 (c.67).	

Summary of the Velindre University NHS Trust
Private Research, Development & Innovation (RD&I) Sub-Committee

Date 13/01/2022
Time 11:45 – 12:15
Location via Microsoft Teams
Chair Professor Andrew Westwell, Independent Member

PRESENT		
Professor Andrew Westwell	Independent Member (Chair of meeting)	AW
Professor Donna Mead OBE	Chair of Velindre University NHS Trust	DM
Vicky Morris	Independent Member	VM
ATTENDEES		
Steve Ham	Chief Executive Officer	SH
Dr Jacinta Abraham	Executive Medical Director and R&D Lead	JA
Nicola Williams	Executive Director of Nursing, AHPs and Health Science	NW
Matthew Bunce	Executive Director of Finance	MB
Professor Jane Hopkinson	Velindre Cancer Centre Professor of Nursing and Interdisciplinary Cancer Care	JH
Edwin Massey	Deputy Medical Director, Welsh Blood Service	EM
Alan Prosser	Interim Director, Welsh Blood Service	AP
Sian James	RD&I Facilitation Lead, Welsh Blood Service	SJ
Paul Wilkins	Interim Director of Velindre Cancer Services	PW
Robyn Davies	Head of Innovation	RD
Jonathan Patmore	RD&I Finance Business Partner	JP
Emma Stephens	Head of Corporate Governance	ES
Christopher Cotterill-Jones	Research Delivery Manager	CCJ
Libby Batt	Research, Innovation & Improvement Lead	LB
SECRETERIAT		
Amy Groves	Business Support Officer	AG
Melanie Findlay	Business Support Officer	MF

1.0.0	**STANDARD BUSINESS**	
1.1.0	**Apologies** Apologies were received from: • Sarah Townsend, Head of Research and Development • Peter Richardson, Head of Quality Assurance & Regulatory Compliance, Welsh Blood Service • Eve Gallop-Evans, Consultant, Velindre Cancer Service • Paul Wilkins, Interim Director of Velindre Cancer Service	

1.2.0	**In Attendance** There were no additional attendees.	
1.3.0	**Declarations of Interest** There were no declarations of interest declared.	
1.4.0	**Matters Arising – Action Log** The Sub-Committee **APPROVED** the Action Log and further updates captured in the meeting for the record.	
2.0.0	**CONSENT ITEMS**	
2.1.0	**FOR APPROVAL**	
2.1.1	**Minutes from the last Private Research, Development & Innovation Sub-Committee held on the 21 October 2021** The Sub-Committee **APPROVED** the Minutes of the Private meeting on the 21st October 2021 as a true and accurate record.	
3.0.0	**MAIN AGENDA**	
3.1.0	**Innovation Idea:** ***'Bed race is an effective, fun and educational board game for Palliative Care'*** RD gave an update on the current position with the innovation idea presented at the last Sub-Committee meeting and confirmed that Trademark and license negotiations were now being progressed. The project remains on-going and the Sub-Committee will be kept abreast of developments. The Sub-Committee **NOTED** the Innovation Update.	
3.2.0	**BUSINESS CASE EXPENDITURE PROPOSALS** **(1) Pump Priming Velindre's Innovation Team** RD provided an overview of the key aspects of the business case proposal for members and confirmed that subject to support from the RD&I Sub-Committee today, this proposal would then be submitted to the Charitable Funds Committee for their consideration and approval to be funded by the Velindre Charity. The Sub Committee **NOTED** and **APPROVED** the business case. **(2) Enhancing RD&I Communication & Engagement** LB provided an overview of the key aspects of the business case proposal for members and confirmed that subject to support from the RD&I Sub-	

	Committee today, the intention was also for this proposal to then be submitted to the Charitable Funds Committee for their consideration and approval to be funded via the Velindre Charity. The Sub Committee **DISCUSSED** AND **NOTED** the business case, however agreed that further work, discussion and engagement was required in the first instance to better understand the needs of the post.	
4.0.0	**DATE AND TIME OF THE NEXT MEETING:** The next meeting is arranged to be held on Thursday 7th April 2022 at 16:30 via Microsoft Teams.	
5.0.0	**CLOSE**	

RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

Executive Medical Director and Board Lead for RD&I Briefing

DATE OF MEETING	7th April 2022

PUBLIC OR PRIVATE REPORT	Public

IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report

PREPARED BY	Sarah Townsend, Head of Research & Development Christopher Cotterill-Jones, Research Delivery Manager
PRESENTED BY	Jacinta Abraham, Executive Medical Director
EXECUTIVE SPONSOR APPROVED	Jacinta Abraham, Executive Medical Director

REPORT PURPOSE	FOR NOTING

COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING		
COMMITTEE OR GROUP	**DATE**	**OUTCOME**

ACRONYMS	
BEST-C	Biomedical Excellence for Safer Transfusion Collaborative
CV UHB	Cardiff and Vale University Health Board

ECMC	Experimental Cancer Research Centre
GMC	General Medical Council
HCRW	Health and Care Research Wales
HEI	Higher Education Institution
IMTP	Integrated Medium-Term Plan
NHS	National Health Service
RD&I	Research, Development & Innovation
UK	United Kingdom
WBS	Welsh Blood Service
WC19EC	Wales COVID19 Evidence Centre
WCRC	Wales Cancer Research Centre

1. SITUATION/BACKGROUND

The purpose of this report to the RD&I Sub-Committee is to provide a high-level update on key activities relating to the Research, Development and Innovation taking place during quarter 4 of the financial year 2021/22.

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

2.1 RESEARCH & DEVELOPMENT

2.1.1 The state of health and care research in Wales

Kieran Walshe, Director of Health and Care Research Wales (HCRW) recently gave a presentation on “The state of health and care research in Wales” to a recent meeting of the All Wales Medical Directors. The presentation covered:

- Health and Care Research Wales and their agenda
- Research and evidence in the pandemic and what was learnt
- Welsh Government’s main research and innovation priorities
- Health research spending in Wales and the UK

- Recommendations from the Senedd – Cross Party Group on medical research report in 2021
- The current ambitions and ongoing work of Health and Care Research Wales.

The main points from Kieran Walsh's presentation were that as result of the pandemic, research matters like never before and the challenges are in staying up-to-date with a need for rapid evidence synthesis and knowledge mobilisation, whilst localising and contextualising research to Wales.

Welsh Government includes building Wales's research, development and innovation capacity in Health and Life Science as one of their five main research & innovation priorities.

This has been translated into the current ambitions of Health and Care Research Wales, with some of the ongoing work being:

- Wales COVID19 Evidence Centre (WC19EC) conducting research into the pandemic's impact on health and care systems, and the communities and the people in Wales
- Moving Forward: A Cancer Research Strategy for Wales. This strategy development is being led by Prof. Mererid Evans, Director of Wales Cancer Research Centre, with Velindre University NHS Trust being a key partner the development of the strategy.
- Making research careers work: a review of career pathways in health and social care in Wales that reported in February 2022.

2.1.2 UK Portfolio Recovery Task & Finish Group

The UK Managed Recovery Framework, established as a result of COVID19, has not delivered the impact needed to recover capacity and capability to deliver research in the NHS, and the UK needs to consider a different approach to recovering the whole portfolio.

A UK Task & Finish Group with membership from Health and Care Research Wales delivery staff has been convened to agree short term principles for ensuring the current UK portfolio is deliverable to time and target. The intention is to assess all research studies (commercial and non-commercial) for "deliverability" in order to:

- Develop a short-term approach to make portfolio delivery achievable within planned timelines
- Make recommendations on the implementation of the approached and future plans to address the impact

By contrast, the managed recovery initiative that the Trust successfully carried out has enabled Velindre to re-open the full portfolio of study activity and, indeed, continue to increase activity ahead of other research sites in the UK.

2.1.3 GMC – Promoting research for all doctors

The General Medical Council (GMC) published, in March 2022, collaborative principles to promote participation in research – the following to the GMC website refers: https://www.gmc-uk.org/education/standards-guidance-and-curricula/position-statements/normalising-research---promoting-research-for-all-doctors

These emphasise embedding a culture of normalising engagement in research in all health service settings and organisations and link closely to the UK vision 'Saving and Improving lives'.

Their goal is to make research activities a customary part of a doctor's career encouraging them to be research-aware and research-active. Also, doctors have an important role disseminating research findings and the incorporation of research evidence into practice. The GMC are working with organisations across the UK to raise awareness about the key contribution that health research can make to clinical work and care excellence. Their intention is to build on existing good practice to make research activities a normal part of a doctor's career by agreeing clear principles, including:

- Learning and development
- Supporting a research-active medical workforce
- Enabling better research for patients

The GMC are working with organisations to tackle barriers to participating in research that they can address, with actions to raise the profile of research and to make research inclusive.

2.1.4 Trust Integrated Medium-Term Plan 2022 to 2025

The Trust has a strategic goal to be "A beacon for research, development and innovation."

As part of the development of the Trust's Integrated Medium-Term Plan (IMTP) 2022-2025, Research, Development and Innovation (RD&I) has identified four strategic priorities. These are:

- **Strategic Priority 1**: The Trust will drive forward the implementation of its Cancer Research and Development Ambitions 2021-2031.
    - The Overarching Cancer Research & Development Ambitions 2021-31 document developed by multidisciplinary research leads from Velindre Cancer Centre,

University Partners, and Public and Patient representatives received Trust Board approval in March 2021, with the aims of:

- Enhance patient experience and care
- Improve patient outcomes and reduce variation
- Accelerate the implementation of new discoveries into clinic
- Demonstrate the impact of our research on patients and the NHS
- Build research capacity and capability at Velindre and across South East Wales

- **Strategic Priority 2**: The Trust will maximise the Research and Development ambitions of the Welsh Blood Service (WBS).
  - The aims are drive improvement, increase our research activity, be open to collaboration and build our reputation for research & development, in order to improve donor and patient health.
  - WBS will continue to develop the four WBS Research & Development themes which are:
    - Transplantation: including solid organ and stem cell transplants
    - Donor Care and Public Health: including donor recruitment and retention strategies, aiming to enhance their experience and continued engagement.
    - Products: including blood components, immuno-haematology, manufacturing and quality management.
    - Therapies: including preparation of cellular and blood therapies for research
- **Strategic Priority 3**: The Trust will implement the Velindre Innovation Plan.
  - This includes the establishment of an infrastructure and plan that will deliver a step change improvement in the quality and quantity of multi-disciplinary and multi-partner innovation to achieve the Trust's purpose to improve lives.
- **Strategic Priority 4**: The Trust will maximise collaborative opportunities locally, nationally and internationally.
  - The Trust will work across Health Board colleagues to maximise research opportunities for our patients and donors. This includes:
    - The Velindre@ Programme that aims to evolve the research infrastructure across South-East Wales, enabling local access to clinical research.
    - The tripartite partnership with Cardiff and Vale University HealthBoard (CV UHB) and Cardiff University to develop the Cardiff Cancer Research Hub developing a safe environment to provide cutting edge and complex advanced therapies for patients and enable translational research in collaboration with Advanced Therapies Wales and our Haematology and University.
    - Work with scientists within Cardiff and beyond, through interactions and collaborations with the Centre for Trials Research (Cardiff University), the

Experimental Cancer Research Centre (ECMC), the Wales Cancer Research Centre (WCRC) and Health and Care Research Wales (HCRW) and Higher Education Institutions (HEIs) to maximise research opportunities across all fields of cancer research including early diagnosis, interventional therapies and palliative and supportive care.

2.1.5 Associate Medical Director for RD&I

Expressions of interest were sought from individuals to apply for the role of Associate Medical Director with responsibility for Research, Development and Innovation in January 2022

Dr. Robert Jones was successful and has taken up the role of Associate Medical Director for RD&I

2.1.6 RD&I Sub-committee Annual Report

The RD&I Sub-Committee Annual Report for 2021 has been compiled and prepared for submission to the RD&I Sub-Committee. The key highlights from the year 2021, include:

- The formation of a new sub-committee, with a refreshed agenda and the development of a streamlined Trust RD&I Integrated Performance report as an evolving template.
- Despite the COVID19 pandemic, we continues to excel in recruiting participants to research studies that the Trust is delivering.
- There have been several new key appointments that includes Robyn Davies as Head of Innovation.
- The Welsh Blood Service (WBS) established the Component Development Laboratory in autumn 2021 to provide facilities and capacity to realise the ambition of being a centre of excellence in blood component advancement.
- The Trust's approval, in March 2021, of the 10-year Velindre cancer research ambitions described in the "Overarching Cancer Research & Development Ambitions 2021-31" document.

2.2 WELSH BLOOD SERVICE

2.2.1 COVID19 Sero-surveillance

Sero-surveillance to examine the levels of population immunity in this surrogate measure and is exploring the vaccine-mediated versus innate immunity in Wales continues due to COVID19 variants. The Welsh Blood Service (WBS) continues to support Public Health Wales with their

sero-surveillance work on exposure to Sars-Cov-2 across Wales. WBS has provided over 53,000 anonymised blood samples for Public Health Wales and expects samples to exceed the number seats in the Principality Stadium by July 2022.

2.2.2 WBS and International Collaboration

The Welsh Blood Service participates in the Biomedical Excellence for Safer Transfusion Collaborative, (BEST-C). This is an international research organisation with a vision to lead the field of transfusion medicine and cellular therapies toward the best products and practices for donors and patients.

BEST-C membership spans a broad range of the companies and blood suppliers engaged with blood collection, distribution, and transfusion worldwide.

There has been an upswing Welsh Blood Service's contribution in BEST-C activity in the Conventional Component Group due to the Component Development and Research Laboratory capacity.

2.2.3 Integrated Medium-Term Plan 2021/22 and Operational Delivery Plan 2022/23

The Welsh Blood Service report the following performance against the Integrated Medium-Term Plan 2021/22 as follows:

- WBS performance against the IMTP for 2021/22 = 100%
- WBS performance master file target = 100%
- Health and Care Standards assessment score = 5 out of 5
- WBS key performance indicator in RD&I = 96% (one missed due to communications resource)

The Welsh Blood Service Operational Delivery Plan for RD&I to cover Financial Year 2022/23 is expected to be deployed soon, that includes a PhD studentship in the Products theme expected to commence in September 2022.

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outined in this report.

RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	• Standard 3.3 Quality Improvement, Research and Innovation • Standard 3.4 – Information Governance and Communications Technology • Standard 3.5 – Record Keeping
EQUALITY IMPACT ASSESSMENT COMPLETED	Not required
LEGAL IMPLICATIONS / IMPACT	There are no specific legal implications related to the activity outlined in this report.
FINANCIAL IMPLICATIONS / IMPACT	Yes (Include further detail below)
	In addition to the funding received from commercial research studies, the Trust receives funding from Health and Care Research Wales. The number of portfolio studies and patients recruited into these studies inform the level of funding received by the Trust

4. RECOMMENDATION

It is recommended that the RD&I Sub-Committee note for discussion this executive briefing.

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Research, Development & Innovation (RD&I) Sub-Committee
7th April 2022

Executive Lead Briefing

Dr Jacinta Abraham, Executive Medical Director

Content

- Velindre University NHS Trust
  - The state of health and care research in Wales
  - UK Portfolio Recovery Task & Finish Group
  - GMC – Promoting research for all doctors
  - Associate Medical Director for RD&I
  - RD&I Sub-committee Annual Report

Velindre University NHS Trust: Research & Development

The state of health and care research in Wales (1)

- Research and evidence in the pandemic
  - International effort to bring research to bear on issues - with UK genuinely being a world leader
  - Highlighted underlying weaknesses in Wales health and care R&D base
  - Doing research better, faster – is timeliness more important than rigour?
  - Science, media and the public – communication, controversy and social media's toxic role.
  - Key learning:
    - Research matters like never before
    - Challenges in staying up-to-date
    - To be useful research must move pandemic's pace
    - Need for rapid evidence synthesis and knowledge mobilisation
    - Need to localise/contextualise research to Wales issues

- Welsh Government 5 main research & innovation priorities
  - Ensuring Wales has a 'fair share' of UK funding securing funding levels at least equivalent to those historical levels
  - Research capacity to support Government focus on climate change, environmental recovery and decarbonisation
  - Building Wales's research, development and innovation capacity in Health and Life Science
  - Developing a new cross-Welsh Government innovation strategy
  - Continue Wales research capacity growth by launching the next phase of Sêr Cymru

Velindre University NHS Trust: Research & Development

The state of health and care research in Wales (2)

- Health and Care Research Wales: current ambitions
  - **Setting research strategy/agenda** – working with stakeholders to create viable, investable research plans – example recent work on cancer research
  - **Plan & fund the health and care research which is needed** – advocate increased investment in Wales & at a UK level, meet research needs of Programme for Government, Welsh health and care system
  - **Create & sustain capacity and capability** – key report on research career pathways for academics & healthcare professionals – major need for investment
  - **Promote effective use of research in innovation & improvement** – build on foundations of WC19EC to increase evidence use in Welsh Government, NHS boards and social care
- Ongoing work
  - Wales COVID19 Evidence Centre (WC19EC): the pandemic's impact on health & care systems, communities and people in Wales.
  - Moving Forward: A Cancer Research Strategy for Wales
  - Making research careers work: a review of career pathways in health and social care in Wales (reported February 2022)

Velindre University NHS Trust: Research & Development

UK Portfolio Recovery Task & Finish Group

- The UK Managed Recovery Framework, resulting from COVID19, has not delivered the impact needed to recover capacity and capability to deliver NHS research
- The UK needs to consider a different approach to recovering the whole portfolio
- A Task & Finish Group with membership from Health and Care Research Wales delivery staff has been convened to agree short term principles for ensuring the current UK portfolio is deliverable to time and target.
- The intention is to assess all research studies (commercial and non-commercial) for "deliverability" in order to:
  - Develop a short-term approach to make portfolio delivery achievable within planned timelines
  - Make recommendations on the implementation of the approached and future plans to address the impact
- By contrast, the managed recovery initiative that the Trust successfully carried out has enabled Velindre to re-open the full portfolio of study activity and, indeed, continue to increase activity ahead of other research sites in the UK.

Velindre University NHS Trust: Research & Development

GMC – Promoting research for all doctors

- The GMC aims to enable a culture where doctors are encouraged to be research-aware and research-active
- Their goal is to make research activities a customary part of a doctor's career
- They are working with a wide-range of organisations in addressing the barriers to greater participation in research, through:
  - Learning and development (for medical students and doctors)
  - Supporting a research-active medical workforce
  - Enabling better research for patients
- Working with different UK organisations, the GMC are tackling the barriers they can address:
  - Raising the profile of research
    - Supporting doctors' involvement and facilitating opportunities
    - Enabling doctors throughout their career to engage with research
    - Encouraging the establishment of research mentors to facilitate greater participation
    - Promoting a culture of normalising research as part of the patient pathway
  - Inclusive research
    - Work closely with health and research sector partners to encourage greater participation and more inclusive approach
    - Incorporating findings in wider differential attainment work in GMC ensuring equitable access to involvement in research

Velindre University NHS Trust: Research & Development

Integrated Medium-Term Plan 2022 to 2025 – RD&I

- Trusts' strategic goal is to be "A beacon for research, development and innovation." There are four Trust RD&I Strategic Priorities:
  - Priority 1: Drive forward the implementation of its Cancer Research and Development Ambitions 2021-2031 with the aims of:
    - Enhance patient experience and care
    - Improve patient outcomes and reduce variation
    - Accelerate the implementation of new discoveries into clinic
    - Demonstrate the impact of our research on patients and the NHS
    - Build research capacity and capability at Velindre and across South East Wales
  - Priority 2: Maximise the R&D ambitions of the Welsh Blood Service across four themes, which are:
    - Transplantation (solid organ and stem cells)
    - Donor Care and Public Health (donor recruitment / retention enhancing experience and engagement)
    - Products (blood components, immuno-haematology, etc.)
    - Therapies (cellular / blood therapies)
  - Priority 3: Implement the Velindre Innovation Plan delivering improvement in quality / quantity of multi-disciplinary & multi-partner innovation
  - Priority 4: Maximise collaborative opportunities locally nationally and internationally
    - Velindre@ Programme
    - Cardiff Cancer Research Hub (tripartite partnership: VUNHST, CV UHB and Cardiff University)
    - Collaboration with Centre for Trials Research, ECMC, WCRC & HCRW

Velindre University NHS Trust: Research & Development

Associate Medical Director for RD&I

- Expressions of interest were sought from individuals to apply for the role of Associate Medical Director with responsibility for Research, Development and Innovation in January 2022
- Dr. Robert Jones was successful and has taken up the role of Associate Medical Director for RD&I

RD&I Sub-committee Annual Report

- Key achievements highlighted in the The Research, Development & Innovation (RD&I) Sub-committee report for 2021 include:
  - The formation of a new sub-committee, with refreshed agenda and streamlined Trust RD&I Integrated Performance report
  - Despite the pandemic, our continuation to excel in research study recruitment
  - Several new key appointments
  - The establishment of the WBS component laboratory
  - Trust approval of the 10-year Velindre Cancer Research Ambitions

Velindre University NHS Trust: Welsh Blood Service

COVID Sero-surveillance

- Sero-surveillance exploring vaccine-mediated versus innate immunity in Wales.
- WBS continues to support this work with c.53,000 samples tested to date, and this is ongoing due to COVID19 variants

International Collaboration

- International collaboration is getting back on track
- There has been an upswing in BEST-C activity in the Conventional Component group, due the Component Development and Research Laboratory's capacity

Integrated Medium-Term Plan 2021/22

- WBS reports IMTP performance = 100%
- WBS performance master file target = 100%
- Health and Care Standard score = 5 out of 5
- WBS Key Performance Indicator for RD&I = 96% (one missed due to lack of communications resource)

WBS Operational Delivery Plan 2022/23

- The WBS Operational Delivery Plan for 2022/23 will be deployed soon.
- A PhD studentship in the Products theme is expected to commence in September 2022

RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

NVCC NON-CLINICAL RD&I GROUP UPDATE

DATE OF MEETING	7th April 2022

PUBLIC OR PRIVATE REPORT	Public

IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report

PREPARED BY	Hannah Moscrop, Project Manager, TCS
PRESENTED BY	Robyn Davies, Head of Innovation, TCS
EXECUTIVE SPONSOR APPROVED	STEVE HAM, CHIEF EXECUTIVE

REPORT PURPOSE	FOR NOTING

COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING		
COMMITTEE OR GROUP	**DATE**	**OUTCOME**

ACRONYMS	
nVCC	New Velindre Cancer Centre
RD&I	Research, Development and Innovation
ToR	Terms of Reference

1. SITUATION

1.1 In January 2021, the nVCC project began the process of establishing an nVCC Non-Clinical RD&I Group to produce a programme of RD&I project work to inform and learn from the nVCC Project – a Dynamic Project Evaluation process.

1.2 Work has been ongoing during this time, and the appended report provides the overall context of the work and an overview of the ongoing projects and identified opportunities.

2. KEY MATTERS FOR CONSIDERATION

2.1 To ensure visibility of this work and effective alignment across Trust and Project priorities, the Group will provide quarterly updates to the nVCC Project Board, TCS Programme Delivery Board and Trust RD&I Sub-Committee.

2.2 The attached update paper outlines updates since the last report, plus a high level timeline plan.

2.3 Additionally, the paper includes a log of completed and ongoing projects and identified opportunities, and maps the work against the Well-being of Future Generations (Wales) Act.

3. KEY UPDATES FOR MARCH 2022

3.1 Research has commenced at UWE, who have been commissioned to undertake desk research into Placemaking to support the nVCC Hospital Design work: 'How can meaningful approaches of placemaking contribute to the creation of contemporary quality places and spaces of cancer care?'

3.2 The nVCC Project has procured an Arts Consultant who is working with the Arts MDT to develop an Arts Strategy for nVCC / TCS.

3.3 Business Management students from the University of South Wales will be joining the nVCC Project as interns from January – March 2022, and have produced their own research into the impact of Covid on working habits, and incentivising green/sustainable design in procurement. We hope to publish their work on the website.

3.4 A number of medical students from Cardiff University will be undertaking their Student Selected Component research assignments with the support of Andrea Hague, Robyn Davies, Ross McLeish, Dave Harding and Rhiannon Freshney. Areas of work are focusing on: AI, low-carbon food, plastic waste, and sustainable design:

- Initial feedback evaluation on a novel virtual assistance chatbot (RITA) powered by artificial intelligence
- To evaluate RITA's performance based on patient feedback forms or accuracy testing and compare with other similar AI (artificial intelligence) chatbots in the UK.
- Paving the Way Towards a Sustainable Diet in Cancer Patient Care
- A consideration of how 'nature-based systems' in hospital impact upon wellbeing of cancer patients.
- Evaluating the sustainability of Velindre cancer centre: minimizing the plastics?

3.5 The Group has submitted proposals for Masters dissertation projects for the Data Science Academy at Cardiff University – including looking into options for Community Benefits analyses, mapping green spaces, and improving communications methods.

3.6 The content for the nVCC Non-Clinical RD&I website pages is being developed, and it is intended to go live by the end of April.

4. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outined in this report.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	If more than one Healthcare Standard applies please list below:
EQUALITY IMPACT ASSESSMENT COMPLETED	Not required
LEGAL IMPLICATIONS / IMPACT	There are no specific legal implications related to the activity outlined in this report.

FINANCIAL IMPLICATIONS / IMPACT	There is no direct impact on resources as a result of the activity outlined in this report.

5. RECOMMENDATION

5.1 The nVCC Project Board are asked to **NOTE** the content of this report and Appendix A: nVCC Non-Clinical RD&I Project Log

nVCC Non-Clinical RD&I Group

Update Report

March 2022

Document Control and Contents

The source of the document will be found in the following location: X:\Project 2 - nVCC\nVCC RD&I\Board Papers

Document Version History:

Version Number	Date	Author	Summary of changes
0.1	23.01.2022	Hannah Moscrop	Initial draft

Approvals:

This document will be shared with the following:

Title / Group	Date	Version / Option
nVCC Project Board	20th April 2022	
TCS Programme Delivery Board	20th April 2022	
Trust RD&I Sub Committee	7th April 2022	

Contents:

1. Key Updates for January 2022

1.1 Research has commenced at UWE, who have been commissioned to undertake desk research into Placemaking to support the nVCC Hospital Design work: *'How can meaningful approaches of placemaking contribute to the creation of contemporary quality places and spaces of cancer care?'*

1.2 The nVCC Project has procured an Arts Consultant who is working with the Arts MDT to develop an Arts Strategy for nVCC / TCS.

1.3 Business Management students from the University of South Wales will be joining the nVCC Project as interns from January – March 2022, and have produced their own research into the impact of Covid on working habits, and incentivising green/sustainable design in procurement. We hope to publish their work on the website.

1.4 A number of medical students from Cardiff University will be undertaking their Student Selected Component research assignments with the support of Andrea Hague, Robyn Davies, Ross McLeish, Dave Harding and Rhiannon Freshney. Areas of work are focusing on: AI, low-carbon food, plastic waste, and sustainable design:

- *Initial feedback evaluation on a novel virtual assistance chatbot (RITA) powered by artificial intelligence*
- *To evaluate RITA's performance based on patient feedback forms or accuracy testing and compare with other similar AI (artificial intelligence) chatbots in the UK.*
- *Paving the Way Towards a Sustainable Diet in Cancer Patient Care*
- *A consideration of how 'nature-based systems' in hospital impact upon wellbeing of cancer patients.*
- *Evaluating the sustainability of Velindre cancer centre: minimizing the plastics?*

1.5 The Group has submitted proposals for Masters dissertation projects for the Data Science Academy at Cardiff University – including looking into options for Community Benefits analyses, mapping green spaces, and improving communications methods.

1.6 The content for the nVCC Non-Clinical RD&I website pages is being developed, and it is intended to go live by the end of April.

