

- 0.0.0 PRESENTATION
- 0.0.1 FAKTION PRESENTATION
 - Led by Professor Robert Jones, Associate Medical Director for Research, Development & Innovation*
 - 0.0.1 FAKTION for HCRW RDI22.pptx
- 1.0.0 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
 - Dr Robert Jones, Associate Medical Director for Research, Development & Innovation (for Item 0.0.1)*
 - 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 & R&D Lead*
 - 1.4 RDI PUBLIC ACTION LOG_07.04.22 FINAL.xlsx
 - 1.4.1 Wales Cancer Industry Group
 - Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee*
 - 1.4.1 Wales Cancer Industry Forum Introduction July 2022.pptx.pptx
- 2.0.0 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 Committee held on the 7th April 2022
 - Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee*
 - 2.1.1 RDI Public Minutes 07.04.22 FINAL DRAFT.docx
 - 2.2.0 ITEMS FOR ENDORSEMENT
 - 2.2.0 RD&I Terms of Reference and Operating Arrangements
 - Led by Emma Stephens, Head of Corporate Governance*
 - 2.2 RDI Terms of Reference Cover Paper.docx
 - 2.2 (a) RDI Terms of Reference Paper (Clean Version).docx
 - 2.2 (b) RDI Terms of Reference 2022 (Tracked Changes Version).docx
- 2.3.0 FOR NOTING
 - Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee*
 - 2.3.1 Draft Summary of the Minutes from the Private Research, Development & Innovation Committee held on the 7th April 2022
 - Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee*
 - 2.3.1 Summary of RDI Private Meeting 07.04.22 FINAL DRAFT.docx
- 3.0.0 MAIN AGENDA
 - Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee*
 - 3.1.0 Executive Medical Director Briefing
 - Led by Dr Jacinta Abraham, Executive Medical Director & R&D Lead*
 - 3.1 Executive Briefing Cover Paper.docx
 - 3.1 (a) Executive Briefing_JAbraham.pptx
 - 3.1 (b) CReSt-English-FINAL (003).pdf
 - 3.1 (c) CReSt-Welsh-FINAL.pdf
 - 3.1 (d) RDI Annual Report Cover Paper.docx

- 4.0.0 STRATEGY, PERFORMANCE AND DELIVERY
Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee
- 4.1.0 New Velindre Cancer Centre (nVCC) Research Development and Innovation Update
Led by Huw Llewellyn, Transforming Cancer Services Director
4.1 nVCC Non-Clinical RDI Update June 2022.docx
- 4.2.0 Trust Research, Development and Innovation Performance Report
Led by Sarah Townsend, Head of Research & Development with input from the relevant leads :
• *Libby Batt, Head of R&D Strategy, Velindre Futures*
• *Christopher Cotterill Jones, Research Delivery Manager*
• *Peter Richardson, Welsh Blood Service*
• *Robyn Davies, Head of Innovation*
• *Jonathan Patmore, R&D Finance Manager*
4.2 RDI Performance Report Cover Paper.docx
4.2 RDI Performance Report Q1.docx
- 6.0.0 ANY OTHER BUSINESS
Prior Approval by the Chair Required
- 7.0.0 DATE AND TIME OF THE NEXT MEETING
The next meeting is arranged to be held on 15th November 2022 at 10:00am via Microsoft Teams.
- 8.0.0 HIGHLIGHT REPORT TO THE TRUST BOARD
Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee
Members to identify items to include in the Highlight Report to the Trust Board:
For Escalation
For Assurance
For Advising
For Information
- 9.0.0 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'.

**FAKTION; A phase 1b/randomised placebo
controlled phase II trial of Fulvestrant +/-
(AKT inhibition) in patients with incurable
breast cancer**



NIHR/CRUK Combinations Alliance National Portfolio Investigator Led Trial

Cardiff University and Velindre Chief Investigator; Rob Jones

Coordinated by **Cardiff University** Centre for Trials Research

Sponsored by **Velindre NHS Trust, Cardiff**

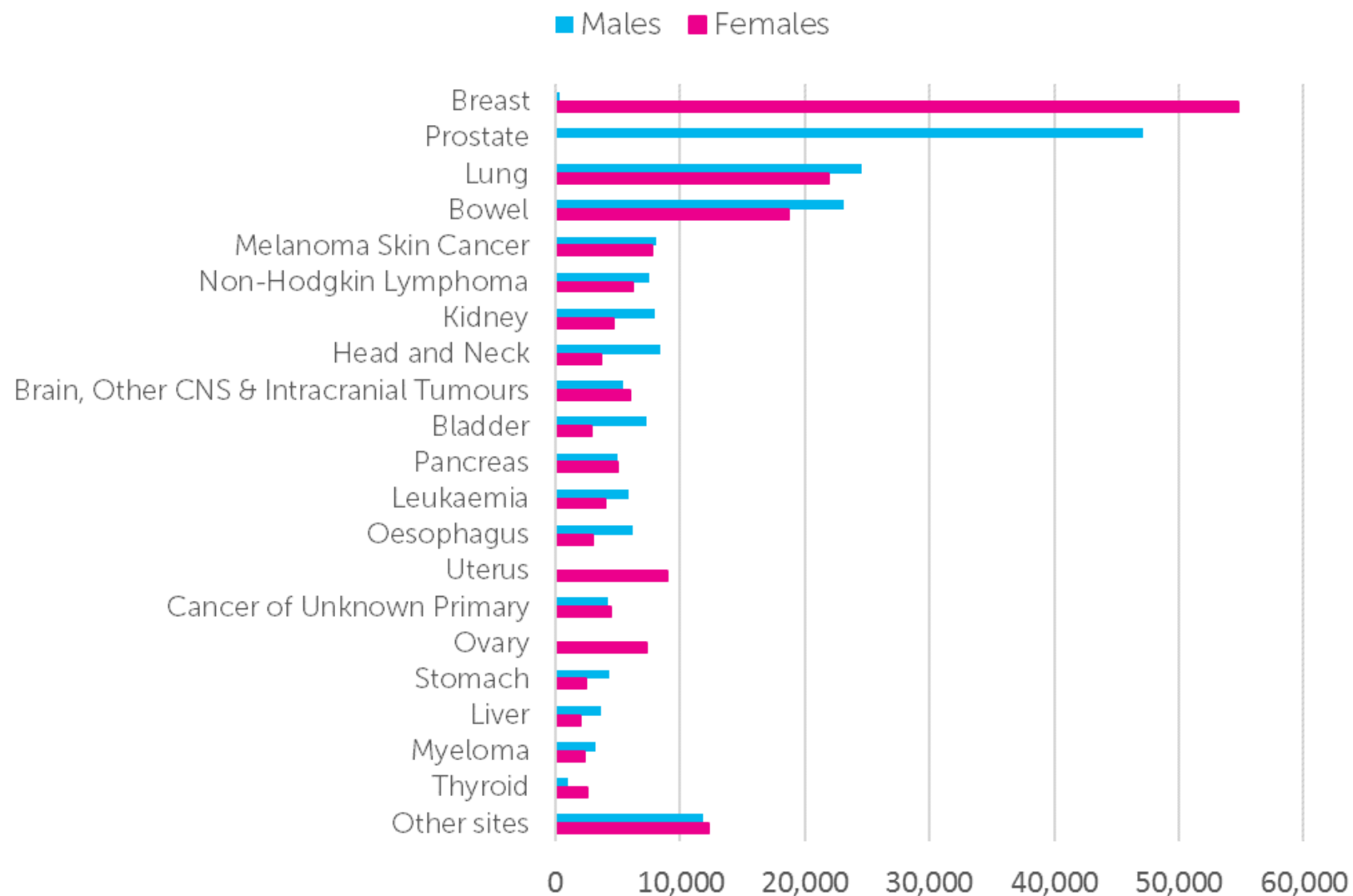
Circulating tumour DNA translational research carried out on by **Cardiff University**

Clinical Research Fellow (Magda Meissner) in All Wales Genetics Laboratory

Data from this Trial presented Orally at **ASCO 2019 and 2022** and published in **Lancet**

Oncology 2020 and 2022

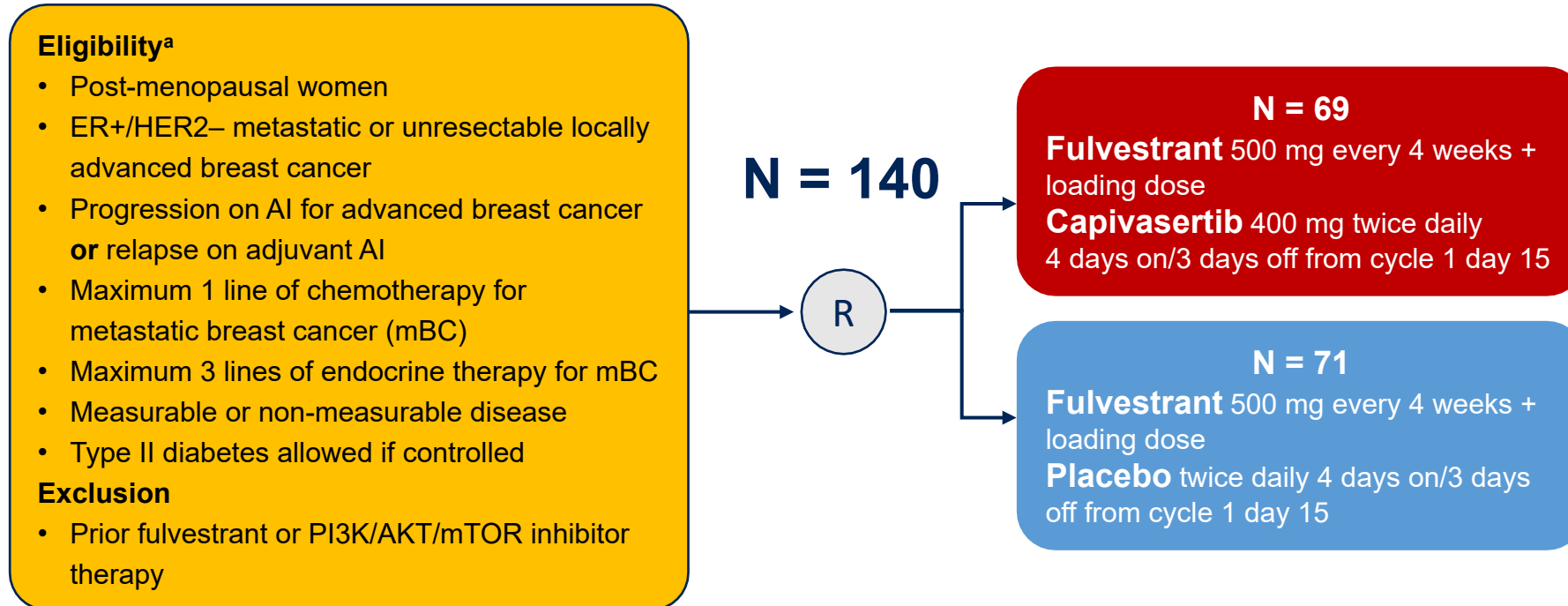
Incidence of different Cancer types



FAKTION: background

- ER+ve Breast Cancer is the most common cancer globally
- Patients with ER+ve breast cancer benefit from endocrine therapy but almost always become resistant to it
- Activation of the oncogenic PI3K/AKT/PTEN pathway can cause this resistance in the lab
- Approximately 55% of advanced oestrogen receptor-positive (ER+) tumours have an activated PI3K/AKT/PTEN pathway¹
- AKT is the effector of the PI3K/AKT/PTEN pathway downstream of both PI3K and PTEN
- Capivasertib is a potent and selective inhibitor of AKT
- The FAKTION trial tested whether the addition of capivasertib to fulvestrant improved outcomes in patients with ER+/HER2– advanced breast cancer after relapse or progression on an aromatase inhibitor (AI)