2. Timeline Plan

2.1 High level activity plan:

Activity	Competitive Dialogue / Bootcamp	Preferred bidder stage	nVCC Construction	nVCC Opening – Yr 1	Yr 2 onwards
Ongoing development of opportunities					
Mapping of identified opportunities against nVCC Project timeline					
Promotion to key stakeholders via website presence, newsletter content, engagement					
Outputs interface with Velindre Value Added work					
Outputs interface with nVCC Competitive Dialogue participants / preferred bidder					
Ongoing interface with preferred bidder prior to, during and following the construction of the nVCC					
Ongoing monitoring to assess impact of projects implemented [i.e. impact of embodied carbon research findings on final nVCC]					
Publication of final nVCC Project evaluation to					

Activity	Competitive Dialogue / Bootcamp	Preferred bidder stage	nVCC Construction	nVCC Opening – Yr 1	Yr 2 onwards
inform future projects					

3. Well-being of Future Generations (Wales) Act 2015 / Deddf Llesiant Cenedlaethau'r Dyfodol (Cymru) 2015

3.1 One of the key work areas for the nVCC Non-Clinical RD&I Group is the Well-being of Future Generations Act.

3.2 In addition, projects and opportunities identified for the Group are all aligned to one or more of the seven Well-being Goals. These have been mapped out as detailed in **Appendix A.**

Appendix A: nVCC Non-Clinical RD&I Project Log

Topic	Task Name	Description	Status	Future Gens Ways of Working				Future Gens Goals						
				Involvement	Collaboration	Long-term	Prevention	A Healthier Wales	A Globally Responsible Wales	A Prosperous Wales	A Resilient Wales	A Wales of Vibrant Culture & Thriving Welsh Language	A Wales of Cohesive Communities	A More Equal Wales
Biodiversity	Nature-based systems	To study how 'nature-based systems', including the external landscape features, biodiversity and indoor planting an impact upon both the mental and physical health of building users. To study the viability of delivering a landscape that is as near to nature as possible, that enhances and supports biodiversity and yet is capable of being effectively managed and maintained in the long-term.	Not started - **opportunity**			Y	Y	Y	Y				Y	
Commercial	Masters Research Project	Embedding Social Value into Procurement	Completed											
Commercial	Cardiff Business School PhD	TBC - pending CU update. (MA)	Not started			Y				Y				
Education	CC4L Design Brief + Bevan Commission Engagement	CCfLI Partnerships Report	Completed		Y	Y				Y				
Education	Med Students SSCs 2019/2020 - 1	How can hospital design be improved to reduce the carbon footprint of the NHS?	Completed				Y		Y					
Education	Med Students SSCs 2019/2020 - 2	Evaluating Cancer Incidence and Trends to Assess the Planning Assumptions of the Transforming Cancer Services Programme	Completed			Y		Y						
Education	Med Students SSCs 2022 - 1	Initial feedback evaluation on a novel virtual assistance chatbot (RITA) powered by artificial intelligence	Not started	Y	Y			Y						
Education	Med Students SSCs 2022 – 2	To evaluate RITA's performance based on patient feedback forms or accuracy testing and compare with other similar AI (artificial intelligence) chatbots in the UK.	Not started	Y	Y			Y						
Education	Med Students SSCs 2022 - 3	Paving the Way Towards a Sustainable Diet in Cancer Patient Care	Not started		Y	Y		Y	Y					

				Future Gens Ways of Working				Future Gens Goals						
Education	Med Students SSCs 2022 – 4	A consideration of how 'nature-based systems' in hospital impact upon wellbeing of cancer patients.				Y		Y	Y		Y			
Education	Med Students SSCs 2022 – 5	Evaluating the sustainability of Velindre cancer centre: minimizing the plastics?				Y		Y	Y		Y			
Education	USW Internships 2022 - 1	Green procurement	Completed			Y			Y		Y			
Education	USW Internships 2022 - 1	Covid and working habits	Completed			Y		Y						Y
Energy - Green, Renewable, in Building Design	Green Status Tracker - Pt 1	Pt 1 - to produce research brief. To develop a smart live green status checker for the nVCC and staff. (Pt 2 - to research and develop requirements; Pt 3 - to develop and create the solution for nVCC)	In progress	Y	Y			Y	Y					
Energy - Green, Renewable, in Building Design	Green Status Tracker - Pt 2	Pt 2 - to research and develop requirements To develop a smart live green status checker for the nVCC and staff. (Pt 3 - to develop and create the solution for nVCC)	Not started - **opportunity**	Y	Y			Y	Y					
Energy - Green, Renewable, in Building Design	Green Status Tracker - Pt 3	Pt 3 - to develop and create the solution for nVCC To develop a smart live green status checker for the nVCC and staff.	Not started - **opportunity**	Y	Y	Y		Y	Y					
Energy - Green, Renewable, in Building Design	Operating energy	To study the operating energy and proposals for reducing energy demand. This includes regulated energy for Heating Ventilation and Air Conditioning and lighting and also for unregulated small power and specialist equipment. (PJ / PR)	Not started			Y	Y		Y					
Energy - Green, Renewable, in Building Design	HVAC	To study innovative ways of heating, cooling and ventilating hospitals to achieve low energy performance. (PJ / PR)	Not started				Y		Y					

				Future Gens Ways of Working				Future Gens Goals						
Energy - Green, Renewable, in Building Design	Renewable energy and storage	To study the viability and availability of an energy supply from integrated renewable, private wire agreements and green grid energy combined with energy storage. (PJ / PR)	Not started			Y	Y		Y					
Engagement and Its Impact	Minecraft for Education	Children and young people design competition through Minecraft for Education - engagement aim: engagement with and educated children and young people on environmental, sustainability, community benefits, and WBFGA; consultation element - obtain feedback and project knowledge on preferences for, e.g. community benefits, green site facilities	Completed	Y	Y				Y					
Engagement and Its Impact	Digital Conversation - Down To Earth	ENRAW sponsored through Welsh Government. Consultation process via digital and in-person (drop-in) events. To obtain feedback on preferences for green and sustainable hospital design, site design, community benefits and site facilities. To obtain knowledge on effectiveness of 'digital conversation' as means of engaging	Completed											
Engagement and Its Impact	Children and Young People Engagement	Green Design Workshop - education for C&YP (health benefits of being outdoors), visual feedback for VCC - images to display in canteen. (FC / HM)	Completed	Y	Y			Y	Y					
General Green / Low Carbon Design	Develop a library of appropriate publications, research papers and case studies	Develop and share a library of appropriate publications, research papers and case studies - including established public research and research conducted as part of the nVCC Non-Clinical RD&I Group. Next action: publish online - establish website, promote via email. (All)	In progress			Y			Y					
Low / Zero Carbon	Embodied Carbon - Pt 1	Part 1: nVCC Reference Design. To study the embodied carbon in construction, including the use of timber, low carbon concrete and environmentally friendly finishes. Shared with CD participants. (PJ / PR / PM / HD)	Completed			Y	Y		Y					

				Future Gens Ways of Working				Future Gens Goals						
Low / Zero Carbon	Embodied Carbon - Pt 2	Part 2: CD Participant(s) Design(s). To study the embodied carbon in construction, including the use of timber, low carbon concrete and environmentally friendly finishes. Ongoing dialogue with CD participants. (PJ / PR / PM / HD)	In progress			Y	Y		Y					
Low / Zero Carbon	Carbon off-setting	To study carbon sequestration to offset energy use, and to advice the nVCC Project on how to offset nVCC development in short- and long-term. (PJ / PR)	In progress			Y			Y					
Placemaking	Ventilation and infectious disease e.g. COVID	To study the impact of Covid on design requirements in terms of space requirements, infection control, ventilation, and the choice of materials. (PJ / PR)	In progress			Y	Y	Y	Y		Y			
Placemaking	Digital design	To study the possibilities of digital design to enhance the user experience within the nVCC building. To study how digital systems can be designed and specified to align with Velindre's Zero-Carbon targets.	Not started - **opportunity**	Y				Y	Y					Y
Placemaking	Transitional space	To study the design of transitional spaces (such as entrances, retail areas, seasonal spaces, and covered car parking) and external spaces (such as external car parking, pedestrian routes, external activity areas, and external seating areas) on the health and wellbeing of building users.	Not started - **opportunity**	Y				Y						
Placemaking	Indoor Environment	A study of indoor conditions for health and comfort, including thermal comfort, visual comfort and indoor air quality. Also, how the internal conditions thus created are appropriate to enhancing the health and wellbeing of building occupiers at and the various users of the building. To include consideration of the impact of materials on air quality toxicity and ambiance.	Not started - **opportunity**			Y	Y	Y	Y					
Placemaking	Literature Review	How can meaningful approaches of placemaking contribute to the creation of contemporary quality places and spaces of cancer care?	In progress			Y	Y	Y						

				Future Gens Ways of Working				Future Gens Goals						
Smart / Digital	AI - Data Science Academy 2	Automated conversation analysis (AL)	Completed	Y				Y						
Smart / Digital	AI - CU Data Science Academy - 1	Sentiment Analysis of users and community on proposed hospital design. (AL)	Completed	Y				Y						
Well-being of Future Generations	Art	Creation of an Arts Strategy for Velindre / TCS	In progress		Y							Y		
Well-being of Future Generations	Sustainability App	Development of Trust Sustainability App for staff, patients (RF)	Not started	Y				Y	Y					
Well-being of Future Generations	The Therapeutic Benefits of Art	This proposal primarily focuses on A Wales of Vibrant Culture & Thriving Welsh Language as it seeks to determine a research project into the therapeutic qualities of art. Within the Journey Tracker (Appendix 1), the most relevant recommendations related to art are contained within Valuing Creativity, Culture for Change Culture Enabling Prosperity, and Culture Available to All sub-headings. Any research project will cross reference each Well-being Goal to determine the contribution to the Act. Any potential activity, however, will not be exclusively related to this Well-being Goal. (RF - drafted outline to start this project - for student?)	Not started - **opportunity**	Y	Y			Y				Y		

RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

RD&I Integrated Performance Report – 2021/22

DATE OF MEETING	7th April 2022

PUBLIC OR PRIVATE REPORT	Public

IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report

PREPARED BY	Sarah Townsend, Head of Research & Development Christopher Cotterill-Jones, Research Delivery Manager
PRESENTED BY	Sarah Townsend, Head of Research & Development
EXECUTIVE SPONSOR APPROVED	Jacinta Abraham, Executive Medical Director

REPORT PURPOSE	FOR NOTING

COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING		
COMMITTEE OR GROUP	**DATE**	**OUTCOME**

ACRONYMS	
EMB	Executive Management Board
NHS	National Health Service

OMG	Operational Management Group
RD&I	Research, Development & Innovation

1. SITUATION/BACKGROUND

The RD&I Sub-committee convened on 21 October 2021 received the RD&I Integrated Performance report for Quarters 1 and 2 of Financial Year 2021/22. The RD&I Sub-committee convened on 13 January 2022 received the RD&I Integrated Performance report for Quarter 3 of Financial Year 2021/22.

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

The attached RD&I Integrated Performance Report summarises the activities of the Velindre University NHS Trust's Research, Development & Innovation division during the Financial Year 2021/22 including Quarters 1 through 4.

The intention is that the report will be submitted quarterly to the RD&I Operational Management Group (OMG), with key highlights and items for escalation being submitted to the Executive Management Board (EMB) - Shape.

The report will be received by the Trust RD&I Sub-Committee for assurance.

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outined in this report.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	• Standard 3.3 – Quality Improvement, Research and Innovation • Standard 3.4 – Information Governance and Communications Technology • Standard 3.5 – Record Keeping

EQUALITY IMPACT ASSESSMENT COMPLETED	Not required
	Awaiting Trust guidance on requirements for Equality Impact Assessments
LEGAL IMPLICATIONS / IMPACT	There are no specific legal implications related to the activity outlined in this report.
FINANCIAL IMPLICATIONS / IMPACT	Yes (Include further detail below)
	In addition to the funding received from commercial research studies, the Trust receives funding from Health and Care Research Wales. The number of portfolio studies and patients recruited into these studies inform the level of funding received by the Trust.

4. RECOMMENDATION

The RD&I Sub-Committee is requested to:

- Note for discussion this RD&I Integrated Performance Report for Financial Year 2021/22.

Velindre University NHS Trust

Research, Development & Innovation - Integrated Performance Report

2021/22 - Annual Report

Today's research is tomorrow's care

Velindre University NHS Trust
Research & Development Department
Velindre Cancer Centre
Velindre Road, Whitchurch
Cardiff, CF14 2TL

E-bost/Email: Velindre.R&DOffice@wales.nhs.uk
Ffôn/Tel: 029 2061 5888

Welsh Blood Service
Gwasanaeth Gwaed Cymru

Contents

1 Introduction

This integrated performance report summarises the activities of the Velindre University NHS Trust's Research, Development & Innovation division in the financial year 2021/22.

The data used to compile this report does not represent the full financial year 2021/22 due to the timing the data cuts and other service reports used in preparing this document.

The information in this report represents the activities from the following areas of the organisation:

- Trust
- Welsh Blood Service
- Velindre Cancer Centre

2 Trust

2.1 Enabling Research

2.1.1 Research, Development & Innovation Division

R&D Operational Plan

The RD&I Operational Management Group reviewed and accepted the R&D Operational Plan at the meeting of 25 May 2021 as a living document. Research & Development are currently working to complete the planned work of R&D Operational Plan for 2020/21 to 2021/22.

The RD&I Division will begin drafting the 2022/23 RD&I Operational Plan following the agreement of the priority areas for the Trust IMTP.

RD&I Integrated Performance Report

The full RD&I Integrated Performance Report was well received by the RD&I Operational Management Group at their meeting of 21 September 2021.

This was the first time the report had been submitted in the new template.

Joint Research Office – Cardiff & Vale UHB and Cardiff University

The Trust has been invited to contribute to developments within the Joint Research Office service for Cardiff & Vale University Health Board (CVUHB) and Cardiff University to establish closer collaboration.

Sarah Townsend, Head of Research & Development and Christopher Cotterill-Jones, Research Delivery Manager have begun attending regular meetings with the Joint Research Office counterparts to facilitate discussions around collaborative working that will

facilitate the efficient, compliant and timely delivery of research activity through the Cardiff Cancer Research Hub.

The Trust has recently released a Data Manager from the Research Delivery Team to take up the position of Registrations & Permissions Improvement Manager within the JRO to further support and facilitate collaborative working. Velindre is currently working up a proposed governance pathway for research studies at the Cardiff Cancer Research Hub, for consideration via the appropriate R&D governance structures within the Trust and the JRO Governance Group.

The JRO Sponsorship position statement is expected to be published early financial year 2022/23 to advise researchers which organisation would sponsor different study types. Velindre R&D staff will join the sponsorship work stream to identify best practices and align process.

The JRO website is expected to be launched later in financial year 2021/22. The Trust may have a section on this website once the nature of the collaboration has been finalised and approved.

Trust R&D Small Grant Scheme

The Trust R&D Small Grant Scheme closed to applications on 01 September 2021, and the award panel met on 29 September 2021. The panel was chaired by Nicola Williams, Executive Director of Nursing, AHPs and Health Science and consisted of the Trust Chair, Professor Donna Mead OBE, with representation from the Welsh Blood Service and Velindre Cancer Centre.

The panel considered the ten applications received and supported six projects. Two of the six project applications have since been withdrawn. The four supported project applications are as follows:

Project title	Applicant's designation
Vaginal dilator use for the management of vaginal stenosis, a UK scope of current practice	Advanced Practice Gynae-oncology Physiotherapist
An evaluation of the improvement of patient access to emotional support services from the inclusion of a cancer support specialist role within the clinical psychology and counselling team at Velindre Cancer Centre.	Consultant Clinical Psychologist
An Investigation of how Taste Changes Recover following Radiotherapy for Head and Neck Cancer	Consultant Therapeutic Radiographer
Investigating MRI Autosegmentation for Gynae brachytherapy	Radiotherapy Pre-Treatment Imaging Physicist

Health and Care Standards

The 2021/22 Self-Assessment Tools for The Health and Care Standards from both Velindre Cancer Centre and Welsh Blood Service have been submitted in a timely manner

for each quarter of the financial year 2021/22, with the final for one for the financial year expected to be submitted in accordance with the Trust's deadline in April 2022.

Integrated Medium Term Plan/NHS Wales Annual Planning Framework 2021-22
The NHS Wales Annual Planning Framework 2021-22 highlighted that the delivery and management of high-quality research, development and innovation (RD&I) remains a strategic priority for the Trust. The Trust continues to strengthen its existing, collaborative links with the NHS Trusts and Boards, Blood Services and Higher Education Institutions. This is demonstrated with the ongoing collaborative work on:

- Velindre Future – implementing "Overarching Cancer Research and Development Ambitions 2021-31"
- Joint Research Office with Cardiff & Vale UHB and Cardiff University
- "One Site Wales" coordinated approach
- Sponsorship and delivery of research with Cardiff University

RD&I have contributed to the drafting of the Trust's Integrated Medium Term Plan for 2022/23 to 2024/25.

2.1.2 Wales

HCRW Research Management Operational Group
Sarah Townsend, Head of Research & Development continues to attend meetings of the Health and Care Research Wales (HCRW) Research Management Operational Group (RMOG). During financial year 2021/23 HCRW began reconstituting its different groups that relate to the governance and delivery of research. The RMOG contributed to the drafting of a new Terms of Reference and the group also received feedback from other HCRW groups that had been incorporated into the Terms of Reference.

The Terms of Reference were updated to reflect the involvement of the Research Management Operational Group in the implementation of actions arising from the NHS R&D Leadership Group work plan.

The group also reviewed and discussed items raised by the Research Management leads of the NHS organisations. These included:

- The process for Letters of Access relating to primary care.
- The process for claiming Excess Treatment Costs (ETCs).
- A request for an overview session to understand the Health and Care Research Wales Performance Management / Business Intelligence
- A request for an update on Health and Care Research Wales plans for primary care.
- A request for clarity relating to the Capacity and Capability process in relation to national study set-up

- The process of identifying potential research sites and the involvement of the Open Data Platform (ODP) and Specialty Leads
- The impact on processes of the guidance for Studies not requiring Research Ethics Committee (REC) review

“One Site Wales” Coordinated Approach

Velindre University NHS Trust is leading the coordination across Wales of a research study to assess a multi-cancer early detection test. The study SYMPLIFY is sponsored by the University of Oxford. This is the first research study to adopt the “One Site Wales” coordinated approach outside the COVID19 vaccine arena.

The study, with Professor Dean Harris (Swansea Bay UHB) and Professor Tom Crosby (Velindre University NHS Trust) as Wales Principal Investigators is open to recruitment at 19 district hospitals across six health boards. The study is being coordinated from the Trust R&D Office by Sarah Townsend, Head of Research & Development and Christopher Cotterill-Jones, Research Delivery Manager.

Professor Dean Harris, delighted with everyone’s efforts, says:

> *“I have not seen before a country-wide set up of a study happen as rapidly as with SYMPLIFY, which pays testament to the commitment and can-do attitude of our delivery teams for which you should all be proud.”*

Prof. Tom Crosby, National Clinical Director for Cancer in Wales has said:

> *“I am delighted to see Wales come together to coordinate the opening of this trial across 5 site specific cancer pathways, in 6 health boards within an accelerated time line and coordinated through a leading “One Wales” NHS organisation – in this case Velindre University NHS Trust – creating a One Wales approach in terms of engagement with the Sponsor, Oxford University.”*

On 15 September 2021, Oxford University issued a press release of GRAIL’s involvement in SYMPLIFY, and future trials involving the Galleri technology. Concurrently, Health and Care Research Wales also issued a press release relating to the SYMPLIFY study that included the following quotes:

Jeffery Horton from the Vale of Glamorgan was 51 when he was diagnosed with bowel cancer. Now in remission, he thinks the test could be “life-saving”:

> *“Once my cancer was discovered, the tumour was removed but I also needed chemotherapy. It wrecked my life at the time, and was a long and hard journey. If I’d had a blood test like this when my symptoms began, my treatment could have stopped at surgery. My wife and I saw this news today and thought it was absolutely brilliant to see a new trial like this one. I would have been elated to have been offered a such a simple test. Could this be a life-saver? Absolutely!”*

Professor Dean Harris, who is the Principal Investigator for Wales said:

"The team are thrilled to roll out this important study to health boards around the country. The One Site Wales approach means that Wales is more attractive than ever for trialling revolutionary new technologies such as Galleri, which could help change the way we diagnose cancer forever."

Dr Nicola Williams, Director of Support and Delivery at Health and Care Research Wales said:

"We are incredibly proud of our research staff's efforts in rolling out this trial on such an enormous scale. We're looking forward to playing our part and tracking its progress in the coming months."

Professor Kieran Walshe, Director of Health and Care Research Wales said:

"SYMPLIFY is a brilliant example of how Wales can work together to provide a meaningful contribution to national life-saving research. Supporting new cancer diagnosis studies like this one is an essential part of our commitment to providing the best possible standard of care to the people of Wales."

Having coordinated the study under the "One Site Wales", the Trust working collaborated with the seven health boards to deliver this study with Prof Dean Harris (Swansea Bay UHB) and Prof Tom Crosby (Velindre University NHS Trust) as principal investigators, managed to contribute 1232 recruited participants to the 6241 total participants recruited to the study. This made Wales the highest recruiting 'site' for this study.

The Trust also presented on its involvement in the delivery of the SYMPLIFY study in Wales at the Joint Executives Team (JET) meeting on 24 September 2021.

Wales COVID-19 Evidence Centre

The Trust provided a response to the Wales COVID-19 Evidence Centre (WC19EC) exercise to suggest and prioritise questions to be addressed by the WC19EC.

The Trust's suggested questions regarding cancer services and outcomes were recommended on the initial work programme. The recommended questions were:

- What impact did changes in cancer diagnostic/screening services during the pandemic have on a participant's diagnosis, stage of cancer, burden of disease and overall survival?
- What has been the impact of reduced cancer treatment services on the development of metastatic disease in all cancer disease sites, especially the burden of disease, recurrence and overall survival
- What is the impact of (among COVID-19 infected cancer patients) of the COVID19 pandemic on cancer outcomes/toxicity in relation to decisions relating to radiotherapy, surgical, systemic anti-cancer treatment (SACT), immunotherapy and

proton beam therapy treatments in all cancer disease sites, particularly thoracic and upper gastro-intestinal disease?
- What impact did the COVID19 pandemic and changes in cancer diagnostic/screening services have on urgent cancer referrals for early diagnosis?

Prof Tom Crosby and Christopher Cotterill-Jones contributed to the work on the review and work that led to the publication “Which innovations can improve timeliness of investigations and address the backlog in endoscopy for patients with potential symptoms of upper and lower Gastrointestinal (GI) cancers?” that published in Aug 2021.

The work by the WC19EC to address the Trust’s recommended questions accepted on to WC19EC work programme is expected to commence early in financial year 2022/23.

2.1.3 United Kingdom

UK Vision for Clinical Research: Recovery, Resilience and Growth (RRG)

The UK Clinical Research Recovery, Resilience and Growth (RRG) Programme launched the vision for “The Future of UK Clinical Research Delivery” in March 2021, with the 2021 to 2022 implementation plan published in June 2021. The four UK nations are in the process of providing an update on the programme, updating the implementation plan, setting out the key achievements and milestones that have already been achieved and provide further detail on what can be expected from the programme moving forward.

Groups have been, or are in the process of being, established to support the development and implementation of work that supports the action areas. The action areas are:

- Action Area 1 – Improving the speed and efficiency of study set-up
- Action Area 2 – Building upon digital platforms to deliver clinical research
- Action Area 3 – Increasing the use of innovative research designs
- Action Area 4 – Aligning our research programmes and processes with the needs of the UK health and care systems
- Action Area 5 – Improving visibility and making research matter to the NHS
- Action Area 6 – Making research more diverse and more relevant to the whole of the UK
- Action Area 7 – Strengthening public, patient and service user involvement in research

The following provides an update on the areas where there has been noteworthy work to date:

a) <u>Action area 1: improving the speed and efficiency of study set-up</u>
   - Work to design and implement a national contract value review process for commercial contract research is ongoing. The UK National Contract Value Review (NCVR) working group is developing a project plan and timescales on

the proposed model. Jonathan Patmore, Finance Business Partner for RD&I is representing the Trust at the oversight group for Wales to steer the process and implementation. The current intention is to go live early in financial year 2022/23 using an UK-wide process for commercial studies adhering to a single price list, with a 12-month period to overcome difficulties in implementation.

- The combined review from the Medicines and Healthcare products Regulatory Agency (MHRA) and the UK Research Ethics Services will facilitate speedier set up for clinical research trials by facilitating applicants to only make a single application for both Clinical Trial Authorisation (CTA) and Research Ethics Committee (REC) opinion.
- The Experimental Cancer Medicine Centre (ECMC) Network, with support from MHRA and HRA, are beginning work on delivering a pilot to set up phase I oncology trials within 80 days of the IRAS submission.

b) Action area 2: building upon digital platforms to deliver clinical research
   - Work is underway to establish guidance and support services that support data-enabled recruitment and help researchers understand, navigate and use data services as part of effective study delivery.
   - Work is underway to map the various options for data enabled recruitment.
   - Work is ongoing on a UK-wide approach to Find, Recruit and Follow-up: a seamless system of digital platforms to ensure research sponsors can bring research, particularly those studies with a digital component, to any part of the UK effectively.

c) Action area 4: aligning our research programmes and processes with the needs of the UK health and care systems
   - The use of flexible workforce and delivery models will be increased – particularly to support research delivery in primary and community care. Further strategies to boost capacity and expand to other research settings are being explored across the whole of the UK.

d) Action area 5: improving visibility and making research matter to the NHS
   - A scoping exercise for shaping the Embedding Research in the NHS programme in Wales was to be undertaken early 2022, which will provide ideas/recommendation on next steps and priorities for embedding research in the NHS in Wales. This will inform the comprehensive programme of work to be outlined in spring 2022. In parallel, discussions are ongoing with UK counterparts to ensure alignment and collaboration where needed.
   - Role descriptions have been drafted and agreed for Research Champion Board Members for health boards in Wales. Next steps will be agreed with colleagues in Welsh Government shortly that will include a Welsh Health Circular to support this important endeavour.

- A review of research career pathways in health and social care in Wales has now completed and the publication of the report, with recommendations for implementation, is expected imminently.
- A UK wide Metrics Task and Finish group is currently being established. A national lead has been identified and Health and Care Research Wales is also seeking representation from a Welsh R&D Director.

UK Portfolio Recovery Task & Finish Group
The UK Managed Recovery Framework, established as a result of COVID19, has not delivered the impact needed to recover capacity and capability to deliver research in the NHS, and the UK needs to consider a different approach to recovering the whole portfolio.

A UK Task & Finish Group with membership from Health and Care Research Wales delivery staff has been convened to agree short term principles for ensuring the current UK portfolio is deliverable to time and target. The intention is to assess all research studies (commercial and non-commercial) for “deliverability” in order to:

- Develop a short-term approach to make portfolio delivery achievable within planned timelines
- Make recommendations on the implementation of the approached and future plans to address the impact

By contrast, the managed recovery initiative that the Trust successfully carried out has enabled Velindre to re-open the full portfolio of study activity and, indeed, continue to increase activity ahead of other research sites in the UK.

2.2 Research Portfolio

This part of the report contains performance data taken from the Local Performance Management System (LPMS) – (data cut 15 March 2022).

2.2.1 Sponsored research portfolio

Sponsored research is the research where the Velindre University NHS Trust takes the legal responsibility for the design, management and conduct of the research. Sponsored research may be hosted by the Trust and/or hosted by other healthcare organisations and research institutions across the UK, Europe and World-wide. The number of Trust sponsored studies may be relatively small, but the Research & Development team commit a significant amount of resource to ensure that the Trust’s sponsor responsibilities are met.

The Trust may delegate some sponsor responsibilities to a clinical trials unit to manage larger research studies hosted by other healthcare organisations and research institutions.

Up to the end of 10 Mar 2022 of Quarter 4 of Financial Year 2021/22, the Trust sponsored research portfolio is as follows:

Metric Description	Year to date
Number of sponsored research studies (Total)	4
• Number of sponsored research studies that are Trust-wide	2
• Number of sponsored research studies that are UK-wide	2
• Number of sponsored research studies that are Europe-wide	0
• Number of sponsored research studies that are World-wide	0
Number of research sites opened for sponsored research studies	18
Number of Trust staff acting as Chief Investigators for research studies	16

Metric Description	Year to date
Number of publications from sponsored research studies	12
• Journal article	2
• Abstracts	10
Number of participants recruited to sponsored research studies	266

2.2.2 Hosted research portfolio

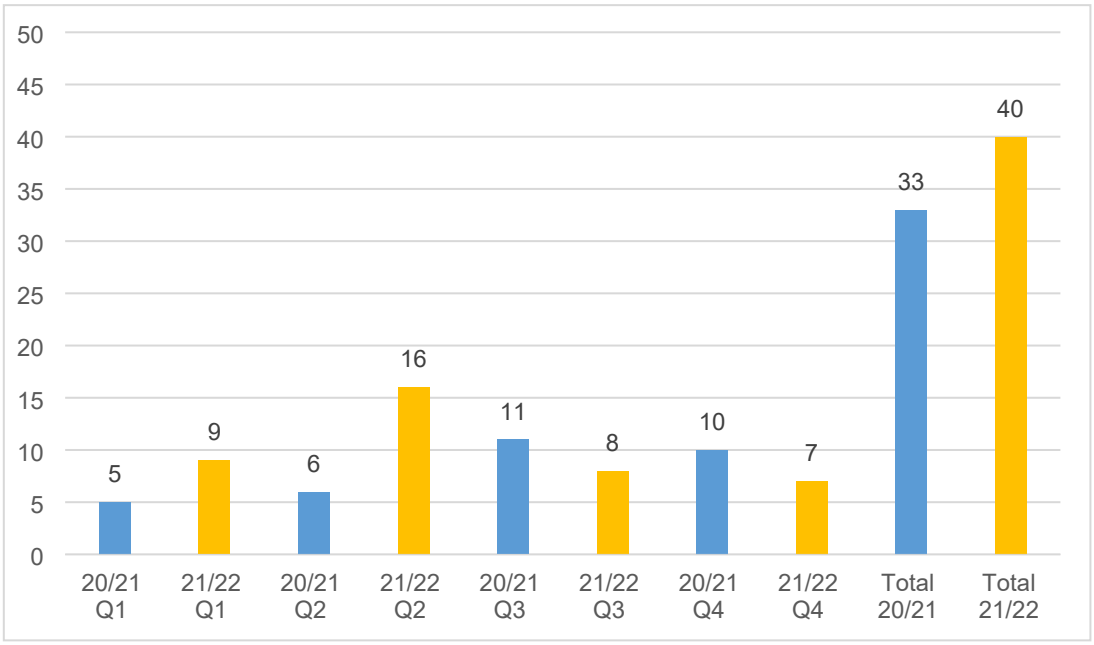
Hosted research is the research where Velindre University NHS Trust provides the clinical environment, capabilities and patient care in the conduct of the research. The vast majority of active hosted studies are from external Sponsor organisations.

During Financial Year 2021/22 (data cut 15 Mar 2022), the Trust hosted research portfolio is as follows:

Metric Description	Year to date
Number of studies opened in Velindre University NHS Trust (Total)	40
Number of participants recruited to studies open in Velindre University NHS Trust (Total)	385
Number of Trust staff acting as Principal Investigators for research studies	38

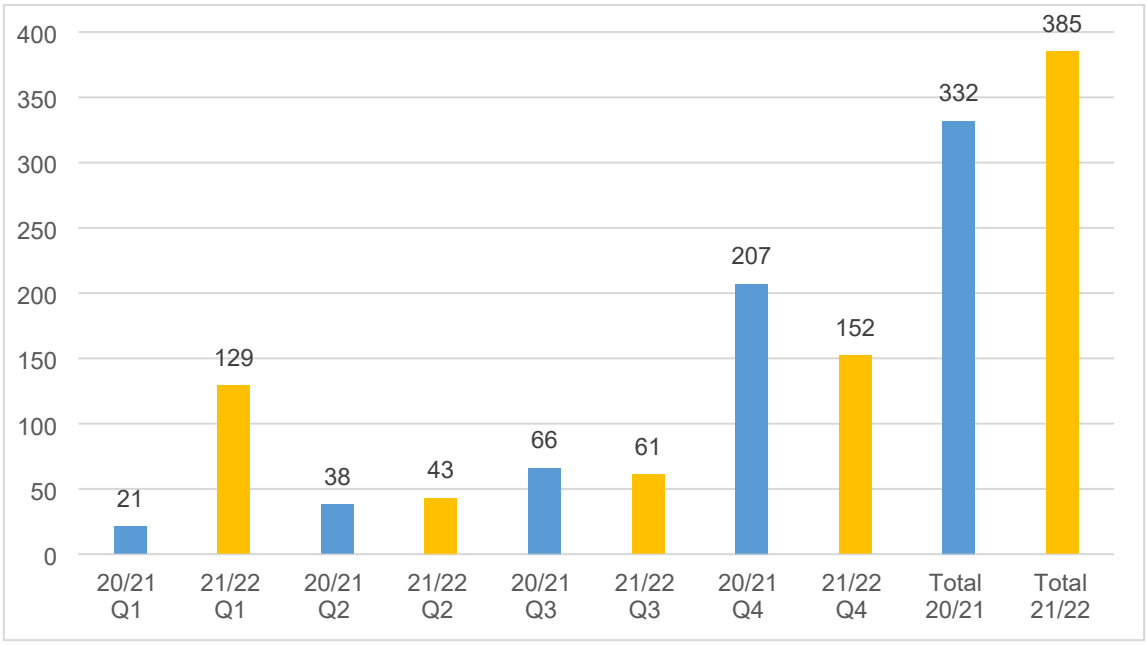
2.2.2.1 Graph showing quarter by quarter (& year total) number of studies opened

The following graph shows the total number of studies opened in Velindre University NHS Trust quarter by quarter (and year total) compared to the previous financial year. The data cut was 15 Mar 2022.



2.2.2.2 Graph showing quarter by quarter (& year total) number of participants recruited

The following graph shows the total number of participants recruited to studies at Velindre University NHS Trust quarter by quarter (and year total) compared to the previous financial year. The data cut was 15 Mar 2022.



In the Graph 2.2.2.2, above the blue bars represent the number of participants recruited to studies in Velindre University NHS Trust quarter by quarter (and cumulative total) for the financial year 2020/21. The yellow bars represent the number of recruited to studies in Velindre University NHS Trust quarter by quarter (and cumulative total for the financial year 2021/22.

The data reports that for financial year 2021/22, Velindre University NHS Trust has recruited 385 participants to studies, compared to recruiting 332 participants to studies in in the previous financial year 2020/21. This equates to an increase in 53 participants recruited to studies during financial year 2021/22, compared to the financial year 2020/21.

2.3 Finance

2.3.1 Background / Context

The RD&I Division's Financial Plan was set within the following context:

- For 2021/22 budget targets were set:
  - Secure income of **£3.4m** from multiple sources, most significantly:
    - Health & Care Research Wales (c. £1m)
    - Reimbursements from commercial clinical trials (c. 0.6m)
    - Support from the Velindre charity (c. £0.6m)
  - Spend **£3.0m**, of which around 90% is salary costs
  - Manage a further **c. £1m**, held in grant funding from external bodies, such as Cancer Research UK, for specific research trials led by VUNHST.

2.3.2 Summary of Performance against Key Financial Targets to Month 11

Table 1: Key Financial Target 1: to remain within monthly budget expectations

		£000				
		PAY	NON PAY	INCOME	TOTAL	
Month 11	Budget	232	20	-187	65	
	Actual	211	18	-163	65	
	Variance	-21	-2	24	0	*In-Month Variance*
Year to Date	Budget	2,525	262	-2,656	131	
	Actual	2,421	261	-2,551	131	
	Variance	-104	-1	105	0	*To-Date Variance*
Forecast Outturn	Annual Budget	2,728	330	-3,423	-365	
	Forecast Outturn	2,603	307	-3,275	-365	
	Variance	-125	-23	148	0	*Forecast Variance*

Table 2: Key Financial Target 2: to pay at least 95% of non-NHS invoices within 30 days

	Current Month	Year to Date	Forecast Outturn
% Compliance	96%	96%	>95%

2.3.3 Analysis of Performance to Date and Forecast Outturn

After 11 months, performance remains close to the budget plan, with no overall variance reported:

- Pay: Spend is moderately below target at £104k underspent due mainly to higher than expected vacancy levels in the trials delivery team;
- Non-pay: Spend is very close to plan at £1k below target; and
- Income: Receipts are moderately below target at £105k below plan. This is a direct matching to the pay underspend, which means less funding will need to be drawn down from funding sources.

The Division forecasts it will meet its overall financial targets for the year with £0 variance.

The overall risk of not achieving the target is now very low:

- Income reimbursement from commercial and other funded trials has been maintained despite COVID challenges;
- All significant costs have been provided for within the outturn forecast.

2.3.4 Pay Analysis by Staff Group

	Cumulative £104k Underspend			Year End Forecast £125k Underspend		
PAY GROUP	YTD Budget (£'000)	YTD Actual (£'000)	YTD Variance (£'000)	Full Year Budget (£'000)	Full Year Forecast (£'000)	Forecast Variance (£'000)
Professional Scientific & Technical	60	60	**0**	60	60	**0**
Additional Clinical Services	68	52	**-16**	74	55	**-19**
Administrative & Clerical	1,083	1,036	**-48**	1,179	1,121	**-58**
Allied Health Professionals	48	48	**0**	52	52	**0**
Healthcare Scientists	142	142	**0**	146	146	**0**
Medical	381	340	**-41**	409	365	**-45**
Nursing	863	749	**-115**	937	808	**-130**
Vacancy Factor	-121	-5	**115**	-132	-5	**126**
Total	2,525	2,421	**-104**	2,728	2,603	**-125**

- Pay underspends are the result of temporary vacancies arising across several areas: in particular the research nursing workforce. The amount has exceeded the plan due to a mixture of staff turnover, internal secondments of staff moving to VCC temporarily, as well as from longer than usual vacancy periods due to the current challenges of recruiting suitable staff into the roles.

2.3.5 Non Pay Analysis by Category

	Cumulative			Year End Forecast		
	£1k Underspend			£23k Underspend		
NON PAY CATEGORY	YTD Budget (£'000)	YTD Actual (£'000)	YTD Variance (£'000)	Full Year Budget (£'000)	Full Year Forecast (£'000)	Forecast Variance (£'000)
Clinical/General Services/Supplies	199	174	**-25**	262	218	**-44**
Maintenance & Repairs	0	1	**1**	0	2	**2**
Transport	0	5	**5**	0	6	**6**
Printing / Stationary / Postage	6	11	**5**	6	12	**5**
Travel & Subsistence	0	0	**0**	5	1	**-5**
Education & Development	38	44	**7**	38	46	**8**
Equipment & Consumables	0	4	**4**	0	4	**4**
Computer Maintenance & Supplies	20	20	**1**	20	20	**1**
Total	262	261	**-1**	330	307	**-23**

- A modest non-pay underspend is mainly due to the impact of COVID on patient activity where fewer support services have needed to be purchased in.

2.3.6 Income Analysis by Category

	Cumulative			Year End Forecast		
	£105k less than budget			£148k less than budget		
INCOME CATEGORY	YTD Budget (£'000)	YTD Actual (£'000)	YTD Variance (£'000)	Full Year Budget (£'000)	Full Year Forecast (£'000)	Forecast Variance (£'000)
HCRW Support Funding	-871	-891	**-19**	-951	-1,003	**-52**
Trial Reimbursements	-563	-590	**-27**	-587	-622	**-35**
Charitable Income - Infrastructure	-227	-227	**0**	-596	-596	**0**
Grant Funding for Projects	-565	-565	**0**	-610	-610	**0**
Milestone payments (AZ)	0	0	**0**	-165	-165	**0**
Other Income	-430	-278	**151**	-514	-279	**235**
Total	2,656	2,551	**105**	3,423	3,275	**148**

- Income recovery has proceeded well to Month 11, and no adverse circumstances anticipated in the remaining month.
- Health & Care Research Wales have agreed an additional £52k funding in relation to COVID costs of maintaining research studies and pay award funding.
- Note: income plans are adjusted through the year so as to maintain an overall balance with expenditure. At Month 11, actual expenditure is moderately below budget and is forecast to continue on this trend as described above. Therefore a corresponding reduction in income drawdown has been made at Month 11 and a further reduction is planned in Month 12 from one or more funding sources. Until exact plans are confirmed, this is included under the "Other income" heading above.

2.4 Velindre Futures Cancer RD&I Ambitions

2.4.1 Progress highlights

A Velindre Futures Research and Development Task and Finish group was convened in September 2020 which produced an **Overarching Cancer Research and Development**

Ambitions for Velindre University NHS Trust 2021-31 at the end of January 2021. These R&D ambitions align with the Nuffield Trust R&D recommendations (published 1st December) which were supported by the Velindre NHS Trust Executive. Velindre University NHS Trust (VUNHST) Board formally signed off the overarching cancer R&D ambitions (March 2021). Beyond the Trust, the document has also been fully endorsed by the Cancer Collaborative Leadership Group in the 2nd quarter of 2021 and within the Velindre University NHS Trust (VUNSHT) and Cardiff and Vale UHB Partnership Board and Cardiff University and VUNSHT.

Over the last year, work has begun to enable the R&D vision and ambitions to be delivered, enhancing research opportunities for cancer patients across South Wales and beyond. The work programmes within VUNHST Cancer R&D ambitions will require new infrastructure, regional collaboration between the Trust and UHB partners and a refreshed strategic research partnership between the Trust and Cardiff University. Such infrastructure and collaborations will accelerate new research discoveries into the clinic, build a critical mass of cancer research activity in South Wales and will generate inward research investment and growth which could represent a turning point for cancer research in Wales.

2.4.2 Cardiff Cancer Research Hub

Over the last 12 months, there has been a focus on the development of a Cardiff Cancer Research Hub, established via a ***Tripartite partnership*** with Cardiff University (CU), Cardiff and Vale University Health Board (CVUHB) and VUNHST.

The Cardiff Cancer Research Hub will bring together patients, NHS researchers and academic researchers in one location. The Hub will provide a focus to join-up cancer research in Cardiff, invigorate the cancer research community and provide facilities for:

- Delivery of Early Phase Trials and Advanced Cellular and non-Cellular Therapies for solid cancer with access to HDU/ITU and specialist services.
- “Closer working with the university”, including clinic, office and meeting space, with direct links to the laboratory, biobank, surgery and interventional radiology.
- An enhanced, integrated, multi-disciplinary Clinical Academic workforce, responsible for designing and delivering cancer research that is led from Wales.

Cardiff Cancer Research Hub – Working Models

A cross-site R&D Clinical Design Workshop was held on the 8th June 2021 and attended by multi-professional teams across VUNHST, CVUHB and CU to further develop the concept. There was a clear consensus on taking forward a phased approach to develop the Hub on the UHW site over the next 12-18 months. As the Tripartite Hub will be for far more than Early Phase trials, there is a real need to phase the infrastructure to support the outputs.

Following this workshop, Task and Finish groups were convened and they developed the medical and research delivery workforce models. Such work has fed into a joint proposal specification document which has been led by Archus, a healthcare infrastructure specialist. The document details the future service model, a plan for a phased approach and includes both the infrastructure and workforce that will be required to deliver research success. The 3 organisations, CVUHB, CU and VUNHST have all inputted into this joint proposal.

Following this the Trust Executive team has endorsed the intent of this proposal, as has VUNHST, CVUHB and CU Partnership Board and the CCLG.

The Trust Board has formally reviewed the joint proposal (Feb 2022) agreeing to proceed subject to the relevant Heads of Terms being put in place across the 3 organisations. The joint proposal specification document is being scrutinised and considered by CVUHB and CU and moving through the respective organisational governance processes.

In the meantime, short term funding (£221k) has already been secured from VUNHST which will contribute to developing the prioritised posts for the Hub. The focus is now on the recruitment and selection of these posts.

Governance Arrangements and Leadership
A Cardiff Cancer Research Hub Project Board has been established (inaugural meeting Jan 2022) and meets monthly to provide oversight to implement the work programme. The Board will feed up into the Velindre @UHW Programme Delivery Board which in turn feeds into the Tripartite Partnership Board (CU, CVUHB and VUNSHT).

There are ongoing discussions between the Trust and the Joint Research Office (CVUHB and CU) to scope opportunities and identify mutual benefits in working together for research occurring in the Research Hub.

Clinical Leadership for Cancer R&D ambitions has been provided by Dr J Abraham, Executive Medical Director, Professor M Evans, Velindre Futures R&D Clinical Lead, and Dr R Jones, Associate Medical Director for R&D.

In addition, within VUNHST, a Strategic Leadership Group (SLG) has been established, bringing together the strategic leaders of cancer research within Velindre Cancer Centre to have a collective strategic oversight for the delivery of the cancer R&D ambitions. The SLG meets regularly, and it is fast becoming a medium to build connections and maximise research opportunities.

2.4.3 Other University Health Board Partner discussions

There are ongoing discussions with the Aneurin Bevan University Health Board (ABUHB) Research and Development team regarding Velindre@ research facilities to determine the

best strategic direction to enhance cancer research in partnership. A research activity data exercise has also been conducted to inform workforce models to support cancer research.

At Cwm Taf Morgannwg University Health Board (CTMUHB), links have been created with the Director for R&D which has established a continued commitment to work together.

2.4.4 Other Partnerships

Discussions are already underway with the Wales Cancer Research Centre, Experimental Cancer Medicine Centre Cardiff, Advanced Therapies Wales and Health and Care Research Wales, whose work programmes align with the Research Hub's ambitions. In addition, discussions are progressing with Pharma.

2.4.5 Implementation of Velindre Futures R&D Ambitions

Business cases were developed and funding secured to bring in a small team (2.6WTE) currently funded for 2 years that supports the implementation of Velindre Futures RD&I Cancer Ambitions. All posts are now appointed with the last team member joining the Trust in mid-January 2022.

Immediate next steps will be to:

- Continue the progress and develop an implementation plan for the Hub
- Develop Business Cases to secure funding for Clinical Academic time for Early Phase Trials
- Develop a business plan that includes a financial strategy for the cancer R&D ambitions
- Conduct a scoping exercise with UK Cancer Centres
- Further develop an Implementation plan with researchers relating to the different research work programmes within the **"Overarching Cancer Research and Development Ambitions for Velindre University NHS Trust 2021-31."**

2.5 Nursing and Interdisciplinary Research

2.5.1 Progress in building nursing and interdisciplinary research

On 01 July 2020, Velindre University NHS Trust (VUNHST) entered a partnership with the School of Healthcare Sciences, Cardiff University, to build research capacity in nurse, allied health professional and healthcare scientist staff groups at the Velindre Cancer Centre, Cardiff.

The Velindre **ambition** for nurse, allied health professional and healthcare scientist cancer research:

> *Velindre Cancer Centre will have an established Welsh hub recognised nationally and internationally for research and innovation in interdisciplinary research.*

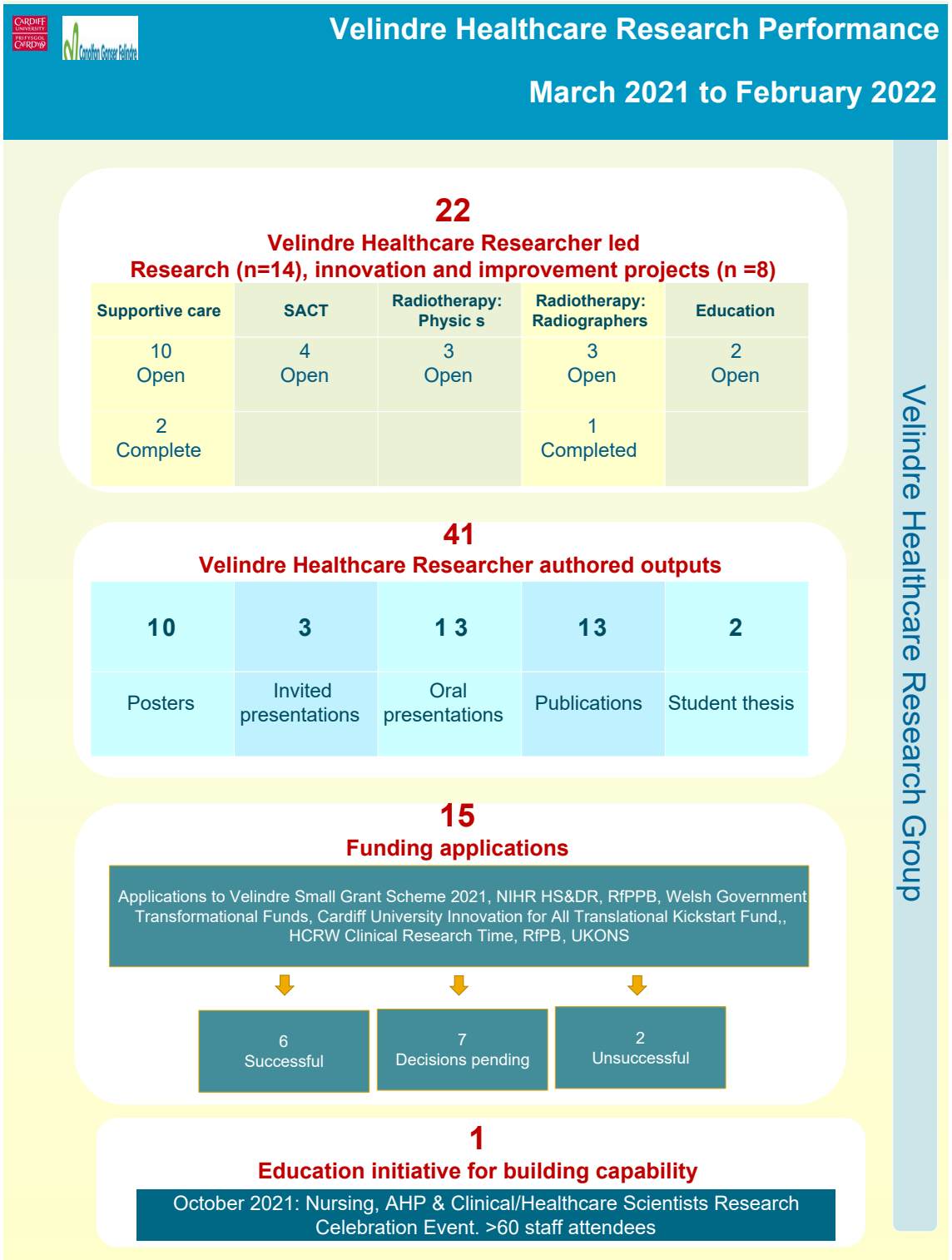
The Velindre interdisciplinary research hub will be home for a programme of externally funded research and innovation that aligns with strategies within both Velindre University NHS Trust and Cardiff University. It will provide opportunities for nurses, allied health professionals and healthcare scientists to engage in and take forward cancer care research alongside clinical practice.

Having entered into the partnership the following progress has been made to support and build nursing and interdisciplinary research in the Trust:

Financial Year	Qtr	Progress
2021/22	1	• Cardiff University Healthcare Cancer Research Group seminars open to Velindre Cancer Centre (VCC) staff. • School of Healthcare Sciences support for an All Wales Cancer Research Radiographer Group secured and partnering with Velindre.
	2	• Velindre University NHS Trust Small Grant Scheme launched to kick start Nursing, Allied Health Professional and Health Science research and development during 2021/22. • Velindre Cancer Care Research Associate take up post.
	3	• Cardiff Metropolitan University seek placement of two MSc Psychology students within Velindre Cancer Centre • Nursing, AHP and Clinical/Healthcare Scientists Research Celebration Event held in October 2021. Welcome given by Professor Donna Mead, Trust Chair and Guest Speaker, Professor Bridget Johnston FRCN, Clinical Professor of Nursing and Palliative University of Glasgow and Chief Nurse Research, NHS Greater Glasgow & Clyde.
	4	• Jane Darmanin, appointed Head of Velindre Healthcare Research. • Radiotherapy Research Administrator post appointed. • Velindre Healthcare Cancer Research Support Team set-up • Velindre HCARE RG education task and finish group – Jane Darmanin leading on an education offer to include web resources and one-to-one supervision for research

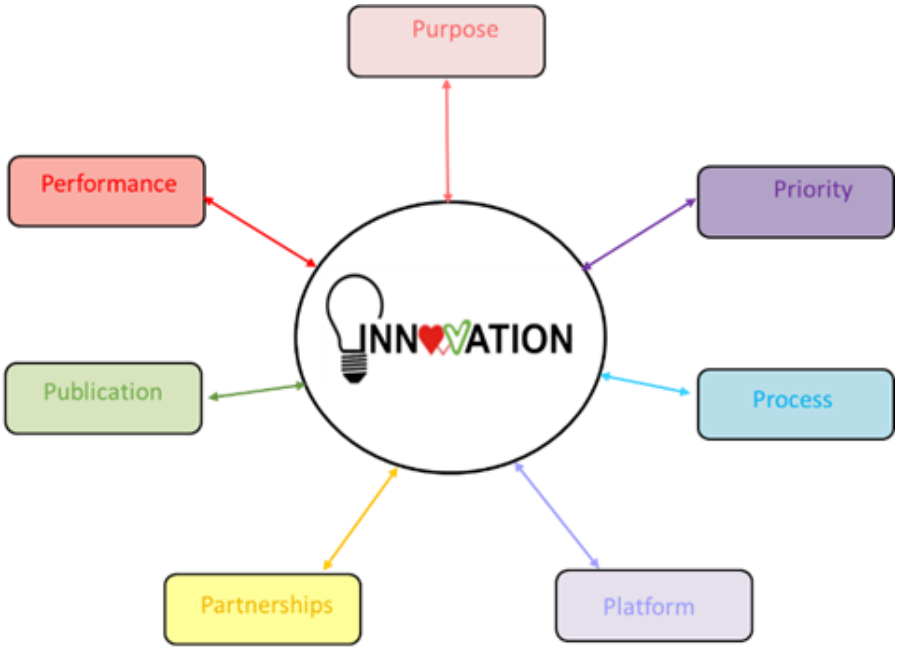
2.5.2 Performance

The following infographic shows the Velindre Healthcare Research Performance from March 2021 to February 2022:



2.6 Innovation

During the past year the NHS continued to face the unprecedented pressures of the global pandemic whilst recognising the key role innovation plays in meeting this and other challenges. In 2021, Velindre also made the key decision to invest in innovation with the appointment of a dedicated lead for innovation. After an intense period of consultation and a wide mapping exercise, a new aligned ten-year innovation plan was developed to *deliver a step change improvement in the quality and quantity of multi-disciplinary and multi-partner innovation to achieve our Trust's purpose to improve lives.*



The '©Velindre 7P Value-Based Innovation Plan' sets out a clear structure for delivering Trust's innovation ambition. The plan includes:

1. A clear **Purpose** and definition of innovation,
2. Innovation **Priorities** and themes
3. A **Process** for triaging and accelerating innovation
4. The **Platform** for delivering innovation – culture, people, funding, toolkits, IP.
5. Key **Partnerships** to increase capability and capacity
6. Building a reputation and innovation premium through targeted promotion, **Publication** and
7. Delivering value through a **Performance** framework.

In partnership with the Velindre Charity and the Welsh Government Health and Care Innovation Team, Velindre is developing a new dedicated infrastructure. This team is already making a significant impact on the number of innovation projects supported, partnership agreements developed and promoting Velindre as an innovative organisation through prestigious awards and presentations at significant external events. The new

Velindre Cancer Centre (nVCC) is also at a critical design stage with the nVCC team fully embracing innovative design thinking. The WBS component RD&I lab was also launched during this year and has great potential to develop innovative blood products.

2.6.1 Purpose and Strategic Developments

The First Minister in his inaugural speech to the Senedd in 2021 announced an integrated innovation strategy with Ministerial agreement across all portfolios - Health, Education, Economy, and Climate Change. This strategy due to be published in spring 2022 will also align to the UK Government Innovation Strategy. The new integrated strategy will also be a direct driver of the Well-Being of Future Generations (Wales) Act, which requires public bodies to pursue the economic, social, environmental and cultural well-being of Wales. The strategy sets out the ambition of *"A Health and Social care system that collaborates across industry, academia and the third sector to deliver improved healthcare value by developing, sharing, procuring and adopting innovative practice and technology. This approach will prevent illness, support people to manage their own health and well-being and enable people to live independently for as long as they can, through the provision of integrated health and social care services which are delivered closer to home."*

To support the strategy for health, a new and consolidated programme has been developed to accelerate innovation across NHS Wales. The Velindre University NHS Trust Innovation team and plan has been developed in parallel and is therefore aligned to enable full engagement with the programme.

2.6.2 Priority – Themes

The new Velindre Ten-Year Strategy, with five clear strategic goals has provided the foundation for the development of the key innovation themes. The themes are both independent and dependent, and following a value chain analysis were split into cross cutting, Cancer and Welsh Blood Themes. The sub themes include:

Cross Cutting

- Patient Outcome and experience - Clinical Measures, PROMs & PREMs
- Emerging Technology
    - AI
    - Robotics
    - Immersive Tech - VR/AR
    - Integration
    - Wearables
    - Informatics inc. BI
- Commercialisation
- Workforce Innovation – culture & smart organisational design
- Engagement – community - staff, patient, carers and donors
- Arts & Creativity

Velindre Cancer Service

- Primary & Community Oncology Care
- Diagnostic – inc. POCT
- Innovative Cancer Treatments and Therapies - linked to RD&I Future Ambitions
- Supportive Care
- Velindre Healthcare Group (Formerly: Nurses, AHPs & Clinical Scientists)
- TCS & nVCC - Non-Clinical
    - Digital
    - CFFL&I
    - Art, Creativity and Design
    - RD&I – non-clinical
        - Future Generations
            - Green Tech - advanced & emerging digital & Information
            - Green Solutions
        - Social Innovation - Community Benefit
    - Palliative care

Welsh Blood Service

- Components and products
- Stem Cell and advanced blood-based therapies
- Logistics

2.6.3 Process

At the heart of the innovation plan is the development of the Velindre Innovation MDT. This concept was developed at Cardiff and Vale by Professor Torkington and Velindre is represented at the Cardiff MDT which benefits from an incredible breath of experience, knowledge and partnerships.

2.6.4 Platform

Finance

- Expenditure against budgets is projecting a small underspend of £5,560
- The total value of bids and proposals, supported or led by the Team is over £550,000
- Innovation Fund – a draft proposal was written to develop an innovation fund in partnership with the Velindre Charity

Culture and People

A two-year post was successfully supported by the Velindre Charity for an Innovation Project Manager

Ross McLeish has submitted a scholarship application for an MSc in Innovation and Transformation

Team Development

- Rescape Ltd – Trends in VR in Health
- An IP awareness slide deck was developing with AgorIP

Toolkits

- A one year 20 licence Ayoa Collab Mindmap Software gifted from OpenGenius
- Miro – Creative process mapping
- Canva – Creative Presentation

Communications Plan

- The Innovation Web page was updated

IP and Commercialisation

- Velindre innovation templates - NDA and MOUs developed

iSpace

- Welsh Blood – excellent facilities are available for small groups
- VCC – no progress has yet been made with an innovation centre

2.6.5 Partnerships

Targeted partnerships are essential to developing, realising and scaling innovation. Industry partners bring commercial urgency and know-how, funding and the ability to market and sell products and solutions. Academic partners bring a wealth of expertise and research to develop ideas. The third sector often share our social values and aims to improve lives. Collaborations are useful but true innovation partnership to meet our challenges are always our aim. Partnerships recognise that all the parties need to be treated and respected as equals, regardless of their size or position. We are fortunate in Wales that we also have a close relationship and alignment with Government and their funded programmes e.g. Bevan, Life Science Hub and HTW.