FAKTION: trial design





FAKTION

SCOTLAND

NORTHERN
IRELAND

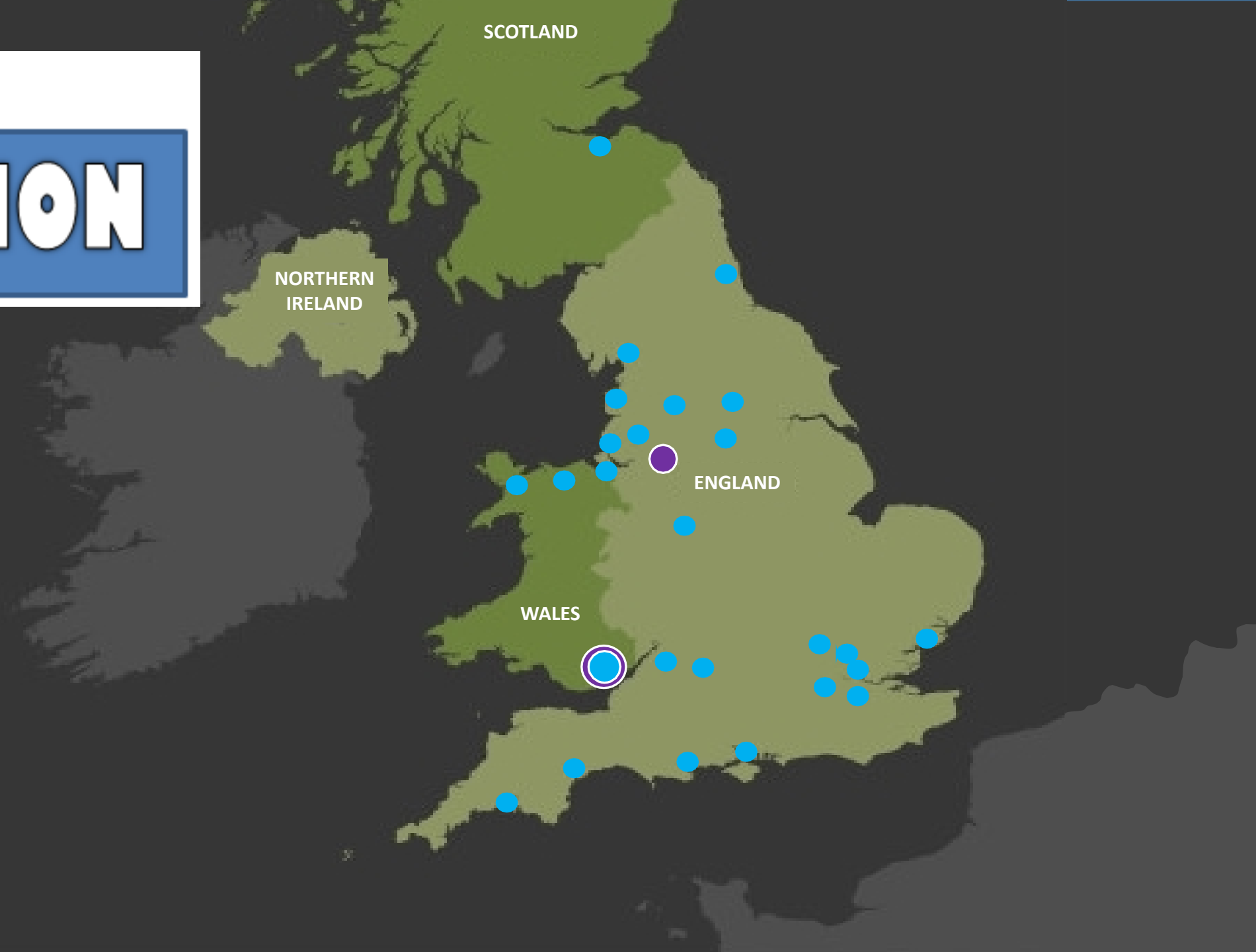
ENGLAND

WALES



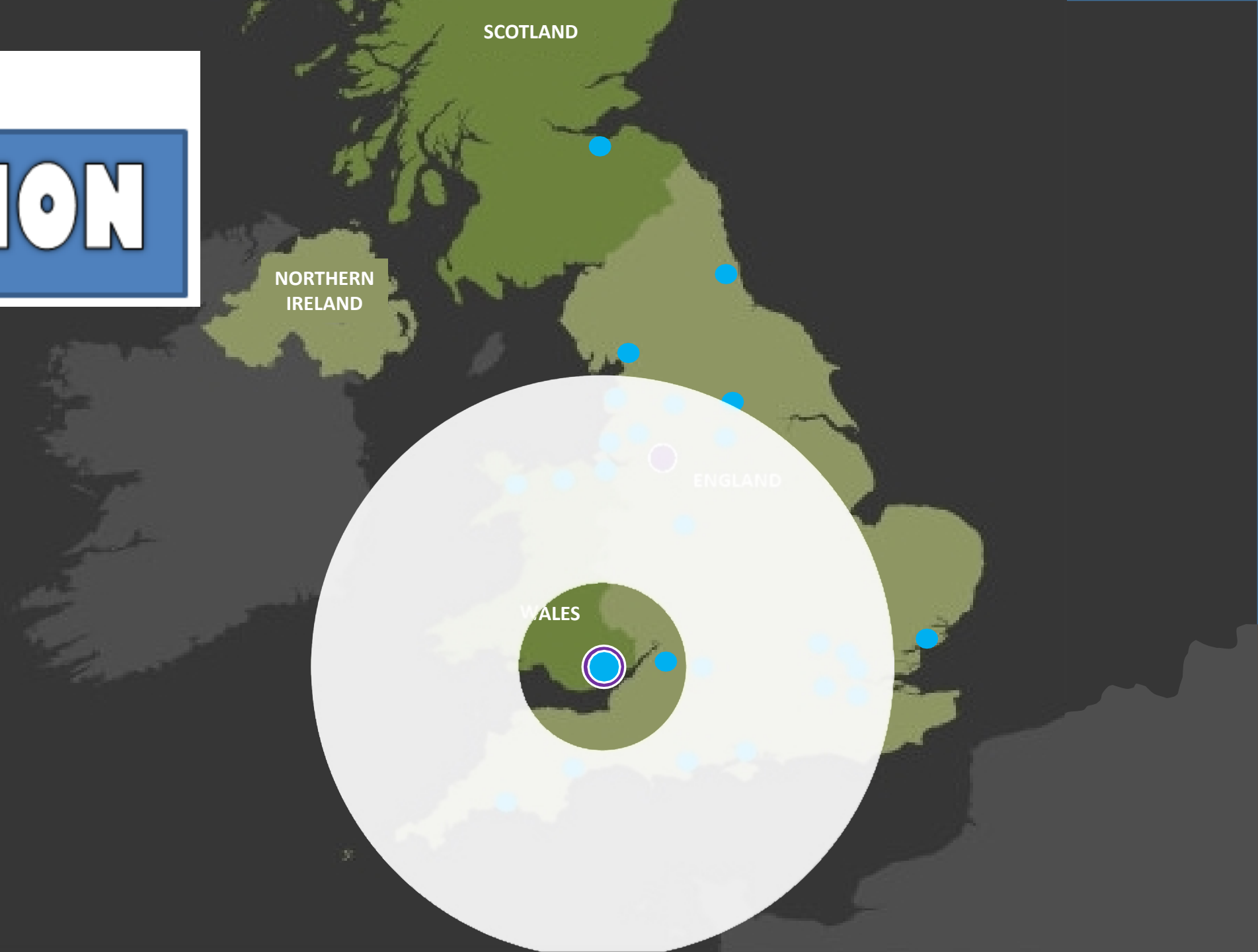


FAKTION

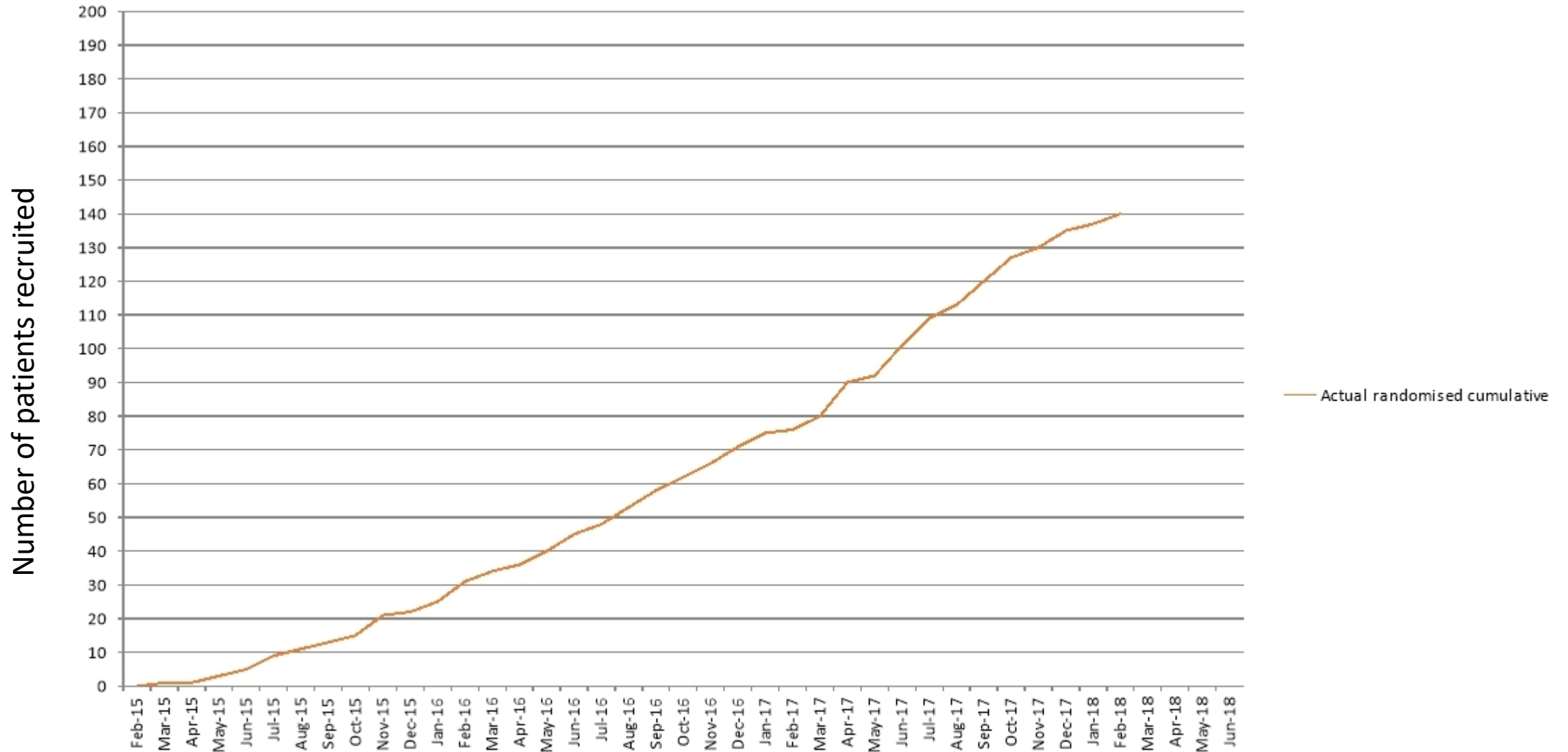




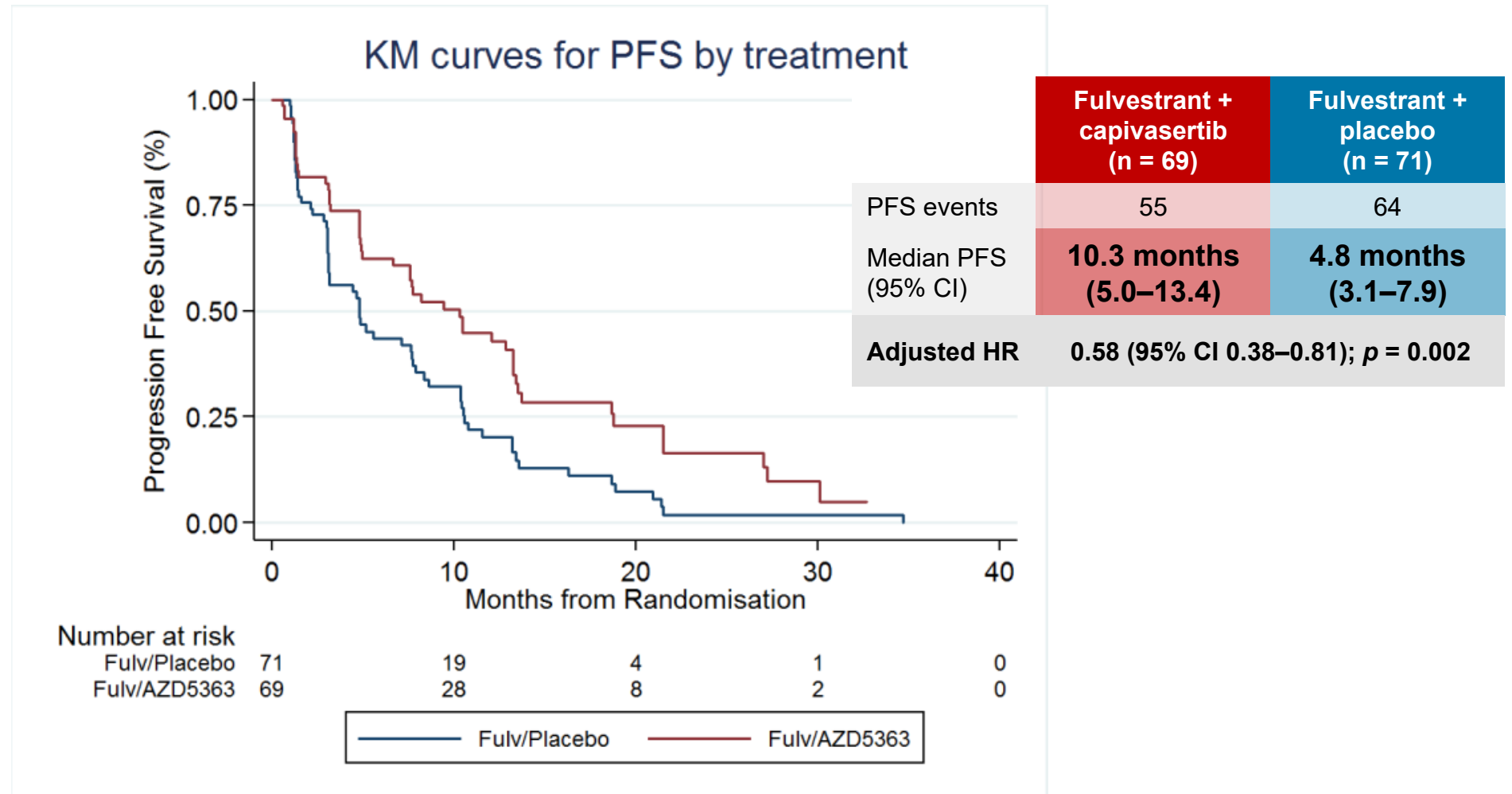
FAKTION



Recruitment into the Phase 2 part of FAKTION Trial took place for over 3 years (Phase 1b approximately 12 months)



FAKTION Trial; Progression Free Survival by Treatment