Wherever appropriate, the team ensures that innovation relationships developed with external parties are covered by agreements to protect the interests of all parties.

Industry

- **Pfizer**
  Pfizer, is a US company with a strong UK presence and has a market cap of $266.83 billion and is said to be in the top 30 most valuable companies in the World. Velindre has developed a strong relationship with the non-commercial patient experience arm of Pfizer UK. This started with mutual work on RITA. Last year a confidentiality agreement was executed, and a feasibility project has begun with the global patient experience team.

- **IBM**
  IBM currently has a market cap of $112.73 billion which places them at 115th in the world's most valuable companies. Initially the relationship was developed with IBM Watson, for the RITA project but has since to developed to incorporate more strategic relationships, including sharing their white paper on smart hospitals.

- **Roche**
  Roche is a Swiss pharma and diagnostics company with a market cap of $339.82 billion, this puts them at the 21st most valuable company in the World. Roche UK have a great relationship with Wales and share many of the values relating to fighting diseases such as cancer. In the development of an integrated med-tech cluster in South-East Wales Roche will be an important partner and the innovation relationship with Velindre will be strengthened.

- **Medtronic**
  Medtronic is global leader in medical technology solutions, with a market cap of $138.98 billion. They share a mission to diagnose cancer earlier and a good relationship has been established.

- **Merck/MSD**
  Merck (MSD outside the US) is a global pharmaceutical company with a market cap of $194 billion. They have a clear ambition 'inspired by science, and most importantly, patients, combining a creative approach with their relentless drive to transform the way cancer is treated' and again a good relationship has been established, particularly linked to primary care and community oncology theme.

- **Bayer**
  Bayer is a German chemical and pharmaceutical company with a strategic interest in cell and gene therapy. A good relationship has been established with Bayer UK, who also have a special interest in AI.

- **Jiva.ai**
  Jiva.ai is an award-winning Cardiff based Technology Company with a low-code platform for rapid prototypes AI models. They are set to become the first AI solution trained on MRI scans to detect prostate cancer. Working in partnership jiva.ai and the Life Science Hub, a confidentiality agreement is in place.

- **IQ Health**
  IQ Health is a Cardiff based SME that specialises in machine learning. A confidentiality agreement is in place to develop joint innovations in this field.

- **Rescape/Orchard**
  Rescape is an innovative immersive technology company and has a sister company, Orchard that is a creative agency. They have strong relationships with the NHS in Wales and particularly in palliative care in Velindre. They supported the breast cancer baps app.

- **OpenGenius**
  Opengenius is an innovative and creative software company based in Cardiff. They have an internationally recognised software product for collaborative mind mapping, with built in AI. Velindre now has a partnership and confidentiality agreement to develop innovative solutions based on their platform and creative software experience. Their new product was used to map the innovation landscape and then organise into the new Velindre Innovation Plan.

Academia

- **Cardiff Metropolitan University**
  - A new PhD has been developed by WBS investigating Platelets
  - Developing links between WBS and Stroke Hub Wales, Innovation

- **Cardiff University**
  - A new AI R&I group has been established and is developing
  - Five SSC Med Students Placements have been organised by the nVCC/TCS RD&I team
  - Robyn Davies is a panel member for the Wellcome ITPA fund as Cardiff Innovation Fellow

- **University of Wales Trinity St David**
  - An innovation MOU has been drafted, good links to the Technology and Design Schools

- **University of South Wales**
  - Welsh Institute of Health and Social Care, good links to the Integrated Care Team

- **Swansea University**
  - AGOR IP has been advising on a commercial product and developing some IP training slide decks.
  - A PhD in AI and Values Based Health Care and cancer has commenced
  - Ross McLeish has submitted a scholarship application for an MSc in Innovation and Transformation – part of the intensive learning academy for innovation
  - Bevan Academy is hosted by Swansea University

- Dr Mick Button was successful in his application to be a Fellow with a PhD scholarship.
- Robyn Davies is currently mentoring two Bevan Exemplars:
    - George Morris - Automating Thermoluminescent Dosimetry (TLD) Badge distribution to improve the Radiation Monitoring of Individuals Working with and Around Radiation.
    - Margaret James - Cluster Pharmacist Discharge Medication Reconciliation in General Practice.
- Supported by Jane Darmanin, Rebecca Summers a KESS Student is conducting a Value Based Health Care masters. This is hoped to translate to a PhD.

3RD SECTOR

- As part of the RITA Engagement Project, close working relationships have developed with Tenovus and MacMillan
- A close partnership has developed with the Velindre Charity, who have supported an innovation project post for two years
- Wales Cancer Network ran an innovation and Improvement Challenge and the Innovation team supported the judging.

Other Partners

- The Welsh NHS Innovation Leads meet every two weeks to align, develop and share good practice
- Life Sciences Hub appointed a key account manager to work closely with the Velindre Innovation team
- Velindre joined MediWales 2022.

2.6.6 Publication – Promotion – Presentations

The key highlights for innovation year was Velindre in partnership with the All-Wales Genomic Service (AWMGS) winning the prestigious NHS Wales 'Scaling Innovation and Transformation Award'. The partnership developed an innovative new test that can reduce adverse reactions to chemotherapy medications by screening patients in advance of treatment to identify those at risk of severe side effects. The test uses genetic variants to predict the likelihood that a particular drug may cause unintended harm through an adverse reaction.

Adverse reactions to medications account for 6.5% of UK hospital admissions and cost the NHS c£466m annually. Pharmacogenetic testing is a new innovative field and the test is the first pharmacogenetics test to be commissioned for use by the NHS. As a result, Wales

has become the first country in the UK to routinely screen all cancer patients being treated with certain types of chemotherapy.

A pilot began in January 2020 and the test and testing pathway were developed, along with clinical guideline documents and education packages. To date, more than 2000 patients have been screened and a total of 225 patients in Wales have had their chemotherapy treatment stratified, therefore reducing their risk of an ADR. It is likely that deaths will have already been prevented by the testing.

Other Events

- RITA
    - Royal College of Radiologist – AI Session – Prof Peter Barrett-Lee and Ross McLeish
    - AI Med x 2 International Sessions
- Military Covenant Awards
- WBS Away Day – Innovation Session
- Grand Round – Health Technology Wales
- NHS Wales Innovation Awards – Winners in Scaling up Innovation https://www.youtube.com/watch?v=DDe7E_G6gNE&list=PLFz91WHnjCKROYrSFcCFf8uq53E6pC4IC&index=9
- Velindre Response to the New WG Innovation Strategy Session
- IBM – Smart Hospitals – London
- Objectivity UK Digital Innovation Advisory Board
- Cardiff City Region (CCR) – Med Tech Cluster Workshop SE Wales Innovation Leads
- Velindre Innovation Presentation - BioWales London

2.6.7 Performance

There has been a significant improvement in the number of innovation projects in the last year and a growing pipeline. There is great enthusiasm to innovate at Velindre, however, clinical and operational pressures remain high and this is limiting our capacity and capability.

Project Summary (L=Led, S=Supported)

- Innovation Plan – Implementation (L)
- RITA(L) (£160k)
- Project 2 - Video Project
- The PBL Oncology Chatbot (L)
- Pfizer – ByYourSide App (£18k) (L)
- RIIC Hub – v2 – New Innovation Partnership (L) (£75k 2022/3)
- Clinical Audit System (L) – HTW (£30k)
- Mindfulness App (S)

- Training Game – Palliative – IP Protect and Commercialise (L)
- Small Grants – App – Jane Mathlin (S)
- Arts MDT (S)
- NIHR i4i – OBD (£1.4m) (L)
- Cancer Spinal Ablation Service – partnering with CaV, Southmead & LSH (S)
- RT for Advanced Cancer – Planned Care Innovation Programme (S) (£130k)
- WBS – Drone Project (L) (£75k)
- Charity – Staff Support Psychologist – Action to Dev Metrics/Outputs (S)
- VCC - Ops Futures – Primary Care Programme
- Charity – Innovation Project Manager Post – aim to develop 6 projects of high Impact over the next two years (£100k)
- Project Eve – Integrated Clinical Communications and Comms Behaviour (L)
- Digital Cancer Hack – IBM/Objectivity (L)
- Cardiff Edge – CCR - Med Tech Cluster (L)

RITA

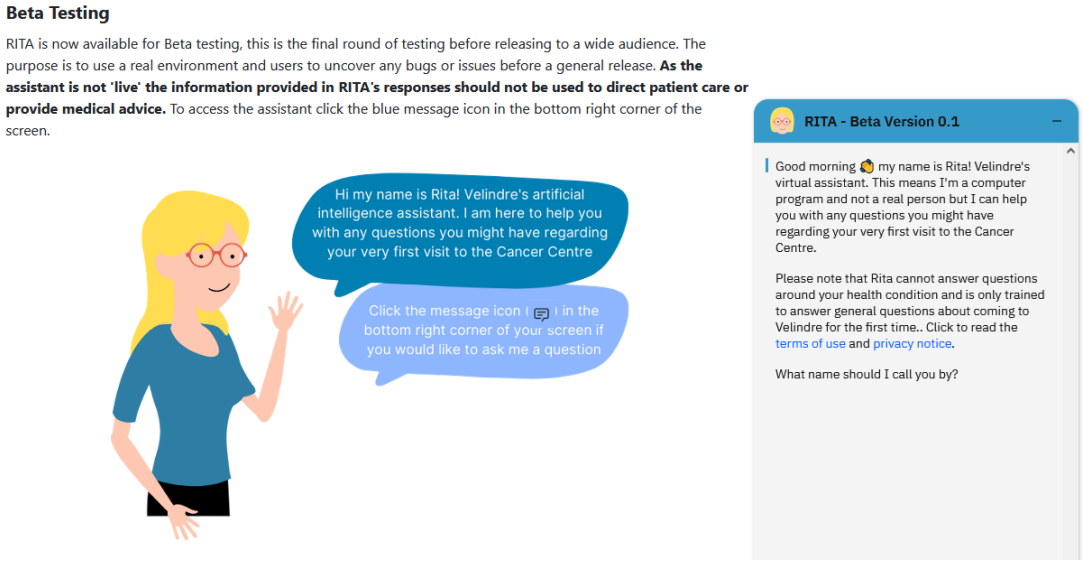
Webpage

One of the major challenges and barriers to the project was the ability to host it within the MURA platform in readiness for the live launch and making it accessible to our users. Due to limited technical experience of MURA within the Trust due to staff departures, the Innovation team requested access and have now achieved this major milestone by deploying and embedding the assistant within a newly created webpage on the VUNHST website.

Beta Testing

RITA is currently in Beta testing; this is the final round of testing before releasing to a wide audience. The purpose is to use a real environment and users to uncover any bugs or issues before a general release in early 2022. The use of a live feedback form within the assistant also enables us to capture this information directly from our patient testing groups, the data is then used to inform development.

Face to face testing session was held in outpatients department on 17th February, ~5 participants involved. However on evaluation, this was not the optimal environment for testing due to COVID restrictions, resulting in poor engagement. We rectified this by contacting our super user group, partner charities (Tenovus & Macmillan) and VCC departments to test online and provide feedback.



Feedback

54 users have completed the feedback form with the data showing:
75% of users scored RITA's performance 7 or above on a 10 point Likert scale
85% of users believe the Chabot should be made available to patients awaiting their first appointment

Updated feedback form has been introduced for 2022, created using Microsoft forms to bring the document into the Office 365 ecosystem used by the Trust and under the control of the Innovation department. Questions align with previous Google form to enable collation of data, however a question on age ranges has been added to provide some demographic data of our users.

We have had **11** responses in 2022:

- 75% rated between "8-10" on a Likert scale for performance
- 91% said the chatbot should currently be made available, with the majority (80%) answering with a "High rating (7-10)" for performance too.

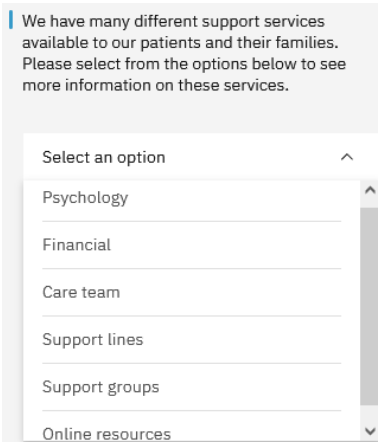
Development Support

Loss of technical support with the departure of Meridian IT from the project left the development work entirely in-house. An agreement has now been reached with IBM through a statement of work package to provide technical assistance and development expertise as and when it is needed by the project team. After a lengthy procurement process this has now been finalised and work on the user interface will begin in March.

Content

Content is continuously being updated and amended as we receive responses and feedback from staff and clinicians specific to the area of questioning.

- Support dialogues have been refined, slimming down the drop-down options in favour of categories where the user will be offered further information on these services.



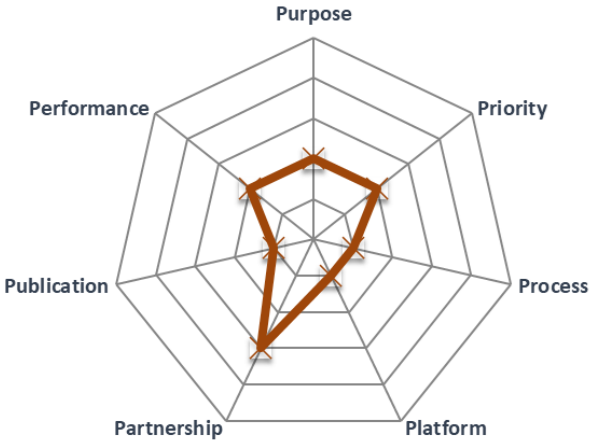
- More information added for specific treatment types and options
- Further FAQ's to be refined including: what to expect during first visit and current COVID information
- Amendments being made to responses based on patient feedback
- Refining dialogue content responses to make RITA more conversational in tone

Collaboration

We have collaborated with a variety of technology, healthcare and academic partners throughout the project. In December we have added to these through engaging with Macmillan Cancer Support. Discussions have taken place with the charity to signpost to their support services and provide content to be used in RITA's dialogue responses. Full list of collaborators shown in the image below:

Overall Performance

The '©Velindre 7P Innovation Plan' provides a performance framework and our first year is shown below. In the coming year partnerships will be developed locally and with notable UK centres such as Alder Hey, to help calibrate and bench mark our performance.



2.7 Health and Care Standards

The RD&I Division is responsible for the Standard 3.3 Quality Improvement, Research and Innovation of the Health and Care Standards. This standard assesses "Services engage in activities to continuously improve by developing and implementing innovative ways of delivering care. This includes supporting research and ensuring that it enhances the efficiency and effectiveness of services."

Up to the end of Quarter 3 of Financial Year 2021/22, the status of the Health and Care Standard 3.3 were as follows:

Area
Velindre Cancer Centre

Score 2020-21				
Insert score from last year's assessment				
1	**2**	**3**	**4**	**5**
			X	
Score 2021-22				
Insert presumed score for the coming year				
1	**2**	**3**	**4**	**5**
				X

Area
Welsh Blood Service

Score 2020-21				
Insert score from last year's assessment				
1	**2**	**3**	**4**	**5**
				X
Score 2021-22				
Insert presumed score for the coming year				
1	**2**	**3**	**4**	**5**
				X

The 2021/22 Self-Assessment Tools for financial year 2021/22 from both Velindre Cancer Centre and Welsh Blood Service are due to be submitted for consideration and reporting by 30 Apr 2022.

3 Welsh Blood Service

The RD&I Vision of the Welsh Blood Service will advance donor care, transfusion and transplantation medicine through the inception and participation in high-quality health services research. Our vision for the Welsh Blood Service is an organisation where high-quality research and development is performed as part of our normal day-to-day activity. To ensure our research efforts achieve the best outcome for donors and patients, collaborative work with clinicians will be encouraged wherever possible.

3.1 Key highlights and achievements

3.1.1 Improving Transplant Opportunities for Patients (ITOPS)

ITOPS is a randomised controlled phase III feasibility trial which aims to establish a new treatment that produces a clinically relevant reduction in a patient's level of sensitivity. This is predicted to improve rates of transplantation for these HSPs and, therefore, reducing the need for long-term dialysis. For the study, patients required additional testing for the presence of HLA antibodies. The data was then analysed and any updates to a patient's antibody profile were made. Trial samples were tested in batches at approximately 12-week intervals for a year post-treatment.

Amy De'ath was the lead Clinical Scientist for this clinical study into new treatments for improving the rates of transplantation in Highly Sensitised Patients (HSP). Amy De'ath was involved in the set-up of the trial, including developing new laboratory testing protocols and guiding the testing and management of trial participants samples. Amy also guided the selection of patients during recruitment and created a data management system that is being utilised across three study sites.

Our Welsh Transplantation and Immunogenetics Laboratory performed HLA typing and antibody screening of both patients and potential donors. They also performed 'crossmatch' testing to confirm compatibility of potential donor and recipient pairs. The team offered expert advice and worked with the clinical team to achieve the best possible outcomes for patients with complex immunological issues.

Dr Tracey Rees, our Chief Scientific Officer, also contributed to the development of the **ITOPS** protocol.

3.1.2 RECOVERY – Randomised Evaluation of COVID-19 Therapy

The Welsh Blood Service (WBS) provided service support to the RECOVERY trial by contacting donors who had recovered from COVID-19 and asking them to donate convalescent plasma to the study.

This platform study reported negative results for the convalescent plasma arm, stating that convalescent plasma transfusion from recovered COVID-19 patients does not result in better outcomes for hospitalised COVID-19 patients. The negative finding means that clinicians have a better understanding of the treatment for hospitalised COVID-19 patients and focus can be moved elsewhere.

3.1.3 Launching the Component Development Research Laboratory

In the autumn of 2021, the Welsh Blood Service launched a new facility. The Component Development Research Laboratory which will provide us with the facilities and capacity to realise our ambition of being a centre of excellence in blood component advancement. Manufacturing space has been transformed into a dedicated facility, and state-of-the-art equipment, such as the Seahorse XF Technology, have been commissioned. A small team of specialist scientists has been recruited with an ambition to grow further as the research program develops.

The laboratory will perform a wide range of functions. It will lead the service on the implementation of changes to components regulations. It will also research and develop innovative technologies for blood manufacturing, investigating new methodologies, and producing novel components. The work of the laboratory will also be able to advise the organisation on horizon scanning and potential future strategies for component development.

Even though the formal launch event took place in Q3, the laboratory already has a history of success. It has been delivering the Products theme of the WBS's RD&I Strategy for some time now. Several academic and healthcare partnerships are already underway. One of the first outputs will be a thesis from Cardiff Metropolitan University in Platelet Storage Lesion. This is the outcome of a KESS2 PhD studentship that the Welsh Blood Service has supported.

3.1.4 Sero-surveillance for SARS-CoV-2 infection in blood donors in Wales

Sero-surveillance will continue examining the levels of population immunity in this surrogate measure and is exploring the vaccine-mediated versus innate immunity in Wales. The Welsh Blood Service (WBS) continues to support Public Health Wales with their sero-surveillance work on exposure to Sars-Cov-2 across Wales. WBS has provided over 53,000 anonymised blood samples for Public Health Wales and expects samples to exceed the number seats in the Principality Stadium by July 2022.

3.1.5 Biomedical Excellence for Safer Transfusion Collaborative (BEST-C)

The **Biomedical Excellence for Safer Transfusion Collaborative**, or ***BEST-C*** is an international research organisation with a vision to lead the field of transfusion medicine and cellular therapies toward the best products and practices for donors and patients. BEST-C membership spans a broad range of the companies and blood suppliers engaged with blood collection, distribution, and transfusion worldwide. Welsh Blood Service has been a member over 10 years.

BEST-C allows thoughtful consideration to identify important questions in transfusion and design and executes studies to address these questions and provide critical thought and synthesis of the available evidence. It is an active group, bringing members together to examine these aspects. Their meetings allow members to share their plans in confidence with other members, encouraging expression of interest to participate and contribute to their studies.

The four workstreams of BEST-C are *Conventional Components*, *Cellular Therapies*, *Clinical Transfusion* and *Donor Studies*.

It is a Welsh Blood Service performance objective to take part in as many BEST-C endeavours as is feasible. Through our participation in BEST-C, the Welsh Blood Service has contributed to many international studies, most recently an investigation of Cryoprecipitate standardisation, which examined the production and quality parameters of blood products for patients that undergo fibrinogen therapy (BEST Study 158). Another contribution was to a study that identified strategies that may result in a reduced risk of transfusion-transmitted infection (BEST Study 123).

3.2 WBS RD&I Project Portfolio Highlights

Project Title: Development of a predictive biomarker profile to stratify the response of potential kidney recipients to antibody reduction and immune modulation
News: This project has now achieved sponsorship approval and the project practical work has commenced. The literature review has been published in a peer-reviewed journal.

Project Title: Evaluation of a novel monoclonal anti-Vel antibody for pre-screening Vel-negative red blood cells in blood samples
News: This collaboration with Sanquin (Dutch Blood Service) has performed well, passing its initial manual validation. We anticipate a further request to continue to the next phase of the investigation where the use of this antibody in an automated testing system will be evaluated.

3.3 WBS RD&I Project Portfolio Metrics

Metric Description	As of 01 Mar 2022
Number of NHS Research studies	1
Number of active WBS-manager RD&I Projects	14
In the	
• Transplantation RD&I Theme	5
• Donor Care and Public Health RD&I Theme	2
• Products RD&I	6
• Therapies RD&I	1
WBS Staff supporting active RD&I	47

Metric Description	Year to date
Closed projects	12
Awaiting Outcomes	2
Completed Outcomes	10

Metric Description	Year to date
Publications	28
Full Journal	8
Oral Conference Poster	3
Conference Poster	14
Thesis	3

4 Velindre Cancer Centre

This section of the report includes information on national and global achievements for research activities under Velindre Cancer Centre, as well as progress against the RD&I Operational Plan.

This part of the report contains data taken from study newsletters, press releases and research sponsor communications.

4.1 Key highlights and achievements

4.1.1 AURORA

Study Title: Aiming to Understand the Molecular Aberrations in Metastatic Breast Cancer

AURORA is an international academic research programme based on molecular screening and is dedicated to improving our understanding of metastatic breast cancer (MBC).

It is unique with its large collection of matched patient primary and metastatic tumour samples, obtained either at diagnosis of metastatic disease or after one line of treatment, as well as its high-quality clinical data collection. Researchers are able to study the molecular changes that occur when breast cancer first starts to spread, and throughout the evolution of metastatic disease.

Comprehensive analyses of data from the first 381 patients included in the AURORA has revealed important molecular and clinical features shedding more light on MBC and how it evolves. The detailed results have been published in *Cancer Discovery*, a journal of the American Association for Cancer Research.

Researchers have identified molecular changes that are more common in metastatic samples. These include mutations in driver genes (in 10% of the samples) and in copy number variations (in 30% of samples). These findings could lead to the future development of new treatment strategies for patients with MBC.

The programme has already generated the largest dataset of RNA sequencing (RNAseq) in MBC. The analyses of RNAseq data from paired primary and metastatic samples from the same patients showed that, in 36% of the cases, the breast cancer intrinsic subtype changes between the primary and the metastatic disease, usually towards a more aggressive form. This may have treatment implications and deserves further assessment.

The analyses also indicated that metastases expressed fewer immune-related genes and had a different immune cell composition, which may create a microenvironment more favourable to the development of metastases.

The analysis of how long patients survived with the disease showed that those with hormone receptor-positive (HR+) HER2-negative breast cancer who also had high tumour mutational burden (TMB) in their primary tumours had both shorter overall survival and shorter time to relapse, indicating that TMB is an independent poor prognostic factor.

Finally, researchers also found that more than 50% of patients had molecular changes that could be matched with existing targeted therapies, highlighting the potential impact of molecular screening in the management of MBC.

4.1.2 CHHiP

Study Title: Patient reported outcomes in patients treated within a randomised trial of image-guided radiotherapy for localised prostate cancer

CHHiP is a phase III, multicentre, randomised controlled trial to see whether hypofractionated radiotherapy schedules (fewer fractions in higher doses) for localised prostate cancer could improve the therapeutic ratio by either improving tumour control or reducing normal tissue side effects.

A paper has been accepted for the 5-year health related quality of life (HRQoL) after radical prostate radiotherapy.

The research has confirmed that moderately hypofractionated radiotherapy is well tolerated and should remain the standard of care. There is no evidence of deteriorating quality of life from 2 to 5 yrs. The increased rate of faecal incontinence warrants further research and strongly supports the need for longer-term follow-up of HRQoL.

4.1.3 CLEAR

Study Title: Multicenter, Open-label, Randomized, Phase 3 Trial to Compare the Efficacy and Safety of Lenvatinib in Combination with Everolimus or Pembrolizumab Versus Sunitinib Alone in First-Line Treatment of Subjects with Advanced Renal Cell Carcinoma

On 10 August 2021, the US Food and Drug Administration (FDA) granted approval of the combination lenvatinib plus pembrolizumab in the US for the first-line treatment of adult patients with advanced renal cell carcinoma. This decision was based on the initial findings of the CLEAR study, for which the Trust had been a research site. The CLEAR study demonstrated statistically significant reduced risk of disease progression or death by 61% versus sunitinib.

4.1.4 OLYMPIA

Study Title: A randomised, double-blind, parallel group, placebo-controlled multi-centre Phase III study to assess the efficacy and safety of olaparib versus placebo as adjuvant treatment in patients with germline BRCA1/2 mutations and high risk HER2 negative primary breast cancer who have completed definitive local treatment and neoadjuvant or adjuvant chemotherapy

Initial findings from the Olympia trial, have indicated that using olaparib on women following chemotherapy has a significant effect in reducing the risk of inherited breast cancer either returning or spreading. Results showed that there was a 42 per cent overall drop in the risk of the cancer returning in those who were given the drug.

Up until now, olaparib has only been used in the treatment of advanced cancers. The Olympia trial has shown that the drug is effective at the early, “curative” stage.

The trial was conducted by a series of partners worldwide, including Velindre, with the results published in The New England Journal of Medicine.

Velindre screened 89 patients with 8 patients going on to participate in the trial.

4.1.5 RECOVERY

Study Title: Randomised Evaluation of COVID-19 Therapy

The University of Oxford-led RECOVERY trial has been testing a range of potential treatments for patients admitted to hospital for COVID-19 since March 2020. This study aims to compare several different treatments that may be useful for patients with COVID-19 and/or influenza pneumonia. These treatments have been recommended for testing by the expert panel that advises the Chief Medical Officer in England. The treatments for COVID-19, which may be given in addition to the usual care at your hospital, include a

high dose steroid, dexamethasone, a treatment for diabetes or heart failure called empagliflozin, a synthetic antibody treatment directed against the virus (called sotrovimab) and an antiviral drug called molnupiravir. The treatments for influenza pneumonia, include two anti-viral treatments, oseltamivir and baloxavir and low-dose dexamethasone.

The trial has demonstrated that baricitinib, an anti-inflammatory treatment normally used to treat rheumatoid arthritis, reduces the risk of death when given to hospitalised patients with severe COVID-19. The benefit was in addition to those of dexamethasone and tocilizumab, two other anti-inflammatory treatments which have previously been shown to reduce the risk of death in these patients.

RECOVERY continues to strengthen the evidence for the treatment of COVID-19 patients and reducing the risk of death in these patients.

Sir Peter Horby, Professor of Emerging Infectious Diseases in the Nuffield Department of Medicine, University of Oxford, and Joint Chief Investigator for RECOVERY, said “This result [for baricitinib] confirms and extends earlier findings … and new data to guide the treatment of COVID-19 patients with a combination of drugs to dampen the immune response. As always, the next challenge is ensuring this and other COVID-19 treatments are available and affordable for everyone who can benefit, regardless of where they live. This is promising news from the government-funded RECOVERY trial and shows, once again, how the UK is leading the world in identifying life-saving treatments for NHS patients.”

The Trust has contributed to the RECOVERY trial as being a research site at Velindre Cancer Centre and the Welsh Blood Service (WBS) providing service support by contacting donors who had recovered from COVID-19 and asking them to donate convalescent plasma to the study.

4.1.6 STAMPEDE

Study Title: Systemic Therapy in Advancing or Metastatic Prostate Cancer: Evaluation of Drug Efficacy

Prostate cancer accounts for around one-fifth of all male cancers. In the UK, each year, there are around 25,000 new prostate cancer cases and around 10,000 deaths. Prostate cancer is treated with hormone therapy if it has spread (metastasised), or is very likely to spread, usually stopping tumour growth for a while. However, in most cases, over time the tumour will start growing again.

The aim of this trial is to try to prevent the tumour re-growth by adding other treatment(s) to the standard hormone therapy. The trial is currently using enzalutamide and abiraterone in combination with hormone therapy or, for newly diagnosed metastatic patients only,

radiotherapy in combination with hormone therapy. Celecoxib, zoledronic acid, docetaxel and abiraterone alone have previously been tested.