Fulvestrant plus capivasertib versus placebo after relapse or progression on an aromatase inhibitor in metastatic, oestrogen receptor-positive breast cancer (FAKTION): a multicentre, randomised, controlled, phase 2 trial

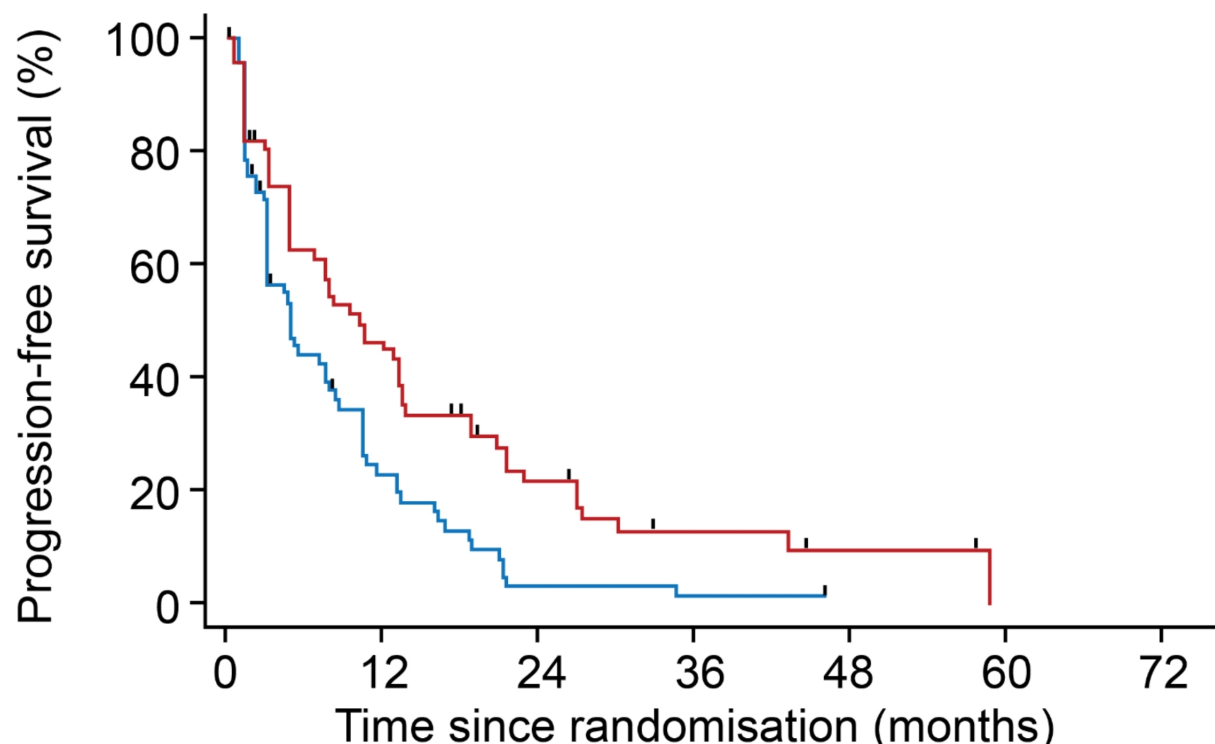
Robert H Jones, Angela Casbard*, Margherita Carucci, Catrin Cox, Rachel Butler, Fouad Alchami, Tracie-Ann Madden, Catherine Bale, Pavel Bezecny, Johnathan Joffe, Sarah Moon, Chris Twelves, Ramachandran Venkitaraman, Simon Waters, Andrew Foxley, Sacha J Howell*