The addition of abiraterone helps men with high-risk prostate cancer that has not spread elsewhere in the body to live longer. This result from the STAMPEDE trial was published in The Lancet Journal on the 21 Dec 2022.

STAMPEDE looked at the impact of abiraterone, when used with or without, enzalutamide, when added to standard hormone therapy for men with prostate cancer that had not spread. Men were randomised to receive standard of care (hormone therapy with or without radiotherapy) and compared to men who were randomised to receive abiraterone, plus standard of care (hormone therapy with or without radiotherapy). A number of those in the 'abiraterone group', also received enzalutamide.

The proportion of men whose cancer hadn't spread after six years in the 'abiraterone-based therapy' group was 82%, compared with 69% in the 'standard of care' group. The proportion of men alive after six years in the 'abiraterone-based therapy' group was 86%, compared with 77% in the 'standard of care' group.

The addition of enzalutamide as well as abiraterone to standard treatment did not provide additional benefits over adding just abiraterone, with participants more likely to report severe side-effects. These severe side-effects included erectile dysfunction, high blood pressure, tiredness and liver problems.

To date Velindre has recruited 445 patients into the STAMPEDE trial.

4.1.7 SYMPLIFY

Study Title: SYMPLIFY – Observational study to assess a multi-cancer early detection test in individuals referred with signs and symptoms of cancer

The SYMPLIFY study is in place to assess the performance of one such *multi-cancer early detection* (MCED) test.

Opening to recruitment in July 2021, SYMPLIFY assessed the performance of the MCED test in people sent to one of five rapid referral pathways by their GP, because they are displaying symptoms that might be due to cancer. People taking part in the study had their diagnostic test(s) in the normal way, but also gave a blood sample and permission for the SYMPLIFY team to check their health records later to see if they were diagnosed with cancer and what appointments and other tests they had.

At the end of the study, having tested the blood with the MCED test, the team will understand more about how well it works in this group of people. This will help them to design another trial where they can check how to implement the test to decide who needs

rapid referral to look for a possible cancer and what tests to use following a positive MCED result.

SYMPLIFY recruited participants from sites across the UK, including 13 NHS Trusts in England and 19 district hospitals in Wales.

In Wales, the trial was coordinated by Velindre University NHS Trust under the "One Site Wales" coordinated approach, with Prof Dean Harris (Swansea Bay UHB) and Prof Tom Crosby (Velindre University NHS Trust) as principal investigators. Wales was the highest recruiting 'site' contributing 1232 recruited participants to the 6241 total participants recruited to the study.

4.1.8 Other news

BRIOChe	
Study Title:	**Radiotherapy outlining, planning, treatment delivery and QA guidelines**
News:	Velindre was the second UK site to open to recruitment. The Sponsor are currently opening 16 sites across the UK.

CA209-76K (CheckMate 76K)	
Study Title:	**A Phase 3, Randomized, Double-Blind Study of Adjuvant Immunotherapy with Nivolumab versus Placebo after Complete Resection of Stage IIB/C Melanoma**
News:	Velindre was the first UK site to randomise a patient into the study.

CompARE	
Study Title:	**Phase III randomised controlled trial comparing Alternative Regimens for escalating treatment of intermediate and high-risk oropharyngeal cancer**
News:	Velindre was the top UK recruiting site for 3 months in a row (September 2021 to November 2021).

CONCORDE	
Study Title:	**A platform study of DNA damage response inhibitors in combination with conventional radiotherapy in non-small cell lung cancer**
News:	Velindre was the first UK site to open to recruitment. The Trust also recruited our first participant within 9 days of opening.

COVID Immune	
Study Title:	**Examining the effect of vaccination on both SARS-CoV2-specific T cell and antibody responses in cancer patients**
News:	The study has been published as an article in the Journal of Immunology. The article can be accessed via the following link: https://onlinelibrary.wiley.com/doi/10.1111/imm.13433

DANTE	
Study Title:	**A randomised phase III trial to evaluate the Duration of ANti-PD1 monoclonal antibody Treatment in patients with metastatic mElanoma**
News:	Velindre was the top UK recruiting site during quarter 1 and the first 2 months of quarter 2 in 2021/22.

OnCOVID	
Study Title:	**ONCOVID: natural history and outcomes of cancer patients during the COVID19 epidemic.**
News:	Three papers have been prepared for submission using the OnCOVID data. These are: • A paper on clinical effectiveness of COVID vaccines to be submitted to JAMA Oncology. • A brief communication about long term outcomes/sequelae at 6 and 12 months to be submitted to Journal of the National Cancer Institute. • A brief report about SARS-CoV-2 reinfection to be submitted to the Journal Hematology & Oncology.

4.1.9 Study performance rankings

Ranking	Study Title	Summary
Top European Recruiter	OPTIMA	Optimal Personalised Treatment of early breast cancer using Multi-parameter Analysis
Top UK Recruiter	CONCORDE	A platform study of DNA damage response inhibitors in combination with conventional radiotherapy in non-small cell lung cancer
Top UK Recruiter	RAPPER	Radiogenomics: Assessment of Polymorphisms for Predicting the effects of Radiotherapy
Top UK Recruiter	CA209-76K	A Phase 3, Randomized, Double-Blind Study of Adjuvant Immunotherapy with Nivolumab versus Placebo after Complete Resection of Stage IIB/C Melanoma
2nd Highest UK Recruiter	PARTNER	Randomised, phase II/III, 3 stage trial to evaluate the safety and efficacy of the addition of olaparib to platinum-based neoadjuvant chemotherapy in breast cancer patients with TNBC and/or gBRCA.
2nd Highest UK Recruiter	SCOPE 2	A randomised Phase II/III trial to study radiotherapy dose escalation in patients with oesophageal cancer treated with definitive chemo-radiation with an embedded Phase II trial for patients with a poor early response using positron emission tomography (PET)
Joint 2nd Highest UK Recruiter	SCANCELL	A Phase 2, Multicenter, Open-Label Study of SCIB1 in Patients with Advanced Unresectable Melanoma Receiving Pembrolizumab
3rd Highest UK Recruiter	TRITON 3	A Multicenter, Randomized, Open-label Phase 3 Study of Rucaparib versus Physician's Choice of Therapy for Patients with Metastatic Castration-resistant Prostate Cancer Associated with Homologous Recombination Deficiency
3rd Highest UK Recruiter	Cardiac Care	A multicentre prospective randomised open-label blinded end-point controlled trial of high-sensitivity cardiac troponin I-guided combination angiotensin receptor blockade and beta blocker therapy to prevent cardiac toxicity in breast cancer patients receiving anthracycline adjuvant therapy.

Ranking	Study Title	Summary
Joint 4th Highest UK Recruiter	NET-02	A non-interventional, multicenter, multiple cohort study investigating the outcomes and safety of atezolizumab under real-world conditions in patients treated in routine clinical practice
6th Highest UK Recruiter	TRAP	Targeted Radiotherapy in Androgen-suppressed Prostate cancer patients
Joint 7th Highest UK Recruiter	ATLANTIS	An adaptive multi-arm phase II trial of maintenance targeted therapy after chemotherapy in metastatic urothelial cancer
7th Highest UK Recruiter	ABC-07	Addition of stereotactic radiotherapy to systemic cf chemotherapy in locally advanced biliary tract cancers
Joint 8th Highest UK Recruiter	IRONMAN	International Registry for Men with Advanced Prostate Cancer
9th Highest UK Recruiter	COPELIA	A 3-Arm Randomised Phase II Evaluation of Cediranib in Combination with Weekly Paclitaxel or Olaparib Versus Weekly Paclitaxel Chemotherapy for Advanced Endometrial Carcinoma or for disease relapse within 18 months of adjuvant carboplatin-paclitaxel chemotherapy

4.2 Operational plan 2020/21 to 2021/22

At 15 Mar 2022, the status of the projects from the Operational Plan 2020/21 to 2021/22 was as follows with the majority of project being on track (green):

Code	Project	Status
A1	Publish a Trust Research, Development & Innovation Strategy	Green
A2	Publish an annual operational plan for the Trust RD&I division that links to the Trust RD&I strategy	Green
A3	Work with the Trust Communications team to collaborate with Health and Care Research Wales to update/redevelop the Trust RD&I communications and web pages	Green
A4	Create and publish a quality manual transforming RD&I division's procedures and staffing structure to better facilitate research, development and innovation delivery	Green
A5	Implement a study adoption tool to support decisions about the studies the Trust wishes to sponsor and/or host as part of its research study portfolio	Green
A6	Review and improve procedures for data management including data capture and data quality	Green
A7	Monitor the development of the CaNISC replacement to ensure that the new system meets the statutory and regulatory requirements associated with research.	Amber
A8	Implement an income distribution model for Trust research	Amber
A9	Develop guidance/processes for the Trust to licence intellectual property arising from its sponsored non-commercial portfolio as appropriate	Amber
A10	Develop a plan to ensure the Trust has the capability to deliver vaccine research both in its own right and as part of Health and Care Research Wales vaccine infrastructure	Green
A11	Explore new collaborative partnerships and encourage overarching agreements with partners to facilitate research	Green

4.2.1 Monitor the development of the CaNISC replacement

RD&I are represented at both the DH&CR Project Board and Implementation Group. Representation is as follows:

- Senior Leadership Team – delegated to CCJ
- Work stream operational lead – CB
- Work stream operational representative - JR

Additional staff will support the implementation as the DH&CR project progresses.

The Trust has made a decision to delay the implementation to May 2022 at risk, from the original planned September 2021.

4.2.2 Implement an income distribution model for Trust research

The work to implement an income distribution model that ensures that research income is appropriately distributed within the Trust was previously delayed due to COVID-19. This work was restarted during the financial year 2021/22 and is now expected to complete in the financial year 2022/23.

4.2.3 Develop guidance/processes for the Trust to licence intellectual property

The work to develop a procedure that allows the Trust to licence intellectual property arising from the Trust's sponsored non-commercial portfolio was previously delayed due to COVID-19. This work was restarted during the financial year 2021/22 22 and is now expected to complete in the financial year 2022/23.

Appendix A: Trust staff acting as research study investigators

A1. Trust Sponsored studies

The following table lists the Chief Investigator for the Trust sponsored studies in 2021/22.

Chief Investigator	Acronym	Study
Richard Adams	ADVANCE	A community-based point of care white cell count device to improve critical care pathways for cancer patients with suspected chemotherapy related neutropenic sepsis: a feasibility study
Tom Crosby	SCOPE 2	A randomised Phase II/III trial to study radiotherapy dose escalation in patients with oesophageal cancer treated with definitive chemo-radiation with an embedded Phase II trial for patients with a poor early response using positron emission tomography (PET)
Mererid Evans Terry Jones	PATHOS	A Phase III trial of risk-stratified, reduced intensity adjuvant treatment in patients undergoing transoral surgery for Human papillomavirus (HPV)-positive oropharyngeal cancer
Mererid Evans Terry Jones	BEST OF	Phase III study assessing the “best of” radiotherapy compared to the “best of” surgery (trans-oral surgery (TOS)) in patients with T1-T2, N0-N1 oropharyngeal, supraglottic carcinoma and with T1, N0 hypopharyngeal carcinoma
Mererid Evans Thomas Rackley	PEARL	A **PE**T-based **A**daptive **R**adiotherapy C**L**inical Study
Dean Fennell	PIN	A randomised phase II trial of Olaparib maintenance versus placebo monotherapy in patients with chemosensitive advanced non-small cell lung cancer
Kieran Foley	CHROME	Comprehensive Radiological Mapping of Metastases in Oesophageal Adenocarcinoma
Rob Jones Sacha Howell	FAKTION	A phase 1b/2 randomised placebo controlled trial of fulvestrant +/- AZD5363 in postmenopausal women with advanced breast cancer previously treated with a third generation aromatase inhibitor
Rob Jones Mark Beresford	FURVA	A randomised double blind placebo controlled phase II study of fulvestrant with or without the addition of vandetanib as treatment for patients with metastatic breast cancer resistant to aromatase inhibitor therapy
Felicity May	WBS Predictive Biomarkers	Development of a predictive biomarker profile to stratify the response of potential kidney recipients to antibody reduction and immune modulation
Luke Midgley	COPIC STC	Coproducing an Intervention for Carers who care for a relative undergoing SACT and/or Radiotherapy treatment for Solid Tumour Cancers.
Rosie Roberts	VIP Epi	Volumetric Infusion Pump administration of Epirubicin chemotherapy
Laura Moss (now Kate Garcez)	iNATT	The **i**nter**N**ational **A**naplastic **T**hyroid Cancer **T**issue Bank and Database Project
Thomas Rackley Catherine Pembroke	SABR_IT	Immune responses in Stereotactic Ablative Body Radiotherapy In primary and oligomeTatstatic cancer
Emiliano Spezi	CardiffCAT: ARGOS	ARtificial intelligence for Gross tumour vOlume Segmentation

A2. Trust hosted studies

The following table lists the Principal Investigator for Trust hosted studies in 2021/22.

Principal Investigator	Acronym	Study
Jacinta Abraham	**ARTemis**	ARTemis: Avastin Randomised Trial with Neo-adjuvant chemotherapy for patients with HER 2 negative breast cancer
Jacinta Abraham	**Artemis**	Artemis: Avastin Randomised Trial with neo-adjuvant chemotherapy for patients with early breast cancer
Jacinta Abraham	**PAKT**	PAKT: A phase II randomised, placebo-controlled study of paclitaxel in combination with the AKT inhibitor AZD5363 in triple-negative advanced or metastatic breast cancer
Jacinta Abraham	**Persephone**	Duration of Trastuzumab with Chemotherapy in Women with Early Breast Cancer: Six Months versus Twelve
Jacinta Abraham	**plasmaMATCH**	The UK plasma based Molecular profiling of Advanced breast cancer to inform Therapeutic Choices (plasmaMATCH) Trial: A multiple parallel cohort, open-label, multi-centre phase IIa clinical trial aiming to provide proof of principle efficacy for designated targeted therapies in patients with advanced breast cancer where the targetable mutation is identified through ctDNA screening
Jacinta Abraham	**AURORA**	Aiming to Understand the Molecular Aberrations in Metastatic Breast Cancer
Richard Adams	**CEDAR**	A Phase 1 trial of the safety, tolerability and biological effects of intravenous Enadenotucirev, a novel oncolytic virus, in combination with chemoradiotherapy in locally advanced rectal cancer
Richard Adams	**Add-Aspirin**	A phase III double-blind placebo -controlled randomised trial assessing the effects of aspirin on disease recurrence and survival after primary therapy in common non-metastatic solid tumours
Richard Adams	**STAR-TREC**	Can we Save the rectum by watchful waiting or TransAnal surgery following (chemo) Radiotherapy versus Total mesorectal excision for early REctal Cancer?
Richard Adams	**ARISTOTLE**	ARISTOTLE: A phase III trial comparing standard versus novel CRT as pre-operative treatment for MRI defined locally advanced rectal cancer
Richard Adams	**FOXFIRE**	FOXFIRE: An open-label randomised phase II/II trial of 5-fluorouracil, Oxlaplatin and Folinic acid+/- Interventional Radio-Embolisation as first line treatment of patients with liver predominant metastatic colorectal cancer
Richard Adams	**FOXTROT**	Fluoropyrimidine Oxaliplatin & Targeted Receptor pre-operative therapy for colon cancer. A randomised trial assessing whether preoperative chemotherapy and/or an anti-EGFR monoclonal antibody improve outcome in high risk operable colon cancer.
Richard Adams	**NSCCG**	National Study of Colorectal Cancer Genetics (NSCCG)
Richard Adams	**Easi-Switch**	Early switch to oral antibiotic in patients with low risk neutropenic sepsis
Richard Adams	**PRIME RT**	Priming the Tumour MicroEnvironment for Effective Treatment with Immunotherapy in Locally Advanced Rectal Cancer A Phase II trial of Durvalumab (MEDI 4736) in Combination with Extended Neoadjuvant Regimens in Rectal Cancer
Richard Adams	**Challenge UK**	A phase 3 study of the impact of a physical activity program on disease free survival in patients with high risk Stager II or Stage III colon cancer: A randomised control trial

Principal Investigator	Acronym	Study
Douglas Adamson	**ROCS**	ROCS
Seema Arif	**ABC-07**	Addition of sterotactic radiotherapy to systemic cf chemotherapy in locally advanced biliary tract cancers
Seema Arif	**SCALOP 2**	A multi-centre randomised study of induction chemotherapy followed by capecitabine (+/-nelfinavir) with high or standard dose radiotherapy for locally advanced non-metastatic pancreatic cancer
Jim Barber	**InPACT**	International Penile Advanced Cancer Trial
Jim Barber	**RAMPART**	Renal Adjuvant MultiPle Arm Randomised Trial (RAMPART): An international investigator-led phase III multi-arm multi-stage multi-centre randomised controlled platform trial of adjuvant therapy in patients with resected primary renal cell carcinoma (RCC) at high or intermediate risk of relapse
Jim Barber	**TransRAMPART**	Translational Renal Adjuvant MultiPle Arm Randomised Trial
Jim Barber	**STEP**	STEP: Sorafenib Long Term Extension Programme
Jim Barber	**ATLANTIS**	An adaptive multi-arm phase II trial of maintenance targeted therapy after chemotherapy in metastatic urothelial cancer
Jim Barber	**Sorce**	A Phase III Randomised Double-Blind Study Comparing Sorafenib with Placebo in Patients with Resected Primary Renal Cell Carcinoma at High or Intermediate Risk of Relapse
Annabel Borley	**D9670C00001 (DESTINY-Breast06)**	A Phase 3, Randomized, Multi-center, Open-label Study of Trastuzumab Deruxtecan (T-DXd) Versus Investigator's Choice Chemotherapy in HER2-low, Hormone Receptor Positive Breast Cancer Patients whose Disease has Progressed on Endocrine Therapy in the Metastatic Setting
Annabel Borley	**OPTIMA**	OPTIMA: Optimal Personalised Treatment of early breast cancer using Multi-parameter Analysis
Annabel Borley	**PARTNER**	Randomised, phase II/III, 3 stage trial to evaluate the safety and efficacy of the addition of olaparib to platinum-based neoadjuvant chemotherapy in breast cancer patients with TNBC and/or gBRCA.
Annabel Borley	**Phoenix**	A pre-surgical window of opportunity and post-surgical adjuvant biomarker study of DNA damage response inhibition and/or anti-PD-L1 immunotherapy in patients with neoadjuvant chemotherapy resistant residual triple negative breast cancer Version: 1.0
Annabel Borley	**ALLTO**	Adjuvant Lapatinib and/or Trastuzumab Treatment Optimisation
Annabel Borley	**APHINITY**	Aphinity: A randomised mullticentre double-blind, placebo-controlled comparison of chemotherapy plus trastuzumab plus placebo versus chemotherapy plus trastuzumab plus pertuzumab as adjuvant therapy in patients with operable HER2-positive primary breast cancer
Annabel Borley	**CARDIAC CARE**	A multicentre prospective randomised open-label blinded end-point controlled trial of high-sensitivity cardiac troponin I-guided combination angiotensin receptor blockade and beta blocker therapy to prevent cardiac toxicity in breast cancer patients receiving anthracycline adjuvant therapy
Annabel Borley	**Kaitlin**	Kaitlin: A randomised, Multicentrer, Open-Label, Phase III Trial Comparing Trastuzumab Plus Pertuzumab plus A Taxane following Anthracyclines Versus Trastuzuamab Emtansine Plus Pertuzumab Following Anthracyclines as Adjuvant Therapy in Patients with Operab
Annabel Borley	**NATALEE/ TRIO033**	A phase III, multicenter, randomized, open-label trial to evaluate efficacy and safety of ribociclib with endocrine therapy as an adjuvant treatment in patients with hormone receptor-positive, HER2-negative, early breast cancer (New Adjuvant TriAl with Ribociclib [LEE011]: NATALEE).
Annabel Borley	**PALLAS**	PALbociclib CoLlaborative Adjuvant Study

Principal Investigator	Acronym	Study
Annabel Borley	**TULIP**	A multi-centre, open-label, randomized clinical trial comparing the efficacy and safety of the antibody-drug conjugate SYD985 to physician's choice in patients with HER2-positive unresectable locally advanced or metastatic breast cancer
Annabel Borley	**UNIRAD**	Randomized, double-blind, multicentre phase III trial evaluating the safety and benefit of adding everolimus to adjuvant hormone therapy in women with poor prognosis, ER+ and HER2- primary breast cancer who remain free of disease after receiving at least 1 year of adjuvant hormone therapy.
Annabel Borley	**MERIDIAN**	Meridian: Go25632 Phase 3 Study for treatment of Metastatic Cancer; A Phase III, randomised, double-blind, placebo-controlled, multicentre study to evaluate the efficacy and safety of bevacizumab, and associated biomarkers, in combination with Paclitaxel co
Annabel Borley	**TROPION-01**	A PHASE 3, OPEN-LABEL, RANDOMIZED STUDY OF DATO-DXD VERSUS INVESTIGATOR'S CHOICE OF CHEMOTHERAPY IN PARTICIPANTS WITH INOPERABLE OR METASTATIC HORMONE RECEPTOR POSITIVE, HER2 NEGATIVE BREAST CANCER WHO HAVE BEEN TREATED WITH ONE OR TWO PRIOR LINES OF SYSTEMIC CHEMOTHERAPY
Alison Brewster	**SCOT (Short Course Oncology Trial)**	A study of adjuvant chemotherapy in colorectal cancer by the CaTUS and OCTO groups.
Mick Button	**PACIFIC-Real World**	First real-world data on unresectable stage III NSCLC patients treated with durvalumab after chemoradiotherapy
Mick Button	**SAPPHIRE (MIRATI)**	A Randomized Phase 3 Study of Sitravatinib in Combination with Nivolumab Versus Docetaxel in Patients with Advanced Non-Squamous Non-Small Cell Lung Cancer with Disease Progression On or After Platinum-Based Chemotherapy and Checkpoint Inhibitor Therapy
Mick Button	**FLAURA2**	A Phase III, Open-label, Randomized Study of Osimertinib with or without Platinum Plus Pemetrexed Chemotherapy, as First-line Treatment in Patients with Epidermal Growth Factor Receptor (EGFR) Mutation-Positive, Locally Advanced or Metastatic Non-small Cell Lung Cancer
Mick Button	**ADSCaN**	A Randomised Phase II study of Accelerated, Dose escalated, Sequential Chemo-radiotherapy in Non-Small Cell Lung Cancer
Mick Button	**POUT**	POUT: A phase III randomised trial of Peri-Operative chemotherapy versus sUrvellance in upper Tract urothelial cancer
Mick Button	**Mariposa 2 trial**	A Phase 3, Open-Label, Randomized Study of Amivantamab and Lazertinib in Combination with Platinum-Based Chemotherapy Compared with Platinum-Based Chemotherapy in Patients with EGFR-Mutated Locally Advanced or Metastatic Non-Small Cell Lung Cancer After Osimertinib Failure
Amy Case	**ADVANCE - Point of Care**	A COMMUNITY-BASED POINT OF CARE WHITE CELL COUNT DEVICE TO IMPROVE CRITICAL CARE PATHWAYS FOR CANCER PATIENTS WITH SUSPECTED CHEMOTHERAPY RELATED NEUTROPENIC SEPSIS: A FEASIBILITY STUDY
John Chester	**ONCOVID**	ONCOVID: natural history and outcomes of cancer patients during the COVID19 epidemic
John Chester	**COMPARE**	Phase III randomised controlled trial comparing Alternative Regimens for escalating treatment of intermediate and high-risk oropharyngeal cancer (CompARE).
John Chester	**PET PREDICT**	An exploratory study of the ability of 18F-FDG PET to predict response to palliative chemotherapy in Patient's with poor-prognosis, recurrent/metastatic head and neck cancer.
Emma Cook	**The role of the marrow microenvironment in the pathogenesis of AML**	The role of the marrow microenvironment in the pathogenesis of AML **[WBS Involvment]**

Principal Investigator	Acronym	Study
Tom Crosby	**ESPAC 4**	European Study Group for Pancreatic Cancer (ESPAC) - Trial 4. combination versus single agent adjuvant chemotherapy in resectable pancreatic cancer
Tom Crosby	**ST03**	A randomised phase II/III trial of Peri-operative Chemotherapy with or without Bevacizumab in operable adenocarcinoma of the stomach and gastro-oesophageal junction
Sonali Dasgupta	**MK-1308A-008**	A Phase 2, Multicenter, Multi Arm, Study to Evaluate Pembrolizumab (MK-3475) or MK-1308A (Co-formulated quavonlimab (MK-1308)/pembrolizumab) in Participants with Microsatellite Instability-High (MSI-H) or Mismatch Repair Deficient (dMMR) Stage IV Colorectal Cancer
Sonali Dasgupta	**MK4280A-007**	A Phase 3 study of MK-4280A (coformulated favezelimab [MK-4280] plus pembrolizumab [MK-3475]) Versus Standard of Care in Previously Treated Metastatic PDL1 positive Colorectal Cancer
Sonali Dasgupta	**CUP-COMP**	Carcinoma of Unknown Primary Site (CUP):A comparison across tissue and liquid biomarkers
Sonali Dasgupta	**Ariel**	A biomarker enrichment trial of anti-EGFR agents in patients with advanced colorectal cancer (aCRC) with wild-type RAS and right primary tumour location (right-PTL)
Megan Elliott	**IMPACT MULTI-AGENCY**	Evaluation of multi-agency working within the Social Services and Well-being (Wales) Act 2014
Elin Evans	**PIVOTALBoost**	A phase III randomised controlled trial of prostate and pelvis versus prostate alone radiotherapy with or without prostate boost
Mererid Evans	**SPECTA (Originally: SPECTArare)**	Screening Cancer Patients for Efficient Clinical Trial Access
Mererid Evans	**COVID Immune**	Examining the effect of vaccination on both SARS-CoV2-specific T cell and antibody responses in cancer patients
Mererid Evans	**INOVATE**	Investigation of novel plasma Human Papilloma Virus DNA assay for treatment response estimation in head and neck cancer.
Mererid Evans	**Checkmate 714 CA209-714**	A Double-Blind, Randomized, Two Arm Phase 2 Study of Nivolumab in Combination with Ipilimumab versus Nivolumab in Combination with Ipilimumab Placebo In Recurrent or Metastatic Squamous Cell Carcinoma of the Head and Neck (SCCHN)
Mererid Evans	**De-ESCaLATE**	DeEscaLaTE: Determination of Epidermal growth factor receptor-inhibitor (cetuximab) versus Standard Chemotherapy (cipsplatin) early And Late toxicity Events in Human Papillomavitus-positve Oropharyngeal squamous cell carcinoma
Mererid Evans	**MERCK (MK3475-040)**	A Phase III Randomized Trial of MK-3475 (Pembrolizumab) versus Standard Treatment in Subjects with Recurrent or Metastatic Head and Neck Cancer
Mererid Evans	**FIGARO**	FIGARO: F-FDG-PET Guided Dose-Painting with Intensity Modulated Radiotherapy in Oropharyngeal Tumours
Mererid Evans	**MOAT**	A multicentre, open-label, non-randomized, phase Ib, neoadjuvant study of intravenous dosing of NG-641, an oncolytic adenoviral vector expressing a fibroblast activation protein-directed bi-specific T-cell activator antibody fragment (FAP-TAc) and an immune enhancer module CXCL9/CXCL10/interferon alpha2), as monotherapy or in combination with pembrolizumab in patients with surgically resectable squamous cell carcinoma of the head and neck (Mode Of Action Transgene study- MOAT)
Mererid Evans	**ORCA-2**	A phase I study of olaparib in addition to cisplatin-based concurrent chemoradiotherapy for patients with high risk locally advanced squamous cell carcinoma of the head and neck (HNSCC)
Mererid Evans	**Liteform**	A randomised controlled trial of the clinical and cost effectiveness of low level laser in the management of oral Mucositis in Head and Neck Cancer Irradiation

Principal Investigator	Acronym	Study
Kieran Foley	**CHROME**	Comprehensive Radiological Mapping of Metastases in Oesophageal Adenocarcinoma
Ricky Frazer	**irAEs in patients with melanoma/RCC receiving nivolumab/ipilimumab**	Investigating the management and outcomes of patients who experience immune-related adverse events following treatment with immune checkpoint inhibitor therapy
Ricky Frazer	**AA EAMS aRCC observational study (A.K.A AveAxiRCC)**	An observational chart review study to describe the real-world outcomes and use of avelumab in combination with axitinib for treatment of patients with advanced renal cell carcinoma in the United Kingdom
Ricky Frazer	**CLEAR (E7080-G000-307)**	Multicenter, Open-label, Randomized, Phase 3 Trial to Compare the Efficacy and Safety of Lenvatinib in Combination with Everolimus or Pembrolizumab Versus Sunitinib Alone in First-Line Treatment of Subjects with Advanced Renal Cell Carcinoma
Ricky Frazer	**MITRE**	Microbiome Immunotherapy Toxicity and Response Evaluation (MITRE)
Ricky Frazer	**R2810-ONC-1788 (C-POST)**	A RANDOMIZED, PLACEBO-CONTROLLED, DOUBLE-BLIND STUDY OF ADJUVANT CEMIPLIMAB VERSUS PLACEBO AFTER SURGERY AND RADIATION THERAPY IN PATIENTS WITH HIGH RISK CUTANEOUS SQUAMOUS CELL CARCINOMA
Ricky Frazer	**REACT-CEMI**	Real-world evidence study on the early use of cemiplimab in the UK
Eve Gallop-Evans	**PORT**	Phase II Trial of Pembrolizumab and Radiotherapy in Cutaneous T cell lymphoma
Eve Gallop-Evans	**ZEUS**	Non-interventional study to assess the safety profile of idelalisib in patients with refractory follicular lymphoma (FL)
Eve Gallop-Evans	**IDRIS**	Phase III randomised trial of immunomodulatory therapy in high risk solitary bone plasmacytoma
Eve Gallop-Evans	**EuroNet-PHL-C2**	Second International Inter-Group Study for Classical Hodgkin's Lymphoma in Children and Adolescents
Eve Gallop-Evans	**PACIFICO**	PACIFICO: Purine-Alkylator Combination In Follicular lymphoma Immuno-chemotherapy for Older patients: a Phase II comparison of first-line R-CVP versus R-FC
Eve Gallop-Evans	**REMoDL-B**	REMoDL-B: a Randomised Evaluation of Molecular guided therapy for diffuse Large b-Cell Lymphoma with Bortezomib
Eve Gallop-Evans	**IMAT-Neuroblastoma**	A randomised phase I/II study of Intensity Modulated ARC Therapy techniques in abdominal neuroblastoma
Louise Hanna	**COPELIA trial**	A 3-Arm Randomised Phase II Evaluation of Cediranib in Combination with Weekly Paclitaxel or Olaparib Versus Weekly Paclitaxel Chemotherapy for Advanced Endometrial Carcinoma or for disease relapse within 18 months of adjuvant carboplatin-paclitaxel chemotherapy
Louise Hanna	**ICON 9**	An international phase III randomised study to evaluate the efficacy of maintenance therapy with olaparib and cediranib or olaparib alone in patients with relapsed platinum-sensitive ovarian cancer following a response to platinum-based chemotherapy
Louise Hanna	**ARIEL4**	(Assessment of Rucaparib In Ovarian CancEr TriaL): A Phase 3 Multicenter, Randomized Study of Rucaparib versus Chemotherapy in Patients with Relapsed, BRCA-Mutant, High-Grade Epithelial Ovarian, Fallopian Tube, or Primary Peritoneal Cancer
Louise Hanna	**ORZORA**	An open Label single arm, multicentre study to assess the clinical effectiveness and safety of Lynparza (olaparib) capsules maintenance monotherapy in platinum sensitive relapsed BRAC mutated ovarian cancer patients who are incomplete or partial response following platinum based chemotherapy (D0816C00012)
Emily Harris	**CATCH**	COVID Associated Temporal Changes.

Principal Investigator	Acronym	Study
Louise Harris	**SPIKE 1**	A Randomised Phase II/III trial in a community setting, assessing use of camostat in reducing the clinical progression of COVID-19 by blocking SARS-CoV-2 Spike protein-initiated membrane fusion.
Louise Harris	**PEARLS**	A phase II/III trial of Primary radiothErapy for Androgen sensitive pRostate cancer patients with Lymph nodeS
Louise Harris	**RADIO**	A multi-stage randomised trial of durvalumab (Medi4736) with chemoradiotherapy with 5- fluorouracil and mitomycin C in patients with muscle-invasive bladder cancer
Emma Hudson	**Comice**	Randomised Double- Blind Phase II Trial of Cediranib and Olaparib Maintenance in Advanced/Recurrent Cervical Cancer
Emma Hudson	**EXPLORER**	Experience of Rucaparib as Maintenance Treatment following Platinum-Based Chemotherapy in Relapsed Ovarian Cancer - A UK real world study
Emma Hudson	**INTERLACE**	INTERLACE:A phase III multicentre trial of weekly induction chemotherapy followed by standard chemoradiation versus standard chemoradiation alone in patients with locally advanced cervical cancer
Emma Hudson	**MONITOR UK**	Multi-Centre Observational study of Maintenance Niraparib in Treatment of Ovarian CanceR: UK routine clinical practice experience
Emma Hudson	**RANGO**	Rare Neoplasms of Gynaecological Origin
Emma Hudson	**VALTIVE1**	VALIDATION OF TIE2 AS THE FIRST TUMOUR VASCULAR RESPONSE BIOMARKER FOR VEGF INHIBITORS: OPTIMISING THE DESIGN OF A SUBSEQUENT RANDOMISED DISCONTINUATION
Emma Hudson	**AtTEnd**	Atezolizumab in Endometrial cancer
Emma Hudson	**EMPOWER Cervical 1**	An Open-Label, Randomized, Phase 3 Clinical Trial of REGN2810 Versus Investigator's Choice of Chemotherapy in Recurrent or Metastatic Cervical Carcinoma
Emma Hudson	**METRO-BIBF**	METRO-BIBF: Phase II, randomised placebo controlled, multicentre, feasibility study of low (metronomic) cyclophosphamide with or without nintedanib (BIBF1120) in advanced ovarian cancer
Emma Hudson	**NiCCC BIBF**	A Randomised Phase II Study Of Nintedanib (BIBF1120) Compared To Chemotherapy in Patients With Recurrent Clear Cell Carcinoma Of The Ovary Or Endometrium
Emma Hudson	**OCTOVA**	Trial of different drug and treatment combinations for patients with inherited genetic changes who are considering further therapy to treat their ovarian cancer.
Emma Hudson	**Observational study of EPR and HCRU in first line NSCLC patients**	Observational, retrospective real-world evidence study of adult advanced non-small cell lung cancer patients treated with first-line therapy to determine treatment pathways, survival outcomes and healthcare resource utilisation in routine clinical practice in the UK
Emma Hudson	**MK3475-B21 (KEYNOTE-B21 / ENGOT-en11 / GOG-3053)**	A Phase 3, Randomized, Double-Blind Study of Pembrolizumab versus Placebo in Combination With Adjuvant Chemotherapy With or Without Radiotherapy for the Treatment of Newly Diagnosed High-Risk Endometrial Cancer After Surgery With Curative Intent
Emma Hudson	**MK-3475-B96 (KEYNOTE-B96 / ENGOT-ov65)**	A Phase 3, Randomized, Double-Blind Study of Pembrolizumab versus Placebo in Combination with Paclitaxel With or Without Bevacizumab for the Treatment of Platinum-resistant Recurrent Ovarian Cancer
Emma Hudson	**OPSROC (AGO-OVAR)**	A prospective randomized Phase III trial of carboplatin/gemcitabine/bevacizumab vs. carboplatin/pegylated liposomal doxorubicin/bevacizumab in patients with platinum-sensitive recurrent ovarian cancer.
Ishrat Islam	**The PhAB Study**	PHYSICAL ACTIVITY AND BRAIN TUMOUR (PHAB): BARRIERS TO AND FACILITATORS OF PHYSICAL ACTIVITY IN CANCER PATIENTS WITH BRAIN TUMOUR IN WALES AND BANGLADESH

Principal Investigator	Acronym	Study
Amanda Jackson	**The COVID-19 Resilience Project**	Studying the impact of COVID-19 on the NHS workforce to guide trauma-informed and psychologically-informed support provision
Rachel Jones	**INOVATYON**	Phase III international, randomized study of Trabectedin plus Pegylated Liposomal Doxorubicin (PLD) versus Carboplatin plus PLD in patients with ovarian cancer progressing within 6-12 months of last platinum
Rob Jones	**PRESERVE 1 (G1T28-207)**	Phase III Randomized, Double-blind Trial of Trilaciclib versus Placebo in Patients Receiving FOLFOXIRI/Bevacizumab for Metastatic Colorectal Cancer
Rob Jones	**CA209-8KX PSEV**	Phase I/II pharmacokinetic multi-tumor study of subcutaneous formulation of nivolumab monotherapy
Rob Jones	**CTXSPL9111**	A phase 1/2 dose-escalation study to evaluate the safety, tolerability, pharmacokinetics and preliminary efficacy of CTXSPL9111 (a cabazitaxel (CTX)-dendrimer conjugate) in patients with advanced solid tumours.
Rob Jones	**CUPISCO**	A Phase II, Randomized, Active-Controlled, Multi-Center Study Comparing The Efficacy And Safety Of Targeted Therapy Or Cancer Immunotherapy Guided By Genomic Profiling Versus Platinum-Based Chemotherapy In Patients With Cancer Of Unknown Primary Site Who Have Received Three Cycles Of Platinum Doublet Chemotherapy
Rob Jones	**CYPIDES**	Safety and pharmacokinetics of ODM-208 in patients with metastatic castration-resistant prostate cancer
Rob Jones	**DTX-SPL8783**	A phase ½ dose-escalation study to evaluate the safety, tolerability, pharmacokinetics and preliminary efficacy of DTX-SPL8783 (a docetaxel (DTX)-dendrimer conjugate) as monotherapy in patients with advanced solid tumours or in combination with nintedanib in patients with non-small cell lung cancer (NSCLC)
Rob Jones	**GO42144**	A PHASE I DOSE-ESCALATION AND DOSE-EXPANSION STUDY EVALUATING THE SAFETY, PHARMACOKINETICS, AND ACTIVITY OF GDC 6036 IN PATIENTS WITH ADVANCED SOLID TUMORS WITH A KRAS G12C MUTATION
Rob Jones	**INTRINSIC - WO42758**	A PHASE I/Ib GLOBAL, MULTICENTER, OPEN-LABEL UMBRELLA STUDY EVALUATING THE SAFETY AND EFFICACY OF TARGETED THERAPIES IN SUBPOPULATIONS OF PATIENTS WITH METASTATIC COLORECTAL CANCER
Rob Jones	**PRO-MERIT**	First-in-human, dose titration and expansion trial to evaluate safety, immunogenicity and preliminary efficacy of W_pro1 (BNT112) monotherapy and in combination with cemiplimab in patients with prostate cancer
Rob Jones	**H3 Biomedicine**	A PHASE 1-11 MULTICENTRE, OPEN LABKLE TRIAL OF h3b-6545, a covalent antagonist of estrogen receptor alpha, in women with locally advanced or metastatic estrogen receptor positive, HER2 negative breast cancer
Rob Jones	**Genmab GCT1015-05 (innovaTV 205)**	A Phase 1b/2 Open-Label Trial of Tisotumab Vedotin (HuMaxÂ®-TF-ADC_ in combination with Other Agents in Subjects with Recurrent or Stage IVB Cervical Cancer
Rob Jones	**Athenex KX-ORADOX-003**	A Dose Regimen Finding Study to Evaluate the Safety, Tolerability, Pharmacokinetics, and Activity of Oradoxel Monotherapy in Subjects with Advanced Malignancies delivered in a modular format
Rob Jones	**GCT1029-01**	First-in-human, open-label, dose-escalation trial with expansion cohorts to evaluate safety of GEN1029 in patients with malignant solid tumors.
Rob Jones	**TCD14678**	A Phase 1/1b first-in-human dose escalation and expansion study for the evaluation of safety, pharmacokinetics, pharmacodynamics and anti-tumor activity of SAR439459 administered intravenously as monotherapy and in combination with cemiplimab in adult patients with advanced solid tumors

Principal Investigator	Acronym	Study
Rob Jones	**BPRE15E 01 (B-precise-01)**	OPEN-LABEL, MULTICENTRE, PHASE IB DOSE-ESCALATION STUDY OF MEM611, A P13K INHIBITOR COMBINED WITH TRASTUZUMAB ± FULVESTRANT, IN SUBJECTS WITH PIK3CA MUTATED HER2-POSITIVE LOCALLY RECURRENT UNRESECTABLE (ADVANCED) OR METASTATIC (A/M) BREAST CANCER PROGRESSED TO ANTI-HER2 BASED THERAPY
Rob Jones	**BAY 1895344**	First-in-human dose-escalation study of ATR inhibitor BAY 1895344
Rob Jones	**OLAPARIB**	AZ D081DC00008 Metastatic Castrate Resistant
Rob Jones	**MORAb-202-G000-201**	Phase1/2 Trial of MORAb-202 in patients with selected tumour types
Rob Jones	**NuTide 302**	A Phase Ib/II open label study to assess the safety and pharmacokinetics of NUC-3373, a nucleotide analogue, given in combination with standard agents used in colorectal cancer treatment
Rob Jones	**CHKI Combination**	A Cancer Research UK Phase 1 trial of oral CCT245737 (a CHK1 inhibitor) given in combination with gemcitabine plus cisplatin or gemcitabine alone in patients with advanced cancer
Robert Jones	**FAKTION**	FAKTION: A phase 1b/2 randomised placebo controlled trial of fulvestrant +/- AZD5363 in postmenopausaul women with advanced breast cancer previously treated with a third generation aromatase inhibitor
Robert Jones	**MadCap**	MadCap: A Phase I/randomised phase II trial of abiraterone acetate with or without RO5503781 in patients with metastic Castrate Resistant Prostate Cancer (mCRPC) who have not previously received docetaxel
Satish Kumar	**MK3475-U03 (KEYNOTE-U03)**	A Phase 1b/2 Study of Immune and Targeted Combination Therapies in Participants with RCC
Satish Kumar	**PEM6W**	Evaluation of the 6-weekly pembrolizumab schedule as treatment for melanoma patients across the UK – a multicentre retrospective analysis of prescribing practice, toxicities and outcomes.
Satish Kumar	**ULTIMOVACS (A.K.A Initium)**	A RANDOMIZED PHASE II, OPEN-LABEL, ACTIVE-CONTROLLED, MULTICENTER STUDY INVESTIGATING THE EFFICACY AND SAFETY OF UV1 VACCINATION IN COMBINATION WITH NIVOLUMAB AND IPILIMUMAB AS FIRST-LINE TREATMENT OF PATIENTS WITH UNRESECTABLE OR METASTATIC MELANOMA (UV1-202)
Satish Kumar	**Experiences of Cancer Immunotherapy (ExCIm)**	Experiences of cancer immunotherapy with immune checkpoint inhibitors: insights from people affected by cancer and healthcare professionals in South Wales
Satish Kumar	**Dante**	A randomised phase III trial to evaluate the Duration of ANti-PD1 monoclonal antibody Treatment in patients with metastatic mElanoma
Satish Kumar	**ScancelI**	A Phase 2, Multicenter, Open-Label Study of SCIB1 in Patients with Advanced Unresectable Melanoma Receiving Pembrolizumab
Satish Kumar	**UKP3BEP**	randomised phase 3 trial of accelerated versus standard BEP chemotherapy for patients with intermediate and poor-risk metastatic germ cell tumours
Satish Kumar	**PROCAID**	An open label phase I/randomised, double-blind phase II study in metastatic castration resistant Prostate Cancer of AZD5363 in combination with Docetaxel and Prednisolone
Satish Kumar	**Exelixis XL184 -021 (A.K.A Cosmic-021)**	A Phase 1b Dose-Escalation Study of Cabozantinib (XL184) Administered Alone or in Combination with Atezolizumab to Subjects with Locally Advanced or Metastatic Solid Tumors
Satish Kumar	**CA209-76K (CheckMate 76K)**	A Phase 3, Randomized, Double-Blind Study of Adjuvant Immunotherapy with Nivolumab versus Placebo after Complete Resection of Stage IIB/C Melanoma (CheckMate 76K: CHECKpoint pathway and nivoluMAb clinical Trial Evaluation 76K)

Principal Investigator	Acronym	Study
Satish Kumar	**INTERIM**	a randomised phase II feasibility study of INTERmittent versus continuous dosing of oral targeted combination therapy In patients with BRAFV600 mutant stage 3 unresectable or metastatic Melanoma
Satish Kumar	**Selpac**	A Randomised three-arm, open label, Phase II study of continuous Selumetinib versus continuous or interrupted Selumetinib in combination with weekly Paclitaxel in metastatic Uveal Melanoma
Satish Kumar	**OVM-200-100**	A Phase 1, Multicenter, Open-label, Nonrandomized, First-in-human Study of OVM-200 as a Therapeutic Vaccine in Patients with Locally Advanced or Metastatic Non-Small Cell Lung Cancer, Ovarian Cancer, and Prostate Cancer
Satish Kumar	**111 Trial**	111 Trial: A single group trial evaluating one cycle of adjuvant BEP chemotherapy on high risk, stage 1 non seminoatous germ cell tumours of the testis (NSGCTT)
Satish Kumar	**A-PREDICT**	A-PREDICT: A phase II study of Axitinib in Patients with Metastatic Renal cell Cancer Unsuitable for Nephrectomy
Satish Kumar	**TRISST**	TRISST: Trial of Imaging and Schedule in Seminoma Testis
Satish Kumar	**DETECTION**	Circulating tumour DNA guidEd Therapy for stage IIB/C mElanoma after surgiCal resecTION
Jillian MacLean	**LIBRETTO-531 J2G-MC-JZJB**	A Multicenter, Randomized, Open-label, Phase 3 Trial Comparing Selpercatinib to Physicians Choice of Cabozantinib or Vandetanib in Patients with Progressive, Advanced, Kinase Inhibitor Naïve, RET-Mutant Medullary Thyroid Cancer
Jillian MacLean	**IoN**	IoN: Is ablation radio-active necessary for low risk differentiated thyroid cancer patients
Jillian MacLean	**EORTC THY34**	An international phase IV field study for the reliability and validity of the EORTC Thyroid Cancer Module THY34
Malcolm Mason	**Wales Cancer Bank**	Wales Cancer Bank
Tim Maughan	**BNLI Randomised trial of Radiation Dose in Non Hodgkins Lymphoma.**	BNLI Randomised trial of Radiation Dose in Non Hodgkins Lymphoma.
Luke Midgely	**COPIC-STC**	Coproducing an Intervention for Carers who care for a relative undergoing SACT and/or Radiotherapy treatment for Solid Tumour Cancer
Carys Morgan	**DESTINY-Gastric-04 (DSI_DS8201-A-U306)**	A Phase 3, Multicenter, 2-Arm Randomized, Open-Label Study of Trastuzumab Deruxtecan in Subjects with HER2-Positive Metastatic and/or Unresectable Gastric or Gastro-Esophageal Junction (GEJ) Adenocarcinoma Subjects who have Progressed on or after a Trastuzumab-Containing Regimen
Carys Morgan	**GLOW**	A Phase 3, Global, Multi-Center, Double-Blind, Randomized, Efficacy Study of Zolbetuximab (IMAB362) Plus CAPOX Compared with Placebo Plus CAPOX as First-line Treatment of Subjects with Claudin (CLDN) 18.2-Positive, HER2-Negative, Locally Advanced Unresectable or Metastatic Gastric or Gastroesophageal Junction (GEJ) Adenocarcinoma
Carys Morgan	**Platform**	Planning treatment for oesophago-gastric cancer: a randomised maintenance therapy trial
Carys Morgan	**REGAL**	Capturing tRastuzumab rEsistance in Gastroesophageal Adenocarcinoma by Liquid biopsy
Carys Morgan	**SCOPE-2**	A randomised Phase II/III trial to study radiotherapy dose escalation in patients with oesophageal cancer treated with definitive chemo-radiation with an embedded Phase II trial for patients with a poor early response using positron emission tomography (PET)
Carys Morgan	**BGB-A317**	A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Clinical Study Comparing the Efficacy and Safety of Tislelizumab (BGB-A317) plus Platinum and Fluoropyrimidine Versus Placebo plus Platinum

Principal Investigator	Acronym	Study
		and Fluoropyrimidine as First-Line Treatment in Patients with Locally Advanced Unresectable or Metastatic Gastric or Gastroesophageal Junction Adenocarcinoma
Carys Morgan	**Neo-Aegis**	Neo-AEGIS (NEOadjuvant trial in Adenocarcinoma of the oEsophagus and oesophagoGastric junction International Study): Randomised Clinical Trial of neoadjuvant and adjuvant chemotherapy (Modified MAGIC regimen) vs. neoadjuvant chemoradiation (CROSS protocol) in adenocarcinoma of the oesophagus and oesophago-gastric junction
Carys Morgan	**NET-02**	A NON-INTERVENTIONAL, MULTICENTER, MULTIPLE COHORT STUDY INVESTIGATING THE OUTCOMES AND SAFETY OF ATEZOLIZUMAB UNDER REAL-WORLD CONDITIONS IN PATIENTS TREATED IN ROUTINE CLINICAL PRACTICE
Carys Morgan	**ELEVATE**	Temozolomide + nivolumab in MGMT deficient oesophagogastric cancer
Joanita Ocen	**WO42633 (ASTEFANIA)**	A PHASE III, RANDOMIZED, DOUBLE-BLIND, PLACEBO CONTROLLED CLINICAL TRIAL TO EVALUATE THE EFFICACY AND SAFETY OF ADJUVANT ATEZOLIZUMAB OR PLACEBO AND TRASTUZUMAB EMTANSINE FOR HER2-POSITIVE BREAST CANCER AT HIGH RISK OF RECURRENCE FOLLOWING PREOPERATIVE THERAPY
Nachi Palaniappan	**TRAP**	Targeted Radiotherapy in Androgen-suppressed Prostate cancer patients
Nachi Palaniappan	**CAPItello-281**	CLINICAL CHARACTERISTICS, OUTCOMES AND QUALITY OF LIFE IN PATIENTS WITH SQUAMOUS CELL OESOPHAGEAL CARCINOMA RECEIVING NIVOLUMAB AFTER PRIOR CHEMOTHERAPY AS PART OF AN EARLY ACCESS TO MEDICINES SCHEME (EAMS) PROGRAM IN THE UNITED KINGDOM
Nachi Palaniappan	**STAR**	A randomised multi-stage phase II/III trial of Standard first-line therapy (sunitinib or pazopanib) comparing Temporary cessation with Allowing continuation, in the treatment of locally advanced and/or metastatic Renal cancer
Nachi Palaniappan	**ART DECO**	ART DECO:A Randomised Multicentre Accelerated Radiotherapy Study of dose Escalated Intensity Modulated Radiotherapy vs Standard Dose Intensity Modulated Radiotherapy in Patients Receiving Treatment for Locally Advanced Laryngeal and Hypoharyngeal Cancers
Nachi Palaniappan	**DARS**	A phase III randomised multicentre study of dysphagia optimised intensity modulated radiotherapy (Do-IMRT) versus standard intensity modulated radiotherapy (S-IMRT) in head and neck cancer.
Nachi Palaniappan	**Imreal (A.K.A MO40653)**	Understanding people's experiences of low iodine diets in the treatment of differentiated thyroid cancer with radioactive iodine ablation therapy (PIC Study)
Nachi Palaniappan	**PROMPTS**	Prompts: A Prospective Randomised Phase III Study of Observation Versus Screening MRI and Pre-Emptive Treatment in Castrate Resistant Prostate Cancer Patients with Spinal Metastasis
Nachi Palaniappan	**TORPEdO**	A phase III trial of intensity-modulated proton beam therapy versus intensity-modulated radiotherapy for multi-toxicity reduction in oropharyngeal cancer.
Helen Passant	**Fast Forward**	FAST-FORWARD: Randomised Clinical trial testing a 1-week course of curative breast radiotherapy against a standard 3-week schedule in term of local cancer control and late adverse effects in patients with early breast cancer
Helen Passant	**The Import High Trial**	The Import High Trial: Randomised trial testing dose escalated intensity modulated radiotherapy for women treated by breast conservation surgery and appropriate systemic therapy for early breast cancer
Nikki Pease	**RAMBO**	Research Assessment Outcome measures for Malignant Bowel Obstruction
Catherine Pembroke	**SABR_IT**	IMMUNE RESPONSES TO ABLATIVE RADIOTHERAPY IN SOLID CANCERS

Principal Investigator	Acronym	Study
Thomas Rackley		
Michele Pengelly	**Cancer Memory Mate: staff perspective**	Qualitative research to evaluate an innovation to support cancer treatment adherence and management of side effects in people with dementia or milder cognitive impairment
James Powell	**Brioche**	Radiotherapy outlining, planning, treatment delivery and QA guidelines
James Powell	**Glioblastoma**	Improving treatment of glioblastoma, 1.0
James Powell	**Paradigm**	OlaPArib And RADiotherapy In newly-diagnosed GlioblastoMa: Short-course radiotherapy plus olaparib for newly diagnosed glioblastoma in patients unsuitable for radical chemoradiation: a randomised phase II clinical trial preceded by a lead-in phase I dose escalation study
James Powell	**STORM**	STUDY OF RADIOMICS AS AN IMAGING BIOMARKER IN HIGH GRADE GLIOMA
James Powell	**RECOVERY**	Randomised Evaluation of COVID-19 Therapy
James Powell	**PARADIGM-2**	OlaPArib and RADIotherapy or olaparib and radiotherapy plus temozolomide in newly diagnosed Glioblastoma stratified by MGMT status: 2 parallel phase I studies
James Powell	**AbbVie M13-813**	A randomised, placebo Controlled Phase 2b/3 Study of ABT-414 with Concurrent Chemradiation amd Adjuvant Temozolomide in Subjects with Newly Diagnosed Glioblastoma (GBM) with Epideraml Growth Factor Receptor (EGFR) Amplification
James Powell	**SIREN**	The impact of detectable anti SARS-COV2 antibody on the incidence of COVID-19 in healthcare workers
James Powell	**STOMP**	STOMP: Small cell lung cancer Trial of Olaparib (AZD2281) as Maintenance programme: a randomised, double blind, multicentre phase II trial
James Powell	**An observational study of neurocognitive function in patients undergoing Stereotactic Radiosurgery at Velindre Cancer Centre**	An observational study of neurocognitive function in patients undergoing Stereotactic Radiosurgery at Velindre Cancer Centre
James Powell	**ROAM**	Radiation versus Observation following surgical resection of Atypical Meningioma: a randomised controlled trial
Thomas Rackley	**SKYSCRAPER-09 (BO42533)**	A PHASE II, RANDOMIZED, DOUBLE-BLIND STUDY OF ATEZOLIZUMAB PLUS TIRAGOLUMAB AND ATEZOLIZUMAB PLUS PLACEBO AS FIRST-LINE TREATMENT IN PATIENTS WITH RECURRENT/METASTATIC PD-L1 POSITIVE SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK.
Thomas Rackley	**PEARL**	PET based adaptive radiotherapy in locally advanced HPV positive oropharyngeal cancer
Thomas Rackley	**CORINTH**	PHASE 1B/II TRIAL OF CHECKPOINT INHIBITOR (PEMBROLIZUMAB AN ANTI PD-1 ANTIBODY) PLUS STANDARD IMRT IN HPV INDUCED STAGE III SQUAMOUS CELL CARCINOMA (SCC) OF ANUS (CORINTH)
Tom Rackley	**IMvoke010 (previously known as WO40242)**	A PHASE III, MULTICENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF ATEZOLIZUMAB (ANTI-PD-L1 ANTIBODY) AS ADJUVANT THERAPY AFTER DEFINITIVE LOCAL THERAPY IN PATIENTS WITH HIGH-RISK LOCALLY ADVANCED SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK
Rosie Roberts	**VIP-Epi**	Volumetric Infusion Pump administration of Epirubicin Chemotherapy