Lancet Oncol 2020

FAKTION: new data

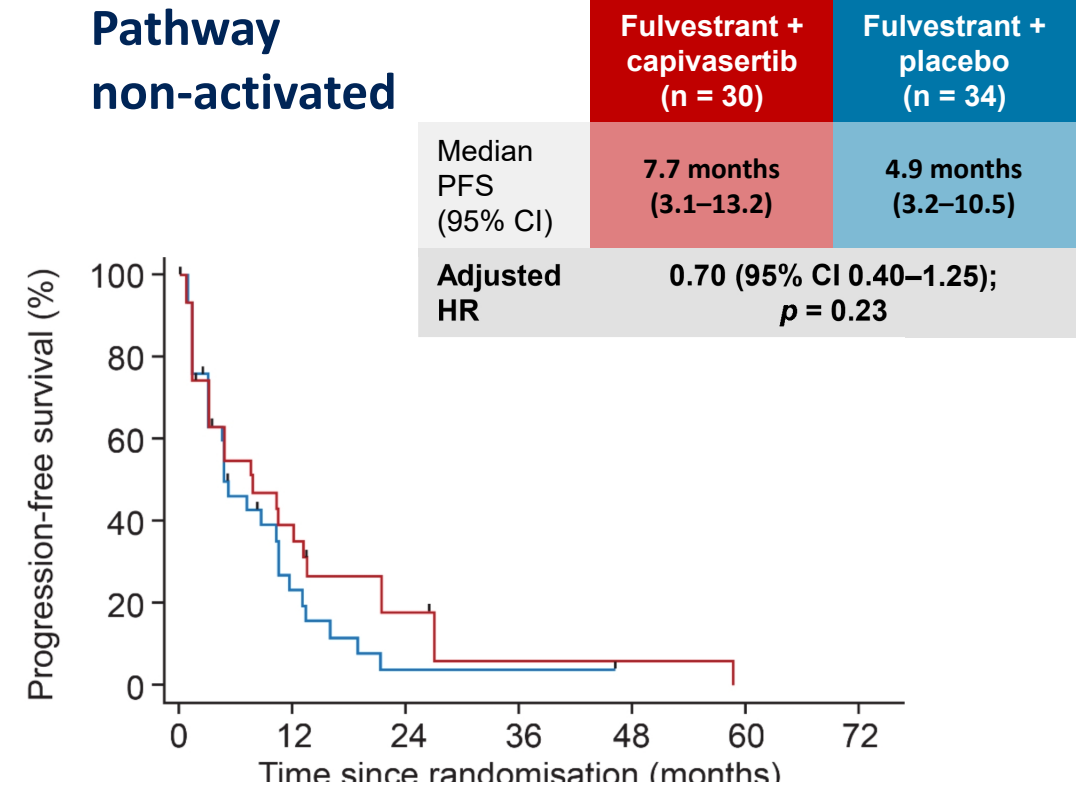
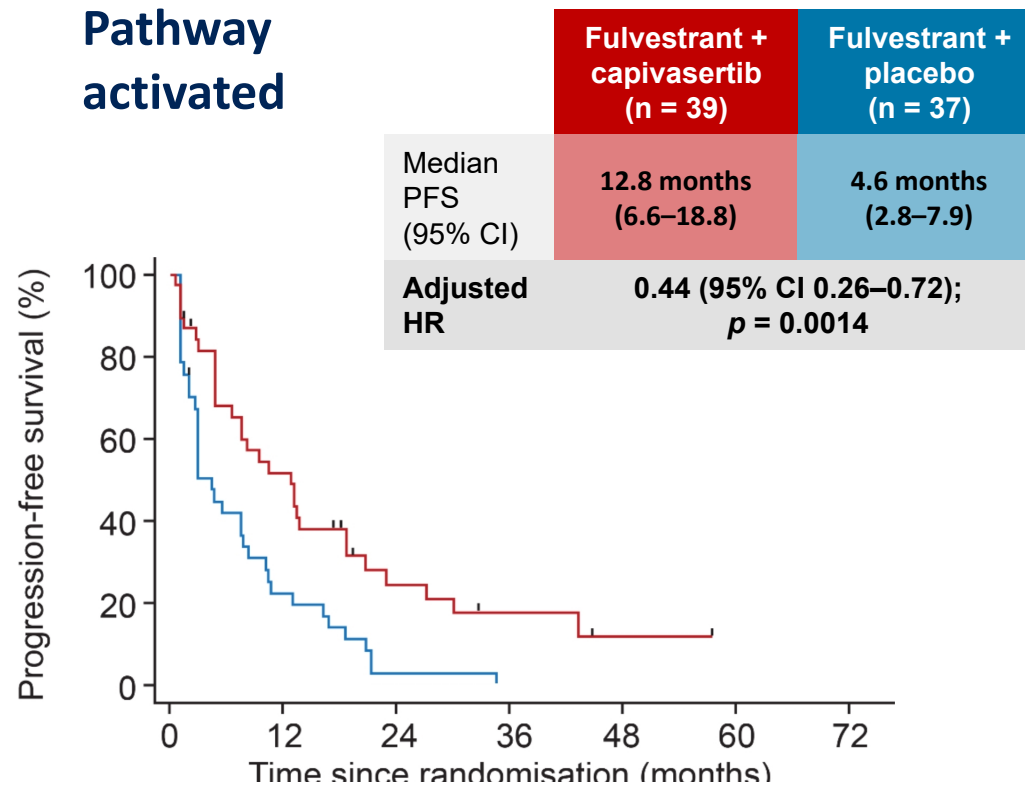
- Updated analysis of Progression Free Survival and Overall Survival in the overall population
- Expanded genomic biomarker analysis New subgroup analysis using expanded genomic testing to better identify patients with an activated pathway who may be expected to gain more benefit from capivasertib
 - An activating *AKT* mutation
 - Activating *PIK3CA* mutations
 - *PTEN* alterations predicted to result in loss of function

FAKTION: updated Progression Free Survival in the overall population

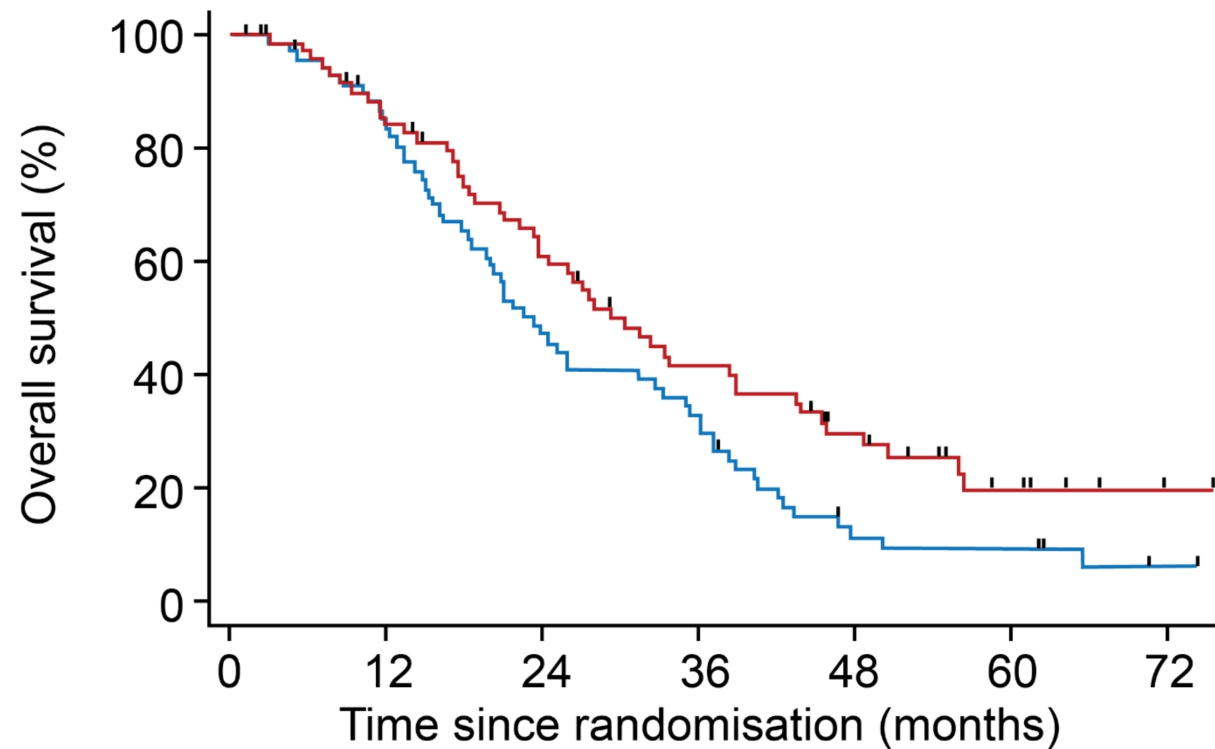


DCO Nov 2021	Fulvestrant + capivasertib (n = 69)	Fulvestrant + placebo (n = 71)
PFS events	49	63
Median PFS (95% CI)	10.3 months (5.0–13.4)	4.8 months (3.1–7.9)
Adjusted HR	0.56 (95% CI 0.38–0.81); $p = 0.002$	

FAKTION: PFS in the pathway altered and pathway activated subgroups

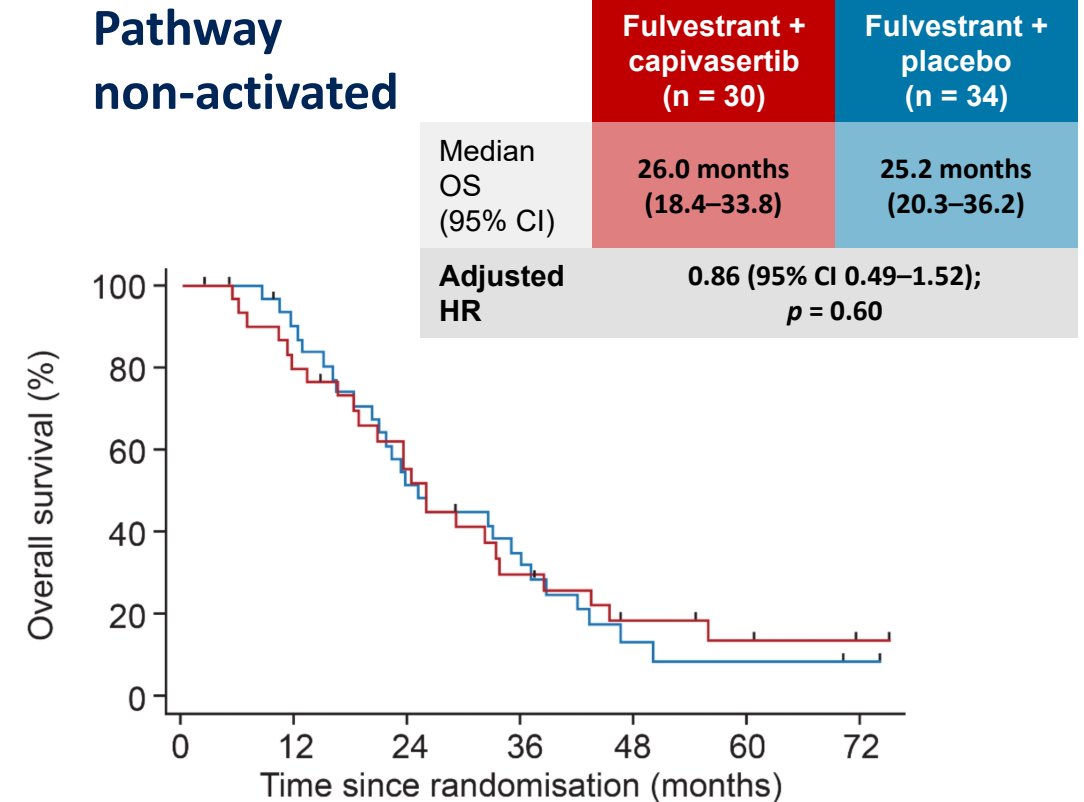
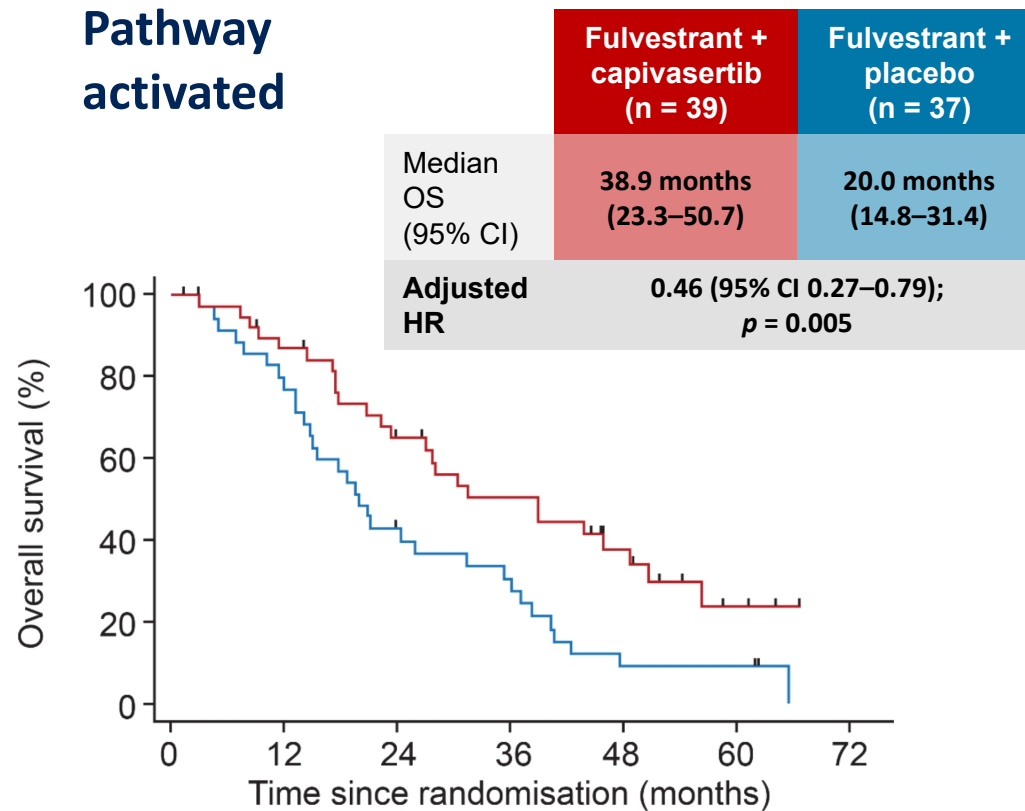


FAKTION: mature Overall Survival in the overall population



DCO Nov 2021	Fulvestrant + capivasertib (n = 69)	Fulvestrant + placebo (n = 71)
OS events	49	59
Median OS (95% CI)	29.3 months (23.7–39.0)	23.4 months (18.7–32.7)
Adjusted HR	0.66 (95% CI 0.45–0.97); $p = 0.035$	

FAKTION: OS in the pathway activated and pathway non-activated subgroups



Fulvestrant plus capivasertib versus placebo after relapse or progression on an aromatase inhibitor in metastatic, oestrogen receptor-positive, HER2-negative breast cancer (FAKTION): overall survival, updated progression-free survival, and expanded biomarker analysis from a randomised, phase 2 trial

Sacha J Howell, Angela Casbard*, Margherita Carucci, Kate Ingarfield, Rachel Butler, Sian Morgan, Magdalena Meissner, Catherine Bale, Pavel Bezecny, Sarah Moon, Chris Twelves, Ramachandran Venkitaraman, Simon Waters, Elza C de Bruin, Gaia Schiavon, Andrew Foxley, Robert H Jones*

Lancet Oncol 2022; 23: 851–64

Comparison of SOLAR-1 and FAKTION Trial data

	SOLAR-1 (leading to FDA and NICE approval of Apellisib)	FAKTION
Progression Free Survival advantage in Treatment group	5.3 months Hazard Ratio 0.65 p=0.001	8.2 months Hazard Ratio 0.44 p=0.0014
Overall Survival advantage in Treatment group	7.9 months Hazard Ratio 0.86 p=0.15	18.9 months (Hazard Ratio 0.46 p=0.005

FAKTION: conclusions

- The mature data from the overall population showed that the addition of capivasertib to fulvestrant improved OS in participants with advanced ER+/HER2– breast cancer compared to placebo plus fulvestrant (median OS 29.3 vs 23.4 months; HR 0.66; $p = 0.035$)
- This is the first time a significant OS advantage achieved by targeting this pathway in Breast Cancer
- Biomarker analysis means we can pick out those patients who get most benefit median PFS 12.8 vs 4.6 months (HR 0.44; $p = 0.0014$) and median OS 39.8 vs 20 months (HR 0.46; $p = 0.005$)
- Phase 3 data are now awaited, if it confirms findings of FAKTION it will be first time a trial led from Wales has led to FDA approval of a new drug

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	<p>UPDATE 21/07/2022 : Board Development date arranged for the 27/10/2022. Unfortunately the lead person in AgorIP has left and a replacement has not been made. However, RD has been in contact with a very engaging presenter and IP Attorney, Nia Roberts from Welsh Government, to ask if she would support this session. RD to include contact details and arrangements made in his handover arrangements. RD has also been involved with a small team from the innovation leads group to commission an All-Wales IP strategy from Grant Thorton – this report should be included in the development session.</p> <p>07/04/2022 Update - Workshop to be included on the 2022/2023 Trust Board Development Programme, scheduled date to be agreed. 13/01/2022</p> <p>Update - Meeting with AGORIP has taken place to arrange putting together a workshop.</p> <p>21/10/21 Update - This will now be taken forward following the commencement of Robyn Davies, Head of Innovation and it is planned to schedule the workshop for early 2022.</p> <p>22/07/2021 Update - Following the recent appointment of the new Head of Innovation plans have been initiated to take this forward.</p>	15/11/2022	IN PROGRESS
Actions agreed at the Committee on 21st October 2021					
4.4	Advancing Radiotherapy Fund - Meeting to discuss the Trust's Fellowship Scheme	Jane Hopkinson	<p>UPDATE 21/07/2022 : JH confirms this is still in progress.</p> <p>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.</p>	07/04/2022	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	<p>UPDATE 21/07/2022 : Draft report ready but have been unable to take it through the governance structure due to changes to EMB dates.</p> <p>07/04/2022 Update - Data to be presented to EMB in June, prior to the next Sub-Committee in July 2022.</p> <p>13/01/2022 Update - The project manager starts shortly and plans have been initiated to take this forward.</p> <p>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.</p>	21/07/2022	IN PROGRESS
Actions agreed at the Committee on the 13th January 2022					
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	<p>UPDATE 21/07/2022 : EM has now forwarded comments on The Cardiff Cancer Research Hub – Joint Proposal. The Team will address these comments and take forward.</p> <p>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.</p>	07/04/2022	COMPLETED

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	<p>UPDATE 21/07/2022 : At a recent HCRW Research Managers Operational Group meeting, it was reported that Welsh Government are still drafting the “Research” champion role with a Task and Finish Group working on recommendations. No specific timelines were given for when Welsh Government would issue a Welsh Health Circular for this specific champion role. LF explained that should this role be required, then the VUNHST champion would be Andrew Westwell as the Independent Member for Research.</p> <p>07/04/2022 Update : The RD&I Chair was invited to attend this meeting along with DM and CCJ on the 12th April 2022. Further meeting with Lauren Fear to discuss VUNHST champion role, this meeting was held on the 08/06/2022.</p>	07/04/2022	COMPLETED
Actions agreed at the Committee on the 7th April 2022					
0.01	Memory Mates Presentation and Initiative : Clinically we need to spread this good work and know how to signpost this, how can we scale this up? How do we get these to the outreach stations and involve Health Boards?	Robyn Davies	<p>UPDATE 21/07/2022 : RD has been in contact with Dr Annie Proctor who was chairing the Cardiff Dementia Group, but unfortunately she has now stepped down and is not aware of a new chair being appointed or the Group reconvening. However, RD has made contact with the RPB Lead and will hand over to Jane Darmanin and Jane Hopkinson to follow up.</p> <p>07/04/2022 Robyn Davies to liaise with Cardiff and Vale and Cardiff University who have an innovation strategic partnership group. RD to co-ordinate a meeting to include Jane Darmanin and Michele Pengelley.</p>		IN PROGRESS
3.1.0	Circulate the RD&I component of the IMTP to Sub-Committee members for discussion at the next meeting.	Robyn Davies	UPDATE 21/07/2022 : Report received and circulated to Sub-Committee members.		COMPLETED
	Circulate the RD&I Sub-Committee Annual Report to Sub-Committee members and present at the next meeting.	Emma Stephens	UPDATE 21/07/2022 : To be included as an agenda item at the next Sub-Committee Meeting.		COMPLETED
4.1.0	Following the CReSt presentation, reference to the the next Wales Cancer Industry Group to be included on the agenda for the next meeting.	Andrew Westwell	UPDATE 21/07/2022 : To be included as an agenda item at the next Sub-Committee Meeting.		COMPLETED
4.2.0	Provide a written paper for the Trust Chair on key issues of the Velindre Futures Research and Development Cancer Strategy.	Libby Batt	UPDATE 21/07/2022 : Report received and circulated to the Sub-Committee.		COMPLETED
4.3.0	Huw Llewellyn and Team to be invited to attend the next Sub-Committee to present on the New Velindre Cancer Centre (nVCC).	Robyn Davies / Sandra Cusack	UPDATE 21/07/2022 : Invited to the next Sub-Committee Meeting.		COMPLETED
4.4.0	A Task and Finish Group to be established to discuss the reporting template, content and structure of the Trust RD&I Performance Report.	Jacinta Abraham / Sarah Townsend / Peter Richardson	UPDATE 21 /09/2022 : A Task and Finish Group was held on the 30/05/22 to discuss on how best to shape this report, i.e. structure, content and ways of reporting. A slide presentation on agreed approach to be given at the next Sub-Committee Meeting.		COMPLETED

Actions agreed at the

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
4.4	ARF - Meeting to discuss the Trust's Fellowship Scheme	Jane Hopkinson

Actions agreed at the C

5.1	Feedback to ARCHUS the grammatical and editorial amendments required to the Cardiff Cancer Research Hub proposal.	Libby Batt
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
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
7.0	Support the development of a draft Highlight Report for approval by the Committee Chair.	Emma Stephens

Committee on 21st October 2021

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
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