Principal Investigator	Acronym	Study
Ray Samuriwo	**Nurse decision-making about the delivery of skin care to patients**	Nurse decision-making about the delivery of skin care to patients with advanced cancer at the end of life; an exploratory study
Paul Shaw	**PLATO ACTS 3, 4 & 5**	PLATO - PersonaLising Anal cancer radioTherapy dOse – Incorporating ACT 3, 4, 5
Paul Shaw	**Teravolt**	International registry on thoracic cancer patients with COVID-19 (Thoracic cancERs international coVid 19 cOLlaboraTion)
Paul Shaw	**Assess-Meso**	A prospective observational cohort study collecting data on demographics, symptoms and biomarkers in people with mesothelioma that will provide a resource for future trials
Paul Shaw	**BLU-667-2303 (A.K.A AcceleRET Lung)**	A Randomized, Open-Label, Phase 3 Study of Pralsetinib versus Standard of Care for First Line Treatment of RET fusion-positive, Metastatic Non-Small Cell Lung Cancer
Paul Shaw	**CODAK**	A Retrospective observational research study to describe the characteristics and real-world clinical outcomes of patients with locally advanced, unresectable Stage III non-small cell lung cancer receiving durvalumab in the United Kingdom
Paul Shaw	**CONCORDE**	A platform study of DNA damage response inhibitors in combination with conventional radiotherapy in non-small cell lung cancer
Paul Shaw	**COSTAR LUNG**	Efficacy Comparison of Cobolimab + Dostarlimab + Docetaxel in NSCLC
Paul Shaw	**IO102-IO103-022**	A Phase II Multi-Arm (basket) Trial Investigating the Safety and Efficacy of IO102-IO103 in Combination with Pembrolizumab, as First-line Treatment for Patients with Metastatic Non-Small Cell Lung Cancer (NSCLC), Squamous Cell Carcinoma of Head and Neck (SCCHN), or Metastatic Urothelial Bladder Cancer (mUBC)
Paul Shaw	**TAKEDA TAK-788-3001**	A Randomized Phase 3 Multicenter Open-label Study to Compare the Efficacy of TAK-788 as First-line Treatment Versus Platinum-Based Chemotherapy in Patients With Non–Small Cell Lung Cancer With EGFR Exon 20 Insertion Mutations
Paul Shaw	**CHECKMATE (BMS Lung Study A.K.A CHECKMATE 171)**	Nivolumab Monotherapy in patients with Non-Small Cell Lung Cancer: An open-label, Multicentre Clinical trial with Nivolumab (BMS-936558) monotherapy in subjects with advanced or metastatic Squamous Cell (Sq) Non-Small Cell Lung Cancer (NSCLC) who have Received at Least Two Prior Systemic regimes for the Treatment of Stage IIIb/IV SqNSCLC
Paul Shaw	**CONFIRM**	CheckpOiNt blockade For Inhibition of Relapsed Mesothelioma: A phase III trial to evaluate the efficacy of nivolumab in relapsed mesothelioma
Paul Shaw	**InterACCT**	InterAACT: An International Multcentre Open label Randomised Phase II Advanced Anal cancer Trial Comparing Cisplatin plus 5-fluoracil (5-FU) versus Carboplatin plus Weekly Paclitaxel Disease
Paul Shaw	**CHARIOT**	A phase I dose escalation safety study combining the ATR inhibitor VX-970 with chemoradiotherapy in oesophageal cancer using time to event continual reassessment method
Paul Shaw	**Atomic**	Randomized, Double-Blind, Phase 2/3 Study in Subjects with Malignant Pleural Mesothelioma with Low Argininosuccinate Synthetase 1 Expression to Assess ADI-PEG 20 with Pemetrexed and Cisplatin (ATOMIC-Meso Phase 2/3 Study)
Paul Shaw	**GO29438**	Phase III Study-Atezolizumab with chemotherapy in Stage IV Non-Squamous
Paul Shaw	**PEPs 2**	A phase II trial of pembrolizumab in patients with non-small cell lung cancer and a performance status of 2
Paul Shaw	**Matrix Lung Trial**	Multi-drug, genetic marker-directed, non-comparative, multi-centre, multi-arm phase II trial in non-small cell lung cancer

Principal Investigator	Acronym	Study
Paul Shaw	**CheckMate 577: CHECKpoint pathway and nivoluMab clinical Trial Evaluation 577)**	A Randomized, Multicenter, Double Blind, Phase III Study of Nivolumab or Placebo in Subjects with Resected Lower Esophageal, or Gastroesophageal Junction Cancer
John Staffurth	**Rapper**	Rapper: Radiogenomics: Assessment of Polymorphisms for Predicting the effects of Radiotherapy
John Staffurth	**PARADIGM**	Plasma Analysis for Response Assessment and to Direct the manaGement of Metastatic prostate cancer
John Staffurth	**UKGPCS**	The UK Genetic Prostate Cancer Study
John Staffurth	**ENZARAD**	Randomised phase 3 study of enzalutamide in androgen deprivation therapy with radiation therapy for high risk clinically localised prostate cancer
John Staffurth	**RAIDER**	A randomised phase II trial of Adaptive Image guided standard or dose escalated tumour boost radiotherapy in the treatment of transitional cell carcinoma of the bladder
John Staffurth	**ENZAMET**	ENZAMET: Randomised Phase III trial of enzalutamide in first line androgen deprivation therapy for metastatic prostate cancer
John Staffurth	**PCR-2001 (A.K.A Galahad)**	A Phase 2 Efficacy and Safety Study of Niraparib in Men with Metastatic Castration-Resistant Prostate Cancer and DNA-Repair Anomalies
John Staffurth	**REASURE**	A Phase II randomised trial of biomarkers to assess (dose-) response in patients with metastatic castration resistant prostate cancer treated with radium-223
John Staffurth	**TRITON 3**	A Multicenter, Randomized, Open-label Phase 3 Study of Rucaparib versus Physician's Choice of Therapy for Patients with Metastatic Castration-resistant Prostate Cancer Associated with Homologous Recombination Deficiency
John Staffurth	**VARIANT**	The Prostate Cancer Androgen Receptor Splice Variant 7 Biomarker Study - A multicentre randomised feasibility trial of biomarker-guided personalised treatment in patients with advanced prostate cancer
John Staffurth	**Neptunes**	Nivolumab and ipilimumab treatment in prostate cancer with an immunogenic signature
Rosemary Stevens	**METFORMIN (MA32)**	A Phase III randomised trial of metformin versus placebo on recurrence and survival in early stage breast cancer.
Loretta Sweeney	**NEOBLADE**	NEO-BLADE: Phase II randomised placebo controlled Neoadjuvant chemotherapy study of Nintedanib with Gemcitabine and Cisplatin in locally advanced muscle invasive bladder cancer
Joanne Swidenbank	**Developing the health workforce in genomics: a longitudinal, cross-Wales, interdisciplinary study**	Developing the health workforce in genomics: a longitudinal, cross-Wales, interdisciplinary study
Jacob Tanguay	**CHIPP IGRT Sub-Study**	A randomised phase III multicentre trial of conventional or Hypofractinated High Dose Intensity Modulated Radiotherapy for Prostate Cancer (CHHIPP), CRUK/06/26): sample size increase and IGRT sub-study
Jake Tanguay	**PACE & PACE C**	(Prostate Advances in Comparative Evidence) International randomised study of prostatectomy vs stereotactic body radiotherapy (SBRT) and conventional radiotherapy vs SBRT for early stage organ-confined prostate cancer
Jake Tanguay	**IRONMAN**	International Registry for Men with Advanced Prostate Cancer
Jake Tanguay	**PROPS**	PET/CT & MRI pre-RadiOtherapy for Post-Prostatectomy Salvage
Jake Tanguay	**Stampede**	Systemic Therapy in Advancing or Metastatic Prostate Cancer: Evaluation of Drug Efficacy

Principal Investigator	Acronym	Study
Jake Tanguay	**MK3475-991 (A.K.A Keynote-991)**	A Phase 3, Randomized, Double-blind Trial of Pembrolizumab (MK-3475) Plus Enzalutamide Plus ADT Versus Placebo Plus Enzalutamide Plus ADT in Participants With Metastatic Hormone-Sensitive Prostate Cancer (mHSPC) (KEYNOTE-991).
Jake Tanguay	**PLATO**	MDV310010 TBP, Phase 4, Enzalutamide, metastatic CRPC patients
Jake Tanguay	**SAUL**	An open label, single arm, multicenter, safety study of atezolizumab in locally advanced or metastatic urothelial or non-urothelial carcinoma of the urinary tract
Jake Tanguay	**Toparp**	Phase II Trial of Olaparib in Patients with Advanced Castration Resistant Prostate Cancer
Owen Tilsley	**SIOP HRMB**	An International Prospective Trial on High-Risk Medulloblastoma in Patients Older than 3 Years
Anshu Wadhawan	**Oncotype Dx node positive study**	A prospective clinical utility and economic impact study of the Oncotype DX® Recurrence Score in node-positive patients in the UK
Simon Waters	**Lilly Abemaciclib Chart Review**	Observational Study on HR+/HER2- Locally Advanced / Metastatic Breast Cancer Patients treated with Abemaciclib in UK & Germany
Simon Waters	**Persevera (A.K.A BO41843 & greenfire)**	A PHASE III RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, MULTICENTER STUDY EVALUATING THE EFFICACY AND SAFETY OF GDC-9545 COMBINED WITH PALBOCICLIB COMPARED WITH LETROZOLE COMBINED WITH PALBOCICLIB IN PATIENTS WITH ESTROGEN RECEPTOR-POSITIVE, HER2-NEGATIVE LOCALLY ADVANCED OR METASTATIC BREAST CANCER
Simon Waters	**ZEST**	A RANDOMIZED PHASE 3 DOUBLE-BLINDED STUDY COMPARING THE EFFICACY AND SAFETY OF NIRAPARIB TO PLACEBO IN PARTICIPANTS WITH EITHER HER2-NEGATIVE BRCA-MUTATED OR TRIPLE-NEGATIVE BREAST CANCER WITH MOLECULAR DISEASE BASED ON PRESENCE OF CIRCULATING TUMOR DNA AFTER DEFINITIVE THERAPY
Simon Waters	**Impassion132**	A PHASE III, RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED, MULTICENTRE STUDY OF THE EFFICACY AND SAFETY OF ATEZOLIZUMAB PLUS CHEMOTHERAPY FOR PATIENTS WITH EARLY RELAPSING RECURRENT (INOPERABLE LOCALLY ADVANCED OR METASTATIC) TRIPLE-NEGATIVE BREAST CANCER
Simon Waters	**TED14856**	first-in-human dose-escalation study of ATR inhibitor BAY 1895344
Simon Waters	**CAPItello - 291**	A Phase III Double-blind Randomised Study Assessing the Efficacy and Safety of Capivasertib + Fulvestrant Versus Placebo + Fulvestrant as Treatment for Locally Advanced (Inoperable) or Metastatic Hormone Receptor Positive, Human Epidermal Growth Factor Receptor 2 Negative (HR+/HER2−) Breast Cancer Following Recurrence or Progression On or After Treatment with an Aromatase Inhibitor (CAPItello-291)
Simon Waters	**c-TRAK TN**	A randomised trial utilising ctdna mutation tracking to detect minimal residual disease and trigger intervention in patients with moderate and high risk early stage triple negative breast cancer
Simon Waters	**EMERALD (RADIUS)**	Elacestrant Monotherapy vs Standard of Care for the Treatment of Patients with ER+/HER2- Advanced Breast Cancer Following CDK4/6 inhibitor Therapy: A Phase 3 Randomised, Open-Label, Active Controlled, Multicentre Trial (EMERALD)
Simon Waters	**Ipatunity 130 CO40016**	A DOUBLE-BLIND, PLACEBO-CONTROLLED, RANDOMIZED PHASE III STUDY OF IPATASERTIB IN COMBINATION WITH PACLITAXEL AS A TREATMENT FOR PATIENTS WITH PIK3CA/AKT1/PTEN-ALTERED, LOCALLY ADVANCED OR METASTATIC, TRIPLE-NEGATIVE BREAST CANCER OR HORMONE RECEPTOR–POSITIVE, HER2-NEGATIVE BREAST CANCER

Principal Investigator	Acronym	Study
Simon Waters	**PALOMA**	Phase 3 Trial of Fuvestrant(Faslodex®)in women with Breast Cancer
Simon Waters	**Violette**	A Phase II, Open Label, Randomised, Multi-centre Study to Assess the Safety and Efficacy of Agents Targeting DNA Damage Repair in Combination with Olaparib versus Olaparib Monotherapy in the Treatment of Metastatic Triple Negative Breast Cancer Patients Stratified by Alterations in Homologous Recombinant Repair (HRR)-related Genes
Simon Waters	**FURVA**	A randomised, double blind, placebo controlled, phase II study of fulvestrant with or without the addition of vandetanib as treatment for patients with metastatic breast cancer resistant to aromatase inhibitor therapy.
Simon Waters	**COMPLEEMENT**	An open-label, multicenter, phase iiib study to assess the safety and efficacy of ribociclib (lee011) in combination with letrozole for the treatment of men and postmenopausal women with hormone receptor-positive (hr+) her2-negative (her2-) advanced breast cancer (abc) with no prior hormonal therapy for advanced disease.
Simon Waters	**Concept**	A randomised phase II pilot study of 3 weekly Cabazitaxel versus weekly Paclitaxel chemotherapy in the first line treatment of HER2 negative metastatic breast cancer
Simon Waters	**EORTC Elderly Task force (EORTC 75111)**	EORTC Cancer in Elderly Task force EORTC Breast Cancer Group: Pertuzumab + Trastuzumab (PH) versus PH Plus metronomic chemotherapy (PHM) in the elderly HER2+ metastatic breast cancer population who may continue on T-DM1 alone following disease progression while on PH/PHM: An open label multicentre randomised phase I selection trial of the EORTC Elderly Task Force and Breast cancer Group
Simon Waters	**IMPASSION**	WO29522 A Phase III, Multicenter Randomized, placebo-controlled Study of Atezolizumab (MPDL3280A Anti-PD-L1 Antibody) in combination with Nab-paclitaxel compared with placebo with Nab-paclitaxel for patients with previously Untreated metastatic Triple-Negative Breast Cancer
Richard Webster	**Daiichi**	U31287-A-U203: Double Blind Phase 2 Study of Patritumab (U31287)
Richard Webster	**ADePT-DDR**	Accelerating the Development and implementation of Personalised Treatments of DNA Damage Response agents and radiotherapy +/- immunotherapy for head and neck squamous cell cancer
Hilary Williams	**ACTICCA-1**	Adjuvant chemotherapy with gemcitabine and cisplatin compared to observation after curative intent resection of cholangiocarcinoma and muscle invasive gallbladder carcinoma (ACTICCA-1 trial). A randomized, multidisciplinary, multinational AIO/DGAV/DGVS phase III trial.
Karen Wright	**BACKonLINE**	Internet based personalised self-management support system for people with back pain
Kein Yim	**BALLAD**	BALLAD: A Trial to Evaluate the Potential benefit of Adjuvant Chemotherapy for small bowel adenocarcinoma
Kein Yim	**FIGHT-302 - INCB 54828-302**	A Phase 3, Open-Label, Randomized, Active-Controlled, Multicenter Study to Evaluate the Efficacy and Safety of Pemigatinib Versus Gemcitabine Plus Cisplatin Chemotherapy in First-Line Treatment of Participants With Unresectable or Metastatic Cholangiocarcinoma With FGFR2 Rearrangement
Kein Yim	**Primus 001**	An adaptive phase II study of FOLFOX-A (FOLFOX and nab-paclitaxel) versus AG (nab-paclitaxel and gemcitabine) in patients with metastatic pancreatic cancer, with integrated biomarker evaluation

Appendix B:Publications

This appendix of publications is prepared yearly and presented in the annual RD&I Integrated Performance Report. The appendix includes the articles, conference abstracts and other noteworthy published material.

The listings have been compiled, with thanks to the Velindre University NHS Trust Library & Knowledge Service.

Additional listings of published material have been included for each Velindre Cancer Centre or Welsh Blood Service, as appropriate.

B1. Velindre

Cancer Site: Breast

Articles

1. R. C. Coombes, H. Tovey, L. Kilburn, J. Mansi, C. Palmieri, J. Bartlett, J. Hicks, A. Makris, A. Evans, S. Loibl, C. Denkert, E. Murray, R. Grieve, R. Coleman, A. Borley, M. Schmidt, B. Rautenberg, C. A. Kunze, U. Rhein, K. Mehta, K. Mousa, T. Dibble, X. L. Lu, G. von Minckwitz, J. M. Bliss, G. Randomized European Celecoxib Trial Trial Management and Investigators (2021). "Effect of Celecoxib vs Placebo as Adjuvant Therapy on Disease-Free Survival Among Patients With Breast Cancer: The REACT Randomized Clinical Trial." JAMA oncology 7(9): 1291-1301.
2. S. El Badri, B. Tahir, K. Balachandran, P. Bezecny, F. Britton, M. Davies, K. Desouza, S. Dixon, D. Hills, M. Moe, T. Pigott, A. Proctor, Y. Shah, R. Simcock, A. Stansfeld, A. Synowiec, M. Theodoulou, M. Verrill, A. Wadhawan, C. Harper-Wynne and C. Wilson (2021). "Palbociclib in combination with aromatase inhibitors in patients >= 75 years with oestrogen receptor-positive, human epidermal growth factor receptor 2 negative advanced breast cancer: A real-world multicentre UK study." Breast 60: 199-205.
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Cancer Site: Colorectal

Articles

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Cancer Site: Gynecology

Articles

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Cancer Site: Head & Neck

Articles

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Cancer Site: Lung

Articles

1. T. J. England, P. R. Harper, T. Crosby, D. Gartner, E. F. Arruda, K. G. Foley and I. J. Williamson (2021). "Examining the diagnostic pathway for lung cancer patients in Wales using discrete event simulation." Translational lung cancer research 10(3): 1368-1382.
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Cancer Site: Neurological

Articles

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Cancer Site: Sarcoma & Lymphoma

Articles

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Cancer Site: Upper Gastro-Intestinal

Articles

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Conference Abstracts

1. S. Mukherjee, A. Bailey, H. O'Connor, R. Harman, S. Levy, M. O'Donovan, I. Debiram-Beecham, B. Alias, R. Fitzgerald, A. Bateman, J. de Caestecker, T. Crosby, S. Falk, S. Gollins, M. Hawkins, G. Radhakrishna, R. Roy and R. Sripadam (2021). "P-109 CYTOFLOC: Evaluation of a non-endoscopic

immunocytological device (CytospongeTM) for post-chemo-radiotherapy surveillance in patients with oesophageal cancer - a feasibility study." Annals of Oncology 32(Supplement 3): S135-S136.
2. S. Rahman, R. Walker, T. Crosby, N. Maynard, N. Trudgill, D. Cromwell and T. Underwood (2021). "Random survival forest for personalised prognostication after esophagectomy." Diseases of the Esophagus 34(SUPPL 1): 25.
3. S. Rahman, R. Walker, N. Maynard, N. Trudgill, T. Crosby, D. Cromwell and T. Underwood (2021). "Random survival Forests for prediction of survival after oesophagectomy." European Journal of Surgical Oncology 47(1): e4.
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Cancer Site: Urology

Articles

1. G. Attard, L. Murphy, N. W. Clarke, W. Cross, R. J. Jones, C. C. Parker, S. Gillessen, A. Cook, C. Brawley, C. L. Amos, N. Atako, C. Pugh, M. Buckner, S. Chowdhury, Z. Malik, J. M. Russell, C. Gilson, H. Rush, J. Bowen, A. Lydon, I. Pedley, J. M. O'Sullivan, A. Birtle, J. Gale, N. Srihari, C. Thomas, J. Tanguay, J. Wagstaff, P. Das, E. Gray, M. Alzoueb, O. Parikh, A. Robinson, I. Syndikus, J. Wylie, A. Zarkar, G. Thalmann, J. S. de Bono, D. P. Dearnaley, M. D. Mason, D. Gilbert, R. E. Langley, R. Millman, D. Matheson, M. R. Sydes, L. C. Brown, M. K. B. Parmar, N. D. James and i. Systemic Therapy in Advancing or Metastatic Prostate cancer: Evaluation of Drug Efficacy (2021). "Abiraterone acetate and prednisolone with or without enzalutamide for high-risk non-metastatic prostate cancer: a meta-analysis of primary results from two randomised controlled phase 3 trials of the STAMPEDE platform protocol." Lancet. 2021 Dec 23
2. S. Bates, J. Ayers, N. Kostakopoulos, T. Lumsden, I. G. Schoots, P.-P. M. Willemse, Y. Yuan, R. C. N. van den Bergh, J. P. Grummet, H. G. van der Poel, O. Rouviere, L. Moris, M. G. Cumberbatch, M. Lardas, M. Liew, T. Van den Broeck, G. Gandaglia, N. Fossati, E. Briers, M. De Santis, S. Fanti, S. Gillessen, D. E. Oprea-Lager, G. Ploussard, A. M. Henry, D. Tilki, T. H. van der Kwast, T. Wiegel, J. N'Dow, M. D. Mason, P. Cornford, N. Mottet and T. B. L. Lam (2021). "A Systematic Review of Focal Ablative Therapy for Clinically Localised Prostate Cancer in Comparison with Standard Management Options: Limitations of the Available Evidence and Recommendations for Clinical Practice and Further Research." European Urology Oncology 4(3): 405-423.
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5. P. Cornford, R. C. N. van den Bergh, E. Briers, T. Van den Broeck, M. G. Cumberbatch, M. De Santis, S. Fanti, N. Fossati, G. Gandaglia, S. Gillessen, N. Grivas, J. Grummet, A. M. Henry, T. H. v. der Kwast, T. B. Lam, M. Lardas, M. Liew, M. D. Mason, L. Moris, D. E. Oprea-Lager, H. G. v. der Poel, O. Rouviere, I. G. Schoots, D. Tilki, T. Wiegel, P.-P. M. Willemse and N. Mottet (2021). "EAU-EANM-ESTRO-ESUR-SIOG Guidelines on Prostate Cancer. Part II-2020 Update: Treatment of Relapsing and Metastatic Prostate Cancer." European Urology 79(2): 263-282.
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Cancer: A Randomized, Placebo-Controlled Phase II Trial (ProCAID)." Journal of clinical oncology : official journal of the American Society of Clinical Oncology 39(3): 190-201.
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12. N. Mottet, R. C. N. van den Bergh, E. Briers, T. Van den Broeck, M. G. Cumberbatch, M. De Santis, S. Fanti, N. Fossati, G. Gandaglia, S. Gillessen, N. Grivas, J. Grummet, A. M. Henry, T. H. van der Kwast, T. B. Lam, M. Lardas, M. Liew, M. D. Mason, L. Moris, D. E. Oprea-Lager, H. G. van der Poel, O. Rouviere, I. G. Schoots, D. Tilki, T. Wiegel, P.-P. M. Willemse and P. Cornford (2021). "EAU-EANM-ESTRO-ESUR-SIOG Guidelines on Prostate Cancer-2020 Update. Part 1: Screening, Diagnosis, and Local Treatment with Curative Intent." European Urology 79(2): 243-262.
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16. P.-P. M. Willemse, N. F. Davis, N. Grivas, F. Zattoni, M. Lardas, E. Briers, M. G. Cumberbatch, M. De Santis, P. Dell'Oglio, J. F. Donaldson, N. Fossati, G. Gandaglia, S. Gillessen, J. P. Grummet, A. M. Henry, M. Liew, S. MacLennan, M. D. Mason, L. Moris, K. Plass, S. O'Hanlon, M. I. Omar, D. E. Oprea-Lager, K. H. Pang, C. C. Paterson, G. Ploussard, O. Rouviere, I. G. Schoots, D. Tilki, R. C. N. van den Bergh, T. Van den Broeck, T. H. van der Kwast, H. G. van der Poel, T. Wiegel, C. Y. Yuan, P. Cornford, N. Mottet and T. B. L. Lam (2021). "Systematic Review of Active Surveillance for Clinically Localised Prostate Cancer to Develop Recommendations Regarding Inclusion of Intermediate-risk Disease, Biopsy Characteristics at Inclusion and Monitoring, and Surveillance Repeat Biopsy Strategy." European Urology. 2021 Dec 31.

Conference Abstracts

1. S. Berenato, N. Abbott, O. Woodley, M. Chu, N. Palaniappan, A. Millin and P. Wheeler (2021). "Pareto Navigation Guided Automated Planning for Extreme Hypo-fractionated Prostate Radiotherapy." Radiotherapy and Oncology 161(Supplement 1): S432-S433.
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3. R. J. Jones, A. Bahl, J. S. De Bono, C. Ralph, T. Elliott, A. Robinson, C. Westbury, A. J. Birtle, J. N. Staffurth, A. Protheroe, B. Venugopal, F. Thomson, C. Pou, K. Morris, J. Tugwood, L. Divers, C. Hopkins, E. McCartney, C. Kelly and S. J. Crabb (2021). "SAPROCAN: Saracatinib (AZD0530) and docetaxel in metastatic,castrate-refractory prostate cancer (mCRPC)-A phase I/randomized phase II study by the United Kingdom National Cancer Research Institute Prostate Group." Journal of Clinical Oncology 39(6 SUPPL).
4. Tree, E. Hall, P. Ostler, H. Van Der Voet, A. Loblaw, W. Chu, D. Ford, S. Tolan, S. Jain, A. Martin, J. Staffurth, P. Camilleri, K. Kancherla, J. Frew, D. H. Brand, A. Chan, I. S. Dayes, S. Brown, J. Pugh, S. Burnett, A. Dufton, C. Griffin, M. Mahmud, O. Naismith, N. Van As and O. B. ofthe (2021). "Comparison of side effects at 2 years in the randomised PACE-B trial (SBRT vs standard radiotherapy)." Radiotherapy and Oncology 161(Supplement 1): S196-S197.

Cancer Site: Other (Palliative Care)

Articles

1. Islam, A. Nelson, M. Longo and A. Byrne (2021). "Before the 2020 Pandemic: an observational study exploring public knowledge, attitudes, plans, and preferences towards death and end of life care in Wales." BMC Palliative Care 20(1): 116.
2. M. Miller, R. Ford and B. Smithers (2021). "Fast track to cricket: occupational therapists in hospital palliative medicine." BMJ supportive & palliative care. 2021 May 25.
3. M. Parry, M. Taubert, S. Clements, C. Churcher, A. James and K. Smith (2021). "Death cafe in the Welsh valleys-an appraisal." International Journal of Palliative Nursing 27(4): 188-194.
4. J. Rietjens, I. Korfage and M. Taubert (2021). "Advance care planning: the future." BMJ supportive & palliative care 11(1): 89-91.
5. L. E. Selman, C. Chamberlain, R. Sowden, D. Chao, D. Selman, M. Taubert and P. Braude (2021). "Sadness, despair and anger when a patient dies alone from COVID-19: A thematic content analysis of Twitter data from bereaved family members and friends." Palliative Medicine 35(7): 1267-1276.
6. G. Soosaipillai, A. Wu, G. M. Dettorre, N. Diamantis, J. Chester, C. Moss, J. Aguilar-Company, M. Bower, C. C. Sng, R. Salazar, J. Brunet, E. Jones, R. Mesia, A. Jackson, U. Mukherjee, A. Sita-Lumsden, E. Segui, D. Ottaviani, A. Carbo, S. Benafif, R. Wurstlein, C. Carmona, N. Chopra, C. A. Cruz, J. Swallow, N. Saoudi, E. Felip, M. Galazi, I. Garcia-Fructuoso, A. J. X. Lee, T. Newsom-Davis, Y. N. S. Wong, A. Sureda, C. Maluquer, I. Ruiz-Camps, A. Cabirta, A. Prat, A. Loizidou, A. Gennari, D. Ferrante, J. Tabernero, B. Russell, M. Van Hemelrijck, S. Dolly, N. J. Hulbert-Williams and D. J. Pinato (2021).

"Specialist palliative and end-of-life care for patients with cancer and SARS-CoV-2 infection: a European perspective." Therapeutic advances in medical oncology 13: 17588359211042224.
7. M. Taubert (2021). "'Do not resuscitate me in Barbados'." BMJ supportive & palliative care 11(3): 310-311.

Conference Abstracts
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2. M. Taubert (2021). "Viral-international online peer support and learning in palliative care." Palliative Medicine 35(1 SUPPL): 11.
3. M. Taubert and L. Evans (2021). "'the resus doll is dead, what now?' end-of-life care teaching and simulation: A literature review." Palliative Medicine 35(1 SUPPL): 107.
4. M. Taubert, E. Muckian and M. Harvey (2021). "Walkthrough digital virtual hospice tour: A survey study to explore practicality and acceptability for patients." Palliative Medicine 35(1 SUPPL): 56.

Cancer Site: Other (Radiotherapy)

Articles
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3. Parkinson, C. Matthams, K. Foley and E. Spezi (2021). "Artificial intelligence in radiation oncology: A review of its current status and potential application for the radiotherapy workforce." Radiography (London) 27 Suppl 1: S63-S68.
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5. K. Spencer, C. M. Jones, R. Girdler, C. Roe, M. Sharpe, S. Lawton, L. Miller, P. Lewis, M. Evans, D. Sebag-Montefiore, T. Roques, R. Smittenaar and E. Morris (2021). "The impact of the COVID-19 pandemic on radiotherapy services in England, UK: a population-based study." The Lancet. Oncology 22(3): 309-320.

Conference Abstracts
1. Foster, P. Wheeler, E. Spezi, J. Staffurth and A. Millin (2021). "Bespoke vs machine learned: can expert Pareto navigated treatment planning be modelled?" Radiotherapy and Oncology 161(Supplement 1): S655-S656.