Committee on the 13th January 2022

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
07/04/2022 Update - The nVCC update was shared to Rachel Hennessey and Alan Prosser on the 13th January 2022.	07/04/2022	COMPLETE
07/04/2022 Update - Robyn Davies has added more detail to the annual report on the partnerships developing.	07/04/2022	COMPLETE
This has been drafted and will be submitted to the March 2022 meeting of the Quality, Safety & Performance Committee	07/04/2022	COMPLETE

Wales Cancer Industry Forum (WCIF)

Introduction and overview
(Andy Westwell on behalf of Velindre
RDI committee)

Chaired by Richard Erwin
(Roche) and Tom Crosby
(Velindre)

July 2022

Four mixed service & industry working groups

Welsh Cancer Data	None identified at present		Service Co-Lead
			Industry Co-Lead
Early Cancer Diagnosis	Jeff Turner	NHS Wales	Service Co-Lead
	Dean Harris	NHS Wales	Service Co-Lead
	Stephen Hildrew	Siemens	Industry Co-Lead
	Helen Jones	Roche	Industry Co-Lead
R & D in Wales and Clinical Research Model	John Jones	Wales Cancer Research Centre	Service Co-Lead
	Andrew Westwell	Velindre University NHS Trust	Service Co-Lead
	Cherie Dennison	BMS	Industry Co-Lead
Genomics, Advanced Therapies and Precision Medicine	Sian Morgan	AWMGS	Service Co-Lead
	Mark Briggs	NHS Wales	Service Co-Lead
	Lewis Egal	Amgen Healthcare Solutions	Industry Co-Lead

Supported by colleagues from Life Sciences Hub Wales:

<https://lshubwales.com/>

R and D in Wales and the Clinical Research Model

John Jones (WCRC), Andy Westwell (Velindre/Cardiff Univ),
Cherie Dennison and Eleanor Wright (Bristol Myers Squibb; BMS)

Key emerging theme – equity and ease of access to clinical trials

- Project on equity of access to trials covering trial recruitment (diversity) and geography
- Utilise expertise from larger working group of Wales Cancer Network, Life Science Hub Wales and BMS to support and assist process
- Includes streamlining the enrolment process through fully compliant digital platforms designed with patients, researchers and trial sponsors in mind (Allyfe platform; www.allyfe.health). Building on current work coordinated by Wales Cancer Research Centre (Director: John Jones)

Genomics, Advanced Therapies and Precision Medicine – 2022

so far...



Working Group

8th Feb 2022

- Initial meeting to discuss objectives of working group and areas of interest
- Agreement in earlier genomic profiling to improve access to personalised therapies
- Liquid Biopsy seen as critical innovation to achieve this



Liquid Biopsy Progression Meeting

- 29th April – expression of interest from WCIF deadline
- Follow up meeting with interested stakeholders to discuss progression of collaboration in May



Next GPMAT Meeting

- Next GPMAT meeting to focus on topic from results of survey
- Highlight other potential opportunities for collaboration

Apr/May 2022

Jun/Jul 2022

5th April

2022

Liquid Biopsy Collaboration Presented

- Collaboration opportunity presented by Magda Meissner and Sian Morgan
- 30+ attendees from interested life sciences and NHS stakeholders



GPMAT Survey

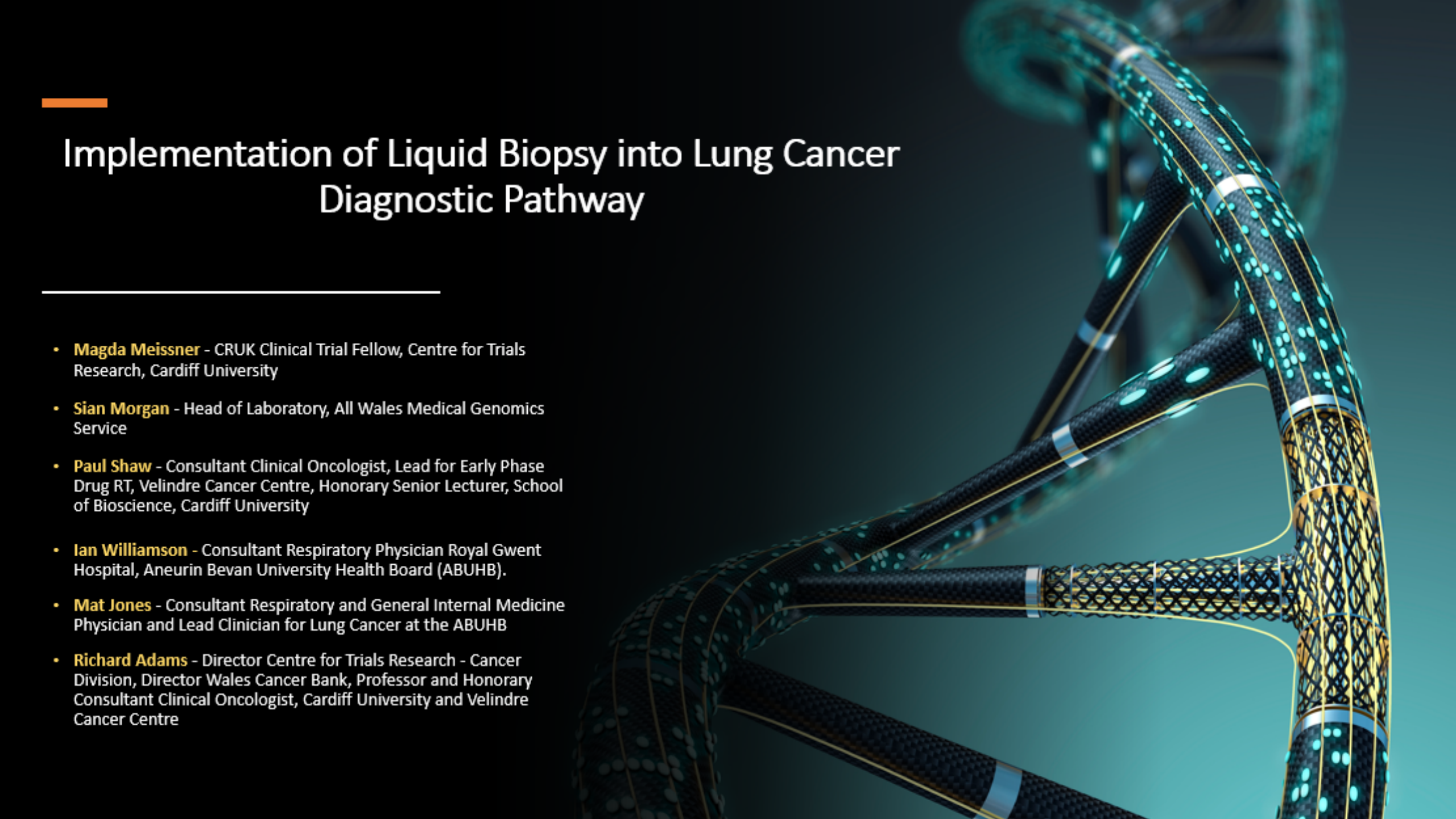


- Survey to gauge areas of interest within working group
- Plan is to align with relevant stakeholders within NHS – arrange to present at future meetings

May 2022

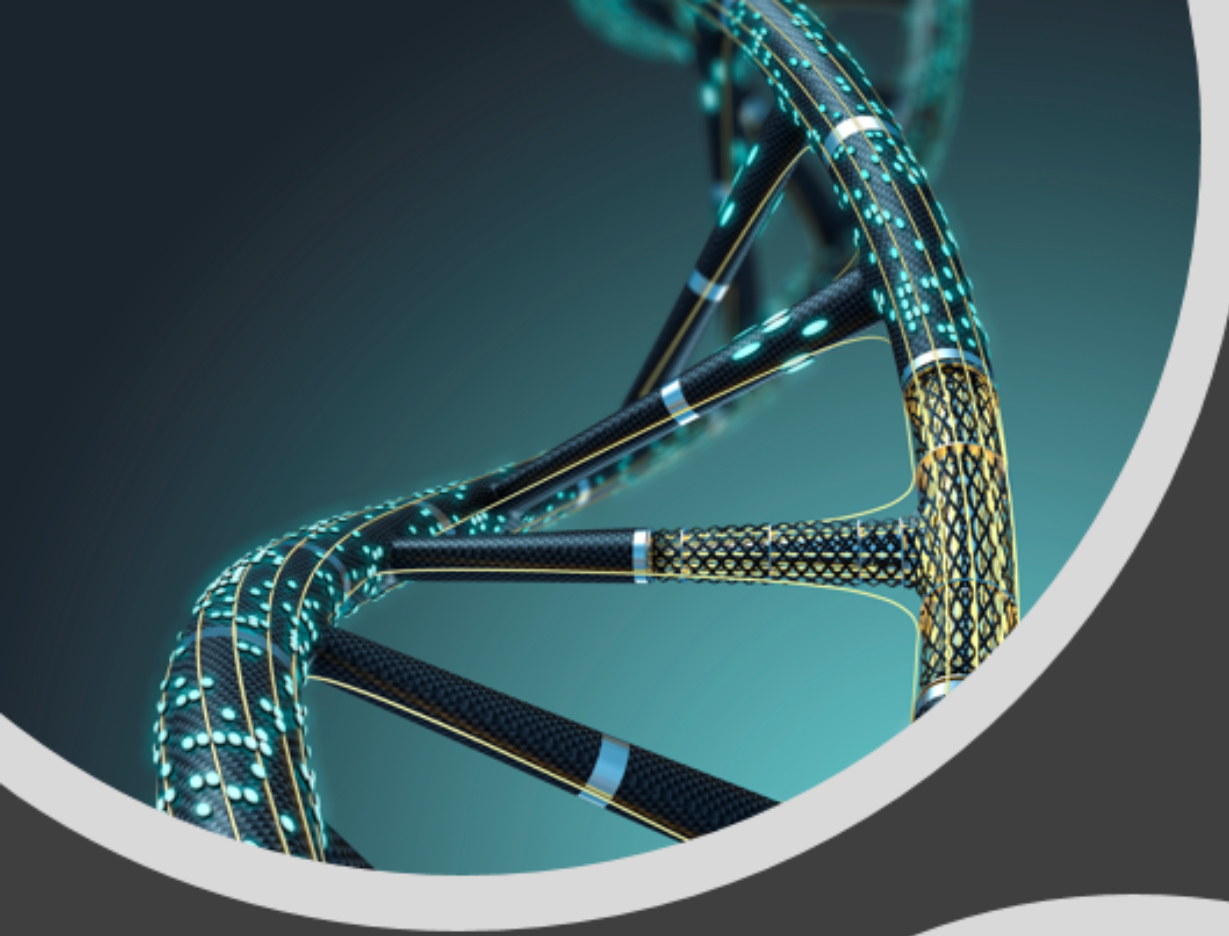
GPMAT Working Group

Sian Morgan – Service Co-Lead
Mark Briggs – Service Co-Lead
Gareth Healey – LSH lead
Lewis Egal – Industry Lead



Implementation of Liquid Biopsy into Lung Cancer Diagnostic Pathway

- **Magda Meissner** - CRUK Clinical Trial Fellow, Centre for Trials Research, Cardiff University
- **Sian Morgan** - Head of Laboratory, All Wales Medical Genomics Service
- **Paul Shaw** - Consultant Clinical Oncologist, Lead for Early Phase Drug RT, Velindre Cancer Centre, Honorary Senior Lecturer, School of Bioscience, Cardiff University
- **Ian Williamson** - Consultant Respiratory Physician Royal Gwent Hospital, Aneurin Bevan University Health Board (ABUHB).
- **Mat Jones** - Consultant Respiratory and General Internal Medicine Physician and Lead Clinician for Lung Cancer at the ABUHB
- **Richard Adams** - Director Centre for Trials Research - Cancer Division, Director Wales Cancer Bank, Professor and Honorary Consultant Clinical Oncologist, Cardiff University and Velindre Cancer Centre



Disruptive approaches for lung cancer care in Wales using liquid biopsy

Our vision

To improve patient outcomes through the use of
liquid biopsy across the whole cancer pathway
within the NHS in Wales.