Cancer Site: Other (Miscellaneous)

Articles
1. E. F. Arruda, P. Harper, T. England, D. Gartner, E. Aspland, F. O. Ourique and T. Crosby (2021). "Resource optimization for cancer pathways with aggregate diagnostic demand: a perishable inventory approach." IMA journal of management mathematics 32(2): 221-236.
2. E. Aspland, P. R. Harper, D. Gartner, P. Webb and P. Barrett-Lee (2021). "Modified Needleman-Wunsch algorithm for clinical pathway clustering." Journal of biomedical informatics 115: 103668.
3. E. Baddeley, A. Torrens-Burton, A. Newman, A. Nelson, N. Pease, R. Nelson and S. Noble (2021). "A mixed-methods study to evaluate a patient-designed tool to reduce harm from cancer-associated

thrombosis: The EMPOWER study." Research And Practice In Thrombosis And Haemostasis 5(5): e12545.
4. S. N. Brice, P. Harper, T. Crosby, D. Gartner, E. Arruda, T. England, E. Aspland and K. Foley (2021). "Factors influencing the delivery of cancer pathways: a summary of the literature." Journal of health organization and management 35(9): 121-139.
5. S. Dasgupta, W. B. Hyland, C. Haughey, S. Mughal, A. Henry and C. Diver-Hall (2021). "Integration of a patient-centred MUO/CUP service within a new acute oncology service: challenges and rewards." Future healthcare journal 8(1): e101-e108.
6. J. A. Davies, G. Marlow, H. K. Uusi-Kerttula, G. Seaton, L. Piggott, L. M. Badder, R. W. E. Clarkson, J. D. Chester and A. L. Parker (2021). "Efficient Intravenous Tumor Targeting Using the αvβ6 Integrin-Selective Precision Virotherapy Ad5NULL-A20." Viruses 13(5) (no pagination)(864).
7. G. M. Dettorre, S. Dolly, A. Loizidou, J. Chester, A. Jackson, U. Mukherjee, A. Zambelli, J. Aguilar-Company, M. Bower, C. C. T. Sng, R. Salazar, A. Bertuzzi, J. Brunet, R. Mesia, A. Sita-Lumsden, E. Segui, F. Biello, D. Generali, S. Grisanti, P. Seeva, G. Rizzo, M. Libertini, A. Maconi, C. Moss, B. Russell, N. Harbeck, B. Vincenzi, R. Bertulli, D. Ottaviani, R. Linan, A. Marrari, M. C. Carmona-Garcia, N. Chopra, C. A. Tondini, O. Mirallas, V. Tovazzi, V. Fotia, C. A. Cruz, N. Saoudi-Gonzalez, E. Felip, A. Roque, A. J. X. Lee, T. Newsom-Davis, D. Garcia-Illescas, R. Reyes, Y. N. S. Wong, D. Ferrante, L. Scotti, J. Marco-Hernandez, I. Ruiz-Camps, A. Patriarca, L. Rimassa, L. Chiudinelli, M. Franchi, A. Santoro, A. Prat, A. Gennari, M. Van Hemelrijck, J. Tabernero, N. Diamantis, D. J. Pinato and g. OnCovid study (2021). "Systemic pro-inflammatory response identifies patients with cancer with adverse outcomes from SARS-CoV-2 infection: the OnCovid Inflammatory Score." Journal for immunotherapy of cancer 9(3).
8. R. Hattersley, M. Nana and A. J. Lansdown (2021). "Endocrine complications of immunotherapies: a review." Clinical Medicine 21(2): e212-e222.
9. K. Macpherson, O. L. Aiyegbusi, L. Elston, S. Myles, J. Washington, N. Sungum, M. Briggs, P. Newsome and M. Calvert (2021). "A scoping review of patient and public perspectives on cell and gene therapies." Regenerative Medicine 16(11): 1005-1017.
10. G. OnCovid Study, D. J. Pinato, M. Patel, L. Scotti, E. Colomba, S. Dolly, A. Loizidou, J. Chester, U. Mukherjee, A. Zambelli, A. Dalla Pria, J. Aguilar-Company, M. Bower, R. Salazar, A. Bertuzzi, J. Brunet, M. Lambertini, M. Tagliamento, A. Pous, A. Sita-Lumsden, K. Srikandarajah, J. Colomba, F. Pommeret, E. Segui, D. Generali, S. Grisanti, P. Pedrazzoli, G. Rizzo, M. Libertini, C. Moss, J. S. Evans, B. Russell, N. Harbeck, B. Vincenzi, F. Biello, R. Bertulli, D. Ottaviani, R. Linan, S. Rossi, M. C. Carmona-Garcia, C. Tondini, L. Fox, A. Baggi, V. Fotia, A. Parisi, G. Porzio, P. Queirolo, C. A. Cruz, N. Saoudi-Gonzalez, E. Felip, A. Roque Lloveras, T. Newsom-Davis, R. Sharkey, E. Roldan, R. Reyes, F. Zoratto, I. Earnshaw, D. Ferrante, J. Marco-Hernandez, I. Ruiz-Camps, G. Gaidano, A. Patriarca, R. Bruna, A. Sureda, C. Martinez-Vila, A. Sanchez de Torre, R. Berardi, R. Giusti, F. Mazzoni, A. Guida, L. Rimassa, L. Chiudinelli, M. Franchi, M. Krengli, A. Santoro, A. Prat, J. Tabernero, M. Van Hemelrijck, N. Diamantis, A. Gennari and A. Cortellini (2021). "Time-Dependent COVID-19 Mortality in Patients With Cancer: An Updated Analysis of the OnCovid Registry." JAMA Oncology. 2021 Nov 24.
11. D. J. Pinato, L. Scotti, A. Gennari, E. Colomba-Blameble, S. Dolly, A. Loizidou, J. Chester, U. Mukherjee, A. Zambelli, J. Aguilar-Company, M. Bower, M. Galazi, R. Salazar, A. Bertuzzi, J. Brunet, R. Mesia, A. Sita-Lumsden, J. Colomba, F. Pommeret, E. Segui, F. Biello, D. Generali, S. Grisanti, G. Rizzo, M. Libertini, C. Moss, J. S. Evans, B. Russell, R. Wuerstlein, B. Vincenzi, R. Bertulli, D. Ottaviani, R. Linan, A. Marrari, M. C. Carmona-Garcia, C. C. T. Sng, C. Tondini, O. Mirallas, V. Tovazzi, V. Fotia, C. A. Cruz, N. Saoudi-Gonzalez, E. Felip, A. R Lloveras, A. J. X. Lee, T. Newsom-Davis, R. Sharkey, C. Chung, D. Garcia-Illescas, R. Reyes, Y. N. Sophia Wong, D. Ferrante, J. Marco-Hernandez, I. Ruiz-Camps, G. Gaidano, A. Patriarca, A. Sureda, C. Martinez-Vila, A. Sanchez de Torre, L. Rimassa, L. Chiudinelli, M. Franchi, M. Krengli, A. Santoro, A. Prat, J. Tabernero, M. V Hemelrijck, N. Diamantis, A. Cortellini and g. OnCovid study (2021). "Determinants of enhanced vulnerability to coronavirus disease 2019 in UK patients with cancer: a European study." European Journal of Cancer 150: 190-202.

12. D. J. Pinato, J. Tabernero, M. Bower, L. Scotti, M. Patel, E. Colomba, S. Dolly, A. Loizidou, J. Chester, U. Mukherjee, A. Zambelli, A. Dalla Pria, J. Aguilar-Company, D. Ottaviani, A. Chowdhury, E. Merry, R. Salazar, A. Bertuzzi, J. Brunet, M. Lambertini, M. Tagliamento, A. Pous, A. Sita-Lumsden, K. Srikandarajah, J. Colomba, F. Pommeret, E. Segui, D. Generali, S. Grisanti, P. Pedrazzoli, G. Rizzo, M. Libertini, C. Moss, J. S. Evans, B. Russell, N. Harbeck, B. Vincenzi, F. Biello, R. Bertulli, R. Linan, S. Rossi, M. C. Carmona-Garcia, C. Tondini, L. Fox, A. Baggi, V. Fotia, A. Parisi, G. Porzio, M. Saponara, C. A. Cruz, D. Garcia-Illescas, E. Felip, A. Roque Lloveras, R. Sharkey, E. Roldan, R. Reyes, I. Earnshaw, D. Ferrante, J. Marco-Hernandez, I. Ruiz-Camps, G. Gaidano, A. Patriarca, R. Bruna, A. Sureda, C. Martinez-Vila, A. Sanchez de Torre, L. Cantini, M. Filetti, L. Rimassa, L. Chiudinelli, M. Franchi, M. Krengli, A. Santoro, A. Prat, M. Van Hemelrijck, N. Diamantis, T. Newsom-Davis, A. Gennari, A. Cortellini and g. OnCovid study (2021). "Prevalence and impact of COVID-19 sequelae on treatment and survival of patients with cancer who recovered from SARS-CoV-2 infection: evidence from the OnCovid retrospective, multicentre registry study." Lancet Oncology 22(12): 1669-1680.
13. M. J. Scurr, W. M. Zelek, G. Lippiatt, M. Somerville, S. E. A. Burnell, L. Capitani, K. Davies, H. Lawton, T. Tozer, T. Rees, K. Roberts, M. Evans, A. Jackson, C. Young, L. Fairclough, P. Tighe, M. Wills, A. D. Westwell, B. P. Morgan, A. Gallimore and A. Godkin (2021). "Whole blood-based measurement of SARS-CoV-2-specific T cells reveals asymptomatic infection and vaccine immunogenicity in healthy subjects and patients with solid-organ cancers."
14. H. M. Zubair Ullah, A. Surya, N. Morley and S. Ahmad (2021). "Isolated splenic sarcoidosis: a rare cause of hypercalcaemia in a patient with type 1 diabetes." BMJ Case Reports. 14(10).

Conference Abstracts

1. E. Baddeley, N. Pease, A. Nelson, J. Sulma, A. Crabtree and S. Noble (2021). "PO-04 The impact of a patient information video on patient awareness and understanding of chemotherapy induced cancer associated thrombosis." Thrombosis Research 200(Supplement 1): S19.
2. E. Baddeley, N. Pease, A. Nelson, J. Sulman, A. Crabtree and S. Noble (2021). "PO-48 The risks of chemotherapy induced cancer associated thrombosis: what do patients know and what do they need to know?" Thrombosis Research 200(Supplement 1): S42.
3. V. Coyle, C. Forde, R. Adams, R. Barnes, I. Chau, M. Clarke, A. Doran, M. Grayson, D. McAuley, C. McDowell, G. Phair, R. Plummer, A. Thomas, R. Wilson and R. McMullan (2021). "1704P Early switch to oral antibiotic therapy in patients with low-risk neutropenic sepsis (EASI-SWITCH trial)." Annals of Oncology 32(Supplement 5): S1188.
4. G. M. Dettorre, S. Dolly, A. Loizidou, J. Chester, A. Jackson, U. Mukherjee, A. Zambelli, J. Aguilar-Company, M. Bower, C. C. Sng, R. Salazar, A. Bertuzzi, J. Brunet, R. Mesia, A. Sita-Lumsden, E. Segui, F. Biello, D. Generali, S. Grisanti, P. Seeva, G. Rizzo, M. Libertini, A. MacOni, C. Moss, J. Tabernero, B. Russell, N. Harbeck, B. Vincenzi, R. Bertulli, D. Ottaviani, R. Linan, A. Marrari, M. C. Carmona-Garcia, N. Chopra, C. Tondini, O. Mirallas, V. Tovazzi, V. Fotia, C. A. Cruz, N. Saoudi-Gonzalez, E. Felip, A. Roque, A. J. Lee, T. Newsom-Davis, A. Patriarca, L. Rimassa, A. Santoro, A. Gennari, N. Diamantis and D. J. Pinato (2021). "The acute phase response identifies cancer patients with adverse outcomes from SARS-CoV-2 infection as quantified by the OnCovid Inflammatory Score." Cancer Research. Conference: AACR Annual Meeting 81(13 SUPPL).
5. M. Patel, E. Felip, R. Sharkey, M. Krengli, J. D. Chester, A. Sita-Lumsden, U. Mukherjee, B. Russell, A. Loizidou, J. Colomba, C. A. Cruz, A. Cabirta, I. R. Camps, J. Brunet, A. Sureda, A. Patriarca, C. Tondini, D. J. Pinato and A. Cortellini (2021). "1588P SARS-CoV-2 antibody seroprevalence and safety of vaccines in cancer patients who recovered from COVID-19." Annals of Oncology 32(Supplement 5): S1142.
6. M. Taubert and P. Webb (2021). "'Educating ritta': Evaluation of an artificial intelligence programme in opioid prescribing-a pilot project and needs assessment." Palliative Medicine 35(1 SUPPL): 31.

Cancer Site: Other (Nursing & Interdisciplinary)

Articles

1. A. Edwards, B. Mickleburgh, and J. Hopkinson (2022). “The impact of a Lung Cancer Clinical Nurse Specialist role on person-centered and equitable care: a service improvement and evaluation project.” Poster abstracts of the 20th Annual British Thoracic Oncology Group Conference: Virtual BTOG 2022. 165(S1) ISSN 0169-5002
2. C. Parkinson, C. Matthams, K. Foley, and E. Spezi (2021). “Artificial Intelligence in Radiation Oncology: A Review of its Current Status and Potential Application for the Radiotherapy Workforce.” Radiography. 7(1); S63-68.
3. G. Herbert, A. Searle, C. England, A. Ness, M. Beasley, I Haupt-Schott, L. Moss, J. Wescott, and C. Atkingson (2021). “Experiences of low iodine diets in the treatment of differentiated thyroid cancer with radioactive iodine ablation therapy.” Clin Nutr ESPEN Oct;39:190-197. doi: 0.1016/j.clnesp.2020.06.017. Epub 2020 Jul 21.
4. N. Courtier, J. Armes, A. Smith, L. Radley, and J. Hopkinson (2021). “Targeted self-management limits fatigue for women undergoing radiotherapy for early breast cancer: results from the ACTIVE randomised feasibility trial.” Supportive Care in Cancer
5. J. Hopkinson, K. Amano, and V. Baracos (In press). “Eating Issues in Palliative Cancer Patients: a source of cachexia-related distress.” In, H. Chochinov and L. Schulman (Eds) 3rd Edition of the Handbook of Psychiatry in Palliative Medicine: Psychosocial Care of the Terminally Ill. Oxford University Press.
6. C. C. Hall, R. Skipworth, H. Blackwood, D. Brown, J. Cook, K. Diernberger, E. Dixon, V. Gibson, C. Graham, P. Hall, E. Haralsdottri, J. Hopkinson, A. Lloyd, M. Maddocks, L. Norris, S. Tuck, M. Fallon, and B. J. A. Laird (In press). “A randomised, feasibility trial of an Exercise and Nutrition-based Rehabilitation programme (ENeRgy) versus standard care in people with cancer.” Journal of Cachexia, Sarcopenia and Muscle. First prize, Cancer Cachexia Society 2021 annual conference.
7. R. Maunsall, S. Sodergren, J. Hopkinson, C. Shaw, C. Foster, S. Wheelwright (In press). “Nutritional care in colorectal cancer – what is the state of play?” Colorectal Disease.
8. A. Koji, J. Hopkinson, V. Baracos (In press). “Psychological symptoms of illness and emotional distress in advanced cancer cachexia.” Current Opinion in Nutrition and Metabolism.
9. J. Hopkinson and F. Strasser (In press). “Psychosocial aspects of nutrition.” In: A. Jatoi, S. Kaasa, and M. Strijbos. ESMO Handbook of Nutrition and Cancer (2nd ed).
10. S. Fry, J. Hopkinson, and D. Kelly (In press) “We’re talking about black men here, there’s a difference” Cultural differences in socialized knowledge of prostate cancer risk: a qualitative research study. European Journal of Oncology Nursing.
11. J. B. Hopkinson (2021). “The psychosocial components of multimodal interventions offered to people with cancer cachexia: a scoping review.” Asian Pacific Journal of Nursing. 8: 450-61.
12. N. Courtier, J. Armes, A. Smith, L. Radley, and J. Hopkinson (2021). “Targeted self-management limits fatigue for women undergoing radiotherapy for early breast cancer: results from the ACTIVE randomised feasibility trial.” Supportive Care in Cancer.

Presentations

1. J. Hopkinson (June 2022). “Educational Needs and Disparities in Cancer Cachexia Care.” MASCC/ISOO 2022. Toronto, Canada.
2. J. Hopkinson (December 2021). “Psychological aspects of cancer cachexia.” 11th International Seminar of the European Palliative Care Research Centre in collaboration with the Norwegian Cancer Society. Norway.
3. J. Hopkinson (Sept 2021). “Supportive care in cancer cachexia.” Sharing Progress in Cancer Care (SPCC) Online Conference: Avoiding Malnutrition and Cachexia to Improve Patient Outcomes. Switzerland.
4. K. Williams. (April 2022). “The role of the AHP in AOS” to be presented at National AOS Same Day Emergency care conference.
5. H. Good and C. Lewis. (November 2021). AHA - ‘All Wales’ Conference: A Healthier Wales: Moving forward together.

6. H. Good and C. Lewis. (October 2021). “The development of a Neuro-Oncology AHP/nurse led clinic.” AHP & Healthcare Scientist Celebration of Research & Innovation Event.
7. B. Moore. (October 2021). “WE CAN.” AHP & Healthcare Scientist Celebration of Research & Innovation Event.
8. Wyatt. (October 2021) “The Development of a Gynae-Oncology Advanced Practice Physiotherapy post.” AHP & Healthcare Scientist Celebration of Research & Innovation Event.
9. T. Quinne. “The VAPP (Sept 2021) Virtually Assessed Patient Pathway - Pre Chemo / SACT Assessment clinic from Project to Business as usual. An evaluation project informing service improvement.” Public Health Wales Research and Evaluation Conference.
10. T. Rees (Autumn 2021). “Improving personalised care: implementing Holistic Needs Assessment triage with Navigator support.” BAUN Annual Conference 2021.
11. J. Csontos, J. Hopkinson, J. Elias, A. King, N. Courtier, J. Carrier, and M. Pengelly. (November 2021) “Cancer Memory Mate: implementing a healthcare innovation to support the management of cancer treatments and side effects in people with memory problems in South Wales, UK.” UKONS Annual Conference 2021.
12. R. Roberts. (Sept 2021). All Wales Allied Health Professional and Nurse Cancer Research Network Annual Event 2021
13. S. Harding. (Sept 2021) All Wales Allied Health Professional and Nurse Cancer Research Network Annual Event 2021
14. Therapies Team. (July 2021) Neuro-oncology AHP led clinic. British Neuro-Oncology Society (BNOS).
15. E. Jenkins, B. Murphy, S. Floyd, L. Davies, S. Jones, M. Chu, O. Woodley, and C. Matthams, C. Type, J. Staffurth, and A. Tree. (March 2021). “Extreme Hypo Fractionated Radiotherapy (EHFRT) to the prostate as a service change instigated by COVID 19 - A case study of the treatment process.” BIR Annual Radiotherapy and Oncology Meeting.
16. J. Hopkinson, J. Elias, A. King, N. Courtier, J. Carrier, C. Reagon, and M. Pengelly (Feb 2021) “Making memory mate: research and coproduction to produce an innovation to help people with dementia/memory problems cope with cancer treatment.” ICCN. Virtual Conference.

Posters

1. **Poster:** A. Edwards, B. Mickleburgh, J. Hopkinson. (January 2022). “The impact of a Lung Cancer Clinical Nurse Specialist role on person-centered and equitable care: a service improvement and evaluation project.” Virtual BTOG 2022.
2. **Poster:** T. Rees (November 2021). “Improving personalised care: implementing Holistic Needs Assessment triage with Navigator support.” Caring Connections: UKONS Annual Conference 2021
3. **Poster:** I. Foster, P. Wheeler, E. Spezi, J. Staffurth, A. Millin. (2021). “Bespoke vs machine learned: can expert Pareto navigated treatment planning be modelled?” ESTRO 2021
4. **Poster:** S. Berenato, N. Abbott, O. Woodley, M.Chu, N. Palaniappan, A. Millin, et al. (2021).”Pareto Navigation Guided Automated Planning for Extreme Hypo-fractionated Prostate Radiotherapy.” ESTRO 2021
5. **Poster:** J. McCracken, L. Eldridge, A. Halley, S. Wheelwright, J. Hopkinson, S. Ahmedzai, A.Tookman, J. Louis-Auguste, R. Harmston, D. Smith, C. Shaw. (Nov 2021). “Information Needs around Parenteral nUTrition in cancer: INPUT.” NCRI Festival.
6. **Poster:** N. S. Gale, J. B. Hopkinson, D. Wasley, and A. Byrne. (Nov 2021). “Enablers of Home-based Physical Activity for people with Lung Cancer and Cachexia.” NCRI Festival.
7. **Poster:** N.S. Gale, J.B. Hopkinson, D. Wasley, A. Byrne (Oct 2020). “The Co-Production of Home-based Physical Activity for people with Lung cancer and weight loss (Co-PAL).” Healthcare Research Wales Conference 2020.
8. **Poster:** N. L. Abbott. (On behalf of the EFOMP WG ‘The role of the MPE in Clinical Trials’). “The Role of the Medical Physicist in Clinical Trials” ID:681; 3rd European Congress of Medical Physics 16-19 June 2021.

Theses

1. **Thesis:** J. Mathlin. “Experience of Taste Changes during Radiotherapy for Head & Neck Cancer.” ProfDoc. Awarded July 2021.
2. **Thesis:** P. Wheeler. “Development of Pareto Guided Automated Radiotherapy Treatment Planning and its Application to Prostate Cancer.” DClinSci. February 2022.

B2. Welsh Blood Service

Articles

1. L. E. Creary, N. Sacchi, M. Mazzocco, G. P. Morris, G. Montero-Martin, W. Chong, C. J. Brown, A. Dinou, C. Stavropoulos-Giokas, C. Gorodezky, S. Narayan, S. Periathiruvadi, R. Thomas, D. De Santis, J. Pepperall, G. E. ElGhazali, Z. Al Yafei, M. Askar, S. Tyagi, U. Kanga, S. R. Marino, D. Planelles, C.-J. Chang and M. A. Fernandez-Vina (2021). "High-resolution HLA allele and haplotype frequencies in several unrelated populations determined by next generation sequencing: 17th International HLA and Immunogenetics Workshop joint report." Human Immunology 82(7): 505-522.
2. M. Germain, Y. Gregoire, B. S. Custer, M. Goldman, M. Bravo, H. Kamel, K. Davison, S. Field, K. van den Hurk, T. J. W. van de Laar, D. O. Irving, A. Jones, G. Liumbruno, S. Morley, S. F. O'Brien, J. Pillonel, C. T. Steinsvag, M. Takanashi, N. H. Tsuno, M. A. Vesga Carasa, S. Wendel, R. R. Vassallo, P. Tiberghien and B. Collaborative (2021). "An international comparison of HIV prevalence and incidence in blood donors and general population: a BEST Collaborative study." Vox Sanguinis 116(10): 1084-1093.
3. H. Harvala, C. Reynolds, A. Fabiana, J. Tossell, G. Bulloch, S. Brailsford, S. Blackmore and L. Pomeroy (2021). "Lessons learnt from syphilis-infected blood donors: a timely reminder of missed opportunities." Sexually transmitted infections.
4. F. May, J. Pepperall, E. Davies, S. Dyer, N. Proudlove and M. T. Rees (2021). "Summarised, verified and accessible: improving clinical information management for potential haematopoietic stem cell transplantation patients." BMJ open quality 10(4).
5. F. N. J. May, M. T. Rees, S. Griffin and J. E. Fildes (2021). "Understanding immunological response to desensitisation strategies in highly sensitised potential kidney transplant patients." Transplantation Reviews 35(2): 100596.
6. S. J. Moat, W. M. Zelek, E. Carne, M. J. Ponsford, K. Bramhall, S. Jones, T. El-Shanawany, M. P. Wise, A. Thomas, C. George, C. Fegan, R. Steven, R. Webb, I. Weeks, B. P. Morgan and S. Jolles (2021). "Development of a high-throughput SARS-CoV-2 antibody testing pathway using dried blood spot specimens." Annals of Clinical Biochemistry 58(2): 123-131.
7. R.-C. A. P. I. Writing Committee for the, L. J. Estcourt, A. F. Turgeon, Z. K. McQuilten, B. J. McVerry, F. Al-Beidh, D. Annane, Y. M. Arabi, D. M. Arnold, A. Beane, P. Begin, W. van Bentum-Puijk, L. R. Berry, Z. Bhimani, J. E. Birchall, M. J. M. Bonten, C. A. Bradbury, F. M. Brunkhorst, M. Buxton, J. L. Callum, M. Chasse, A. C. Cheng, M. E. Cove, J. Daly, L. Derde, M. A. Detry, M. De Jong, A. Evans, D. A. Fergusson, M. Fish, M. Fitzgerald, C. Foley, H. Goossens, A. C. Gordon, I. B. Gosbell, C. Green, R. Haniffa, H. Harvala, A. M. Higgins, T. E. Hills, V. C. Hoad, C. Horvat, D. T. Huang, C. L. Hudson, N. Ichihara, E. Laing, A. A. Lamikanra, F. Lamontagne, P. R. Lawler, K. Linstrum, E. Litton, E. Lorenzi, S. MacLennan, J. Marshall, D. F. McAuley, J. F. McDyer, A. McGlothlin, S. McGuinness, G. Miflin, S. Montgomery, P. R. Mouncey, S. Murthy, A. Nichol, R. Parke, J. C. Parker, N. Priddee, D. F. J. Purcell, L. F. Reyes, P. Richardson, N. Robitaille, K. M. Rowan, J. Rynne, H. Saito, M. Santos, C. T. Saunders, A. Serpa Neto, C. W. Seymour, J. A. Silversides, A. A. Tinmouth, D. J. Triulzi, A. M. Turner, F. van de Veerdonk, T. S. Walsh, E. M. Wood, S. Berry, R. J. Lewis, D. K. Menon, C. McArthur, R. Zarychanski, D. C. Angus, S. A. Webb, D. J. Roberts and M. Shankar-Hari (2021). "Effect of Convalescent Plasma on Organ Support-Free Days in Critically Ill Patients With COVID-19: A Randomized Clinical Trial." JAMA 326(17): 1690-1702.
8. P. Young, L. Crowder, W. Steele, D. Irving, J. Pink, J. M. Kutner, A. P. H. Yokoyama, N. Van Buren, N. W. O'Sullivan, M. Sayers, R. M. Alcantara, K. van den Hurk, J. Wiersum-Osselton, B. Shaz and C.

Biomedical Excellence for Safer Transfusion (2021). "Frequency of rare, serious donor reactions: International perspective." Transfusion 61(6): 1780-1788.

Conference Abstracts

1. C. S. Booth, D. Poles, S. Narayan, J. Peters, S. Carter-Graham and J. Birchall (2021). "Allergic reactions linked to IgA deficient patients: Fact or fiction? selected for main programme." Vox Sanguinis 116(SUPPL 1): 93-94.
2. C. E. P. Cormack, D. Pritchard, E. Burrows, S. Lloyd and T. Rees (2021). "Listing of unacceptable HLA-DP antibodies for deceased donor transplantation." HLA 97(4): 320.
3. J. Gregory, S. Ditcham and D. Underwood (2021). "Transfusion based patient information-are we getting it right?" Transfusion Medicine 31(SUPPL 1): 30.
4. S. E. James, N. Kirby, N. O'Sullivan, V. Sacher and A. Shokoohi (2021). "Do deferred blood donors with low haemoglobin or low iron stores seek medical care?" Transfusion Medicine 31(SUPPL 1): 10-11.
5. Jones (2021). "Sprinting ahead-a new methodology of working for the Blood Health Team." Transfusion Medicine 31(SUPPL 1): 35.
6. Jones, S. Blackmore and C. George (2021). "HEV pool testing review at the Welsh Blood Service." Transfusion Medicine 31(SUPPL 1): 12.
7. Jones, D. Underwood and L. Park (2021). "Virtual SSA-interactive distance learning in Wales." Transfusion Medicine 31(SUPPL 1): 28.
8. K. McShane, L. Williams, K. Perera, J. Birchall, D. Pritchard and T. Rees (2021). "Challenges of platelet refractoriness in the highly sensitised patient." Transfusion Medicine 31(SUPPL 1): 27-28.
9. L. Porter (2021). "Verification of patient triplicate tests in FMH estimation by flow cytometry." Transfusion Medicine 31(SUPPL 1): 18.
10. Pryce, E. Zoubek, A. O'Leary, R. Szydlo, Y. Li, H. Kelly, C. Harvey, K. Balassa, R. Pawson, R. Danby and F. Mir (2021). "The Impact of Covid-19 on Unrelated and Donor Cord Provision to UK Transplant Centres during the 1st Wave of the Pandemic: UK Aligned Registry Study." Bone Marrow Transplantation 56: 175.
11. Saunders, N. Pearce and M. Evans (2021). "Platelet concentrates for neonates suspended in 80:20 ratio of plasma to platelet additive solution." Transfusion Medicine 31(SUPPL 1): 12-13.
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2. S. James at all. (2021). "Sero-surveillance of SARS-CoV-2 Antibody in Welsh Blood Donors." PHE Public Health Research and Science Conference 2021.
3. C. Cormack. (2021). "Listing of unacceptable HLA-DP antibodies for Decreased Donor Transplantation." European Federation for Immunogenetics Conference 2021.
4. **Poster:** A. Jones. (2021). "Contrôles Internes de Qualité Multiparamétriques Pour Alinitys." XXXe Congrès de la Sociètè Française de Tranfusion Sanguine (French Society of Blood Transfusion Congress).
5. **Poster:** A. De'Ath (2022). "HNA-3a Antibodies - Laboratory Assessment and Immunological Risk." British Transplantation Society Congress (in press, 2022).

Thesis

1. **Thesis:** J. Sayle (2021). "In vitro Characteristics of Platelets Stored as Concentrates in Simulated Pre-Hospital Care Conditions." Master of Science. University of Bristol.
2. **Thesis:** M. Thomas (2021). "Investigation Into The Use of Miltenyi Biotec MACSprep™ HLA B/T Kit For Isolation of Cells For Flow Cytometry Crossmatching." Bachelor of Science. Cardiff Metropolitan University.
3. **Thesis:** R Evans (2021). "The Key Drivers for Best Practice of Blood Product Supply Chain Management: A Multi-Case Study." Master of Science. University of South Wales.