Early Cancer Diagnosis Working Group:

Community Diagnostic Hubs

- We agree with the two prioritisation exercises already undertaken putting **Community Diagnostic Hubs** as a primary focus.
- We note there is a national group looking at this, more information on what stage this is at would be appreciated.
- We see our best function as an expert advisory group to that project, particularly focused on the supporting **clinical pathways** which are so important to the success of such a step-change in diagnostic delivery.
- The CDHs should be a 'home' for technologies such as Cytosponge, liquid biopsies, and be part of a mechanism to move diagnostics into the community and out of hospitals to encourage earlier presentation by patients.

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

Date 07/04/2022
Time 14:00-16:15
Location via Microsoft Teams
Chair Professor Andrew Westwell, Independent Member

PRESENT		
Professor Andrew Westwell	Independent Member (Chair)	AW
Vicky Morris	Independent Member	VM
Professor Donna Mead OBE	Chair of Velindre University NHS Trust	DM
ATTENDEES		
Dr Jacinta Abraham	Executive Medical Director and R&D Lead	JA
Matthew Bunce	Executive Director of Finance	MB
Christopher Moreton	Deputy Director of Finance	CM
Professor Jane Hopkinson	Velindre Cancer Centre Professor of Nursing and Interdisciplinary Cancer Care	JH
Edwin Massey	Deputy Medical Director, Welsh Blood Service	EM
Peter Richardson	SMT Lead RD&I , Welsh Blood Service	AP
Robyn Davies	Head of Innovation	RD
Sian James	RD&I Facilitator, Welsh Blood Service	SJ
Jonathan Patmore	RD&I Finance Business Partner	JP
Emma Stephens	Head of Corporate Governance	ES
Sarah Townsend	Head of Research & Development	ST
Christopher Cotterill-Jones	Research Delivery Manager	CCJ
Libby Batt	Head of R&D Cancer Strategy	LB
SECRETARIAT		
Sandra Cusack	Business Support Officer	SMC

0.0.0	PRESENTATIONS	
0.0.1	<p>Memory Mates – Bringing Nursing Research to Life Led by Michele Pengelly, Supportive Care Lead Nurse</p> <p>Professor Andrew Westwell welcomed and introduced Michele Pengelly, Supportive Care Lead Nurse who provided a short presentation and animation film on <i>Memory Mates</i> to the RD&I Sub-Committee.</p> <p>‘Memory Mates’ is the product of an exciting, six-year collaborative partnership between VCC and Cardiff University, the original research dated back to 2015 and it’s comprised of a hardworking group of people who are really dedicated to improving the care and support of cancer patients who are experiencing memory problems.</p> <p>Following the research, data and launch of Memory Mates, a toolkit of resources was developed, which also include training VCC staff to help support patients with memory problems safely through their cancer treatment.</p> <p>The Memory Mate toolkit includes:</p> <ul style="list-style-type: none"> • 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. <p>The Sub-Committee welcomed learning firsthand more about the toolkit and how this had been an extremely positive experience in what was one of the most difficult and challenging periods of their life.</p> <p>DM/JA questioned how do we clinically spread this good work and know how to signpost this, how can we scale this up? How do we get these to the outreach stations and involve other Health Boards?</p> <p>ACTION: RD to liaise with Cardiff and Vale and Cardiff University and to co-ordinate a meeting to include Jane Darmanin and Michele Pengelly.</p>	RD

	The Chair thanked Michele for providing the presentation and commended the ongoing commitment of staff and the excellent work they are undertaking.	
1.0.0	STANDARD BUSINESS	
1.1.0	Apologies were received from: <ul style="list-style-type: none"> • Steve Ham, Chief Executive Officer • Eve Gallop-Evans, Consultant, Velindre Cancer Service • Paul Wilkins, Interim Director of Velindre Cancer Service • Huw Llewellyn, TCS Project Director 	
1.2.0	In Attendance <ul style="list-style-type: none"> • Michele Pengelly, Supportive Care Lead Nurse (Item 0.0.1) • Professor Mererid Evans, Velindre Futures Director and WCRC Director (speaking to Item 4.1) 	
1.3.0	Declarations of Interest Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee There were no declarations of interest.	
1.4.0	Matters Arising - Action Log Led by Dr Jacinta Abraham, Executive Medical Director The Sub-Committee reviewed all actions identified as having closed since the previous meeting and those whose completion date was due or overdue. 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 meeting of the Research, Development & Innovation Sub-Committee held on the 13th January 2022 Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee The Sub-Committee CONFIRMED that the Minutes of the Public Meeting held on the 13 th January 2022 was an accurate and true reflection.	
2.2.0	FOR NOTING	

2.2.1	<p>Summary of the Minutes from the meeting of the Private Research, Development & Innovation Sub-Committee held on the 13th January 2022</p> <p>Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee</p> <p>The Sub-Committee NOTED the Summary Minutes of the Private Meeting held on the 13th January 2022.</p>	
3.0.0	MAIN AGENDA	
3.1.0	<p>Executive Summary Highlights</p> <p>Led by Dr Jacinta Abraham, Executive Medical Director</p> <p>The Executive Summary Highlights reported on key activities relating to Research, Development and Innovation taking place during quarter 4 of the financial year 2021/22.</p> <p>The following key highlights were reported :</p> <ul style="list-style-type: none"> ➤ The State of Health and Care Research in Wales ➤ UK Portfolio Recovery Task & Finish Group ➤ GMC – Promoting Research for all doctors ➤ Trust Integrated Medium-Term Plan 2022 to 2025 ➤ Associate Medical Director for RD&I ➤ Welsh Blood Service <p>ACTION: Circulate the RD&I component of the IMTP to Sub-Committee members for discussion at the next meeting.</p> <p>ACTION: Circulate the RD&I Sub-Committee Annual Report to Sub-Committee members and present at the next meeting.</p> <p>The Sub-Committee NOTED the contents of the Executive Summary Highlights.</p>	<p>RD</p> <p>ES</p>
4.0.0	STRATEGY, PERFORMANCE & DELIVERY	
4.1.0	<p>Wales Cancer Research Strategy (CReSt)</p> <p>Supported via a presentation by Professor Mererid Evans, Velindre Futures Director and WCRC Director speaking on the Wales Cancer Research Strategy (CReSt).</p> <p>The Strategy had previously been presented to numerous stakeholders; Wales Cancer Network Board, CReSt Board, Chief Medical Officer for Wales, Clinical Reference Group and Wales AHP & Nurse Board. Following today's presentation to the RD&I Sub-Committee, it will be presented to Trust Board for information.</p>	

	<p>This document first sets out some key principles which have underpinned the development of the proposed way forward, and the process through which it has been produced. It provides a summary of the current state of cancer research in Wales, and some of the key issues which need to be tackled. It describes a number of research themes or areas where there is (or could be) a critical mass of research capacity and capability in Wales.</p> <p>The presentation was well received by the Sub-Committee and Professor Evans stated that hopefully the Strategy will be launched in June 2022.</p> <p>ACTION: The Wales Cancer Industry Group to be included on the agenda for the next meeting.</p>	AW
4.2.0	<p>Velindre Futures Research and Development Cancer Strategy Update</p> <p>Led by Libby Batt, Head of R&D Cancer Strategy</p> <p>The Velindre Futures Research and Development Cancer Strategy reported on key activities and the following items were highlighted:</p> <p>Oversight and Governance regarding the Cardiff Cancer Research Hub</p> <ul style="list-style-type: none"> • The Hub Project Board Meets regularly which feeds into the Velindre Cancer Centre @ University Hospital Wales Programme Delivery Board (VCC & UHW) which in turn feeds into the Trust Executive Partnership Board with Cardiff & Vale University Health Board and Cardiff University (CVUHB & CU). • At the last Research Development & Innovation Sub-Committee Meeting, the Joint Proposal Cardiff Research Hub specification document was considered, this was later formally signed off by Velindre University NHS Trust Board subject to the correct Heads of Terms being developed between the 3 partners (VUNSHT, CU and CVUHB). • The joint proposal document is now being reviewed by CVUHB at the Business Case Advisory Board 7th April 2022, once the business case is approved it will be considered by the Trust Executive Board for sign off. • Ongoing scoping exercise is being led by ST on the Joint research Office (covers CU and CVUHB research) and assessing opportunities and benefits to Velindre joining for Cardiff Cancer Research Hub. • Funding of the Hub longer term, discussions are moving forward here there will be a need for a financial strategy to be developed and discussions are progressing with both finance and projects and planning teams. 	

	<p>Hub Partners</p> <ul style="list-style-type: none"> • Experimental Cancer Medicine Centre (ECMC) Cardiff will be applying to Cancer Research UK for continued 5yrs funding in June of this year. There are ongoing discussions with Prof Rob Jones and Prof Oliver Ottmann who are Co Leads of ECMC Cardiff. There has been verbal commitment to support the Research Hub and within ECMC bid application funding for research nurses to support Early phase and Advanced therapies will be included. Awaiting further details on numbers of posts. • Wales Cancer Research Centre (WCRC) is a key partner who commits to funding in the short-term, but it also will be submitting bids to HCRW for the next 2 years in June, likely to have Clinical Research Fellow support looking to match fund these. • Collaborative approach taken by CVUHB and VUNSHT in approaching HCRW. A positive meeting was held with HCRW, CVUHB and VUNSHT will be applying for a total of 3.6 wte posts for the first 18 months which HCRW will consider. • Business cases are being worked up for a matched funded post between VUNHST and CU which will be a clinical academic post (early phase triallist.) <p>Research Delivery</p> <ul style="list-style-type: none"> • Portfolio The high risk EPT solid tumour portfolio is gathering pace, with 2 trials in setup ,2 trials where VCC has been chosen as a site and expression of interest made to trial sponsors for another 2 trials. • Workforce Within VUNSHT short term funding has been secured for some staff, job descriptions have been developed and they are moving into recruitment and selection. • Implementation plan being drafted for the first 12-18mths which we will report next time <p>ACTION: LB to provide a written update with key points.</p> <p>The Sub-Committee NOTED the Velindre Futures Research and Development Cancer Strategy Update.</p>	<p>LB</p>
<p>4.3.0</p>	<p>New Velindre Cancer Centre (nVCC) Research Development and Innovation Update Led by Robyn Davies, Head of Innovation</p> <p>AW confirmed RD would lead this item on behalf of HL, who unfortunately was unavailable to join 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.</p> <p>The report is an update to ensure visibility of this work and effective alignment across Trust and Project priorities.</p>	

	<p>The update paper outlined the scope of this work, key activities, deliverables and dependencies, plus a high level timeline plan. Additionally, the paper includes a log of completed and ongoing projects.</p> <p>ACTION: HL and the Team to be invited to attend the next Sub-Committee meeting to present on the nVCCC.</p> <p>The Sub-Committee NOTED the content of New Velindre Cancer Centre (nVCC) Research Development and Innovation Update.</p>	SMC
5.1.0	<p>Trust Research, Development and Innovation Annual Performance Report 2021-2022 Led by Sarah Townsend, Head of R&D</p> <p>The Sub-Committee received the first integrated annual Trust Research, Development & Innovation Performance Report for the Financial Year 2021-22. This included information on the Trust's national and global achievements and compliance against HCRW key performance indicators, including the following :</p> <p>Trust</p> <ul style="list-style-type: none"> - Enabling research - Research portfolio - Finance - Velindre Futures Cancer RD&I Ambitions - Nursing and Interdisciplinary Research - Innovation - Health and Care standards <p>Welsh Blood Service</p> <ul style="list-style-type: none"> - Key highlights and achievements <p>Velindre Cancer Service</p> <ul style="list-style-type: none"> - Key highlights and achievements <p>Operational plan 2020/21 to 2021/22</p> <p>DM queried 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.</p> <p>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 these fits with the general format with how champion roles are taken forward by the Trust and AW to be invited when a confirmed date is arranged.</p> <p>ACTION: Circulate an executive summary on key highlights of the Trust RD&I Performance Report.</p>	<p>CCJ</p> <p>ST</p>

	<p>The Sub-Committee recognised the excellent work being undertaken Corporately and within the Divisions of the Trust. However, noting that the agreed reporting template and content had been approved at a previous meeting. It was suggested that a working group be established to further discuss and agree structure, content and ways of reporting for discussion at the next RD&I Sub-Committee.</p> <p>ACTION: It was suggested that a Task & Finish Group be established to further consider and agree the structure, content and ways of reporting for discussion at the next RD&I Sub-Committee.</p> <p>The RD&I Sub-Committee NOTED and DISCUSSED the RD&I Integrated Performance Report for the Financial Year 2021 / 2022</p>	JA
6.0.0	ANY OTHER BUSINESS	
6.1	<p>Associate Medical Director for Research Development & Innovation</p> <p>JA reported that 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.</p> <p>Professor Robert Jones was successful and has taken up the role of Associate Medical Director for RD&I.</p>	
7.0.0	HIGHLIGHT REPORT TO THE TRUST QUALITY SAFETY & PERFORMANCE COMMITTEE	
	<p>Members to identify items to include in the Highlight Report to the Trust Board:</p> <p>For Escalation</p> <ul style="list-style-type: none"> • Nil to report <p>For Assurance</p> <ul style="list-style-type: none"> • TRUST Research, Development and Innovation Performance Report 2021/2022 <p>For Advising</p> <ul style="list-style-type: none"> • Associate Medical Director for Research Development and Innovation <p>For Information</p> <ul style="list-style-type: none"> • Memory Mates – Bringing Nursing Research to Life • Executive Summary Highlight Report • Wales Cancer Research Strategy (CreSt) 	

	<p>The Sub-Committee APPROVED the above items to be included in the Highlight Report to the Quality Safety & Performance Committee.</p> <p>ACTION: ST to support the development of a draft Highlight Report for approval by the Committee Chair.</p>	ST
8.0.0	DATE AND TIME OF THE NEXT MEETING:	
	<p>The date of the next Public Research, Development & Innovation Sub Committee will be held on Thursday 21st July 2022 at 10:00 via Microsoft Teams.</p>	
9.0.0	CLOSE	
	<p>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).</p>	



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RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

RD&I TERMS OF REFERENCE

DATE OF MEETING	21/07/2022	
PUBLIC OR PRIVATE REPORT	Public	
IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report	
PREPARED BY	Sarah Townsend, Head of Research & Development / Emma Stephens, Head of Corporate Governance	
PRESENTED BY	Emma Stephens, Head of Corporate Governance	
EXECUTIVE SPONSOR APPROVED	Jacinta Abraham, Executive Medical Director	
REPORT PURPOSE	ENDORSE FOR COMMITTEE APPROVAL	
COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING		
COMMITTEE OR GROUP	DATE	OUTCOME
ACRONYMS		
RD&I	Research, Development & Innovation	

1. SITUATION / BACKGROUND

- 1.1 The Velindre University NHS Trust Standing Orders form the basis upon which the Trust's governance and accountability framework is developed and, together with the adoption of the Trust's Standards of Behaviour Framework Policy, is designed to ensure the achievement of the standards of good governance set for the NHS in Wales.
- 1.2 All Trust Board members and officers must be made aware of these Standing Orders and, where appropriate, should be familiar with their detailed content.
- 1.3 The purpose of this report is to outline the required changes to the Trust Standing Orders – Schedule 3, resulting from the first Annual Review of the Terms of Reference and Operating Arrangements in respect of the RD&I Sub-Committee, see **Appendix 1**.

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

- 2.1 All members and attendees of the RD&I Sub-Committee were invited to review and propose any amendments required to the Sub-Committee's Terms of Reference. The outcome of this engagement exercise and all feedback received is included at **Appendix 2** for reference. All feedback and comments have been fully incorporated and included in the revised Terms of Reference and Operating Arrangements.
- 2.2 Following endorsement the Terms of Reference will be submitted to the Quality, Safety & Performance Committee and Strategic Development Committee for Approval. Following which these will be presented to the Audit Committee and Trust Board for approval of the necessary revision to the Trust Standing Orders.

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	Yes (Please see detail below)
	Evidence suggests there is correlation between governance behaviours in an organisation and the level of performance achieved at that same organisation. Therefore, ensuring good governance within the Trust can support quality care.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability

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.

4. RECOMMENDATION

- 4.1 The Research, Development and Innovation Sub-Committee is asked to **ENDORSE** for **COMMITTEE APPROVAL** the Terms of Reference.
- 4.2 Subject to **ENDORSEMENT** by the Research, Development and Innovation Sub-Committee, the revised Terms of Reference will then be received at the next meeting of the Quality, Safety and Performance Committee and Strategic Development Committee for **APPROVAL** and recommendation to the Trust Board for **APPROVAL** of the revision to the Trust Standing Orders.
- 4.3 Subject to the necessary approvals being in place as outlined above the revised Standing Orders – Schedule 3 will be uploaded to both the Trust Intranet and Internet sites.

Research, Development & Innovation (RD&I) Sub-Committee

Terms of Reference & Operating Arrangements

Reviewed:	
Approved:	
Next Review Due:	

1. INTRODUCTION

- 1.1 The Trust's standing orders provide that "The Board may and, where directed by the Assembly Government must, appoint Committees of the Trust either to undertake specific functions on the Board's behalf or to provide advice and assurance to the Board in the exercise of its functions. The Board's commitment to openness and transparency in the conduct of all its business extends equally to the work carried out on its behalf by Committees".
- 1.2 The Quality, Safety & Performance Committee, Strategic Development Committee and Charitable Funds Committee have been established by the Board to assist in discharging its functions and meeting its responsibilities with regards to the quality, safety and performance of healthcare, strategic and organisational development and to make and monitor arrangements for the control and management of the Trust's charitable funds.
- 1.3 As part of the aforementioned Committee functions, the **Research, Development & Innovation (RD&I) Sub-Committee** has been established to act as the "front door" for all RD&I business at Board level and will perform the following functions on their behalf:
- oversee and maintains oversight of the RD&I Strategy on behalf of the Strategic Development Committee.
 - oversee the development of an annual implementation plan that operationalises the Strategy and monitor the Division's performance and delivery on behalf of the Quality, Safety & Performance Committee.
 - review and approve business cases for alignment with strategy and funding on behalf of the Charitable Funds Committee.
- 1.4 Research, Development and Innovation are defined as follows:
- **Research and Development**, from a healthcare perspective - refers to systematic investigation and study to generate new knowledge and insight to drive improved patient care.
 - **Innovation**, from a healthcare perspective - refers to the application of original research into new or improved health policies, practices, systems, products and technologies, services or delivery methods for improved patient outcomes.

2. PURPOSE

- 2.1 The purpose of the RD&I Sub-Committee is to:
- Provide strategy and policy oversight for RD&I activities undertaken by the Trust reporting to the Strategic Development Committee.
 - Provide assurance on the performance of RD&I activity reporting to the Quality, Safety & Performance Committee.
 - Promote and encourage a RD&I ethos and culture which is integral to the Trusts vision, mission and values including the identification of new and enhanced funding opportunities to grow the significance and reach of Trust's RDI activities.

- Provide assurance to the Board in relation to the Trust's arrangements for ensuring compliance with the UK Policy Frameworks for Health & Social Care Research as amended from time to time.
- Consider relevant matters with reference to the parameters identified for risk appetite in relation to RD&I as set by the Board.
- The RD&I Sub-Committee is underpinned and informed through the work of a number of Management Groups and Assurance Processes as set out in **Appendix 1**.

3. DELEGATED POWERS AND AUTHORITY

With regards to its role in providing advice to the Board, the Committee will fulfil the following functions:

3.1 Strategy & Policy Development

- Promote and encourage a RD&I ethos and culture within the Trust.
- Oversee the development of all RD&I strategies and implementation plans ensuring the conduct of good quality projects within the Trust's portfolio of RD&I activity.
- Consider the strategic implications for the Trust from the findings arising from national developments, review, audit and/or inspection, and monitor the successful implementation of any actions required resulting from these findings.
- Ensure that matters of strategic development are escalated as appropriate to the Trust Strategic Development Committee and on to Trust Board for assurance and approval as required.

3.2 Strategy & Policy Approval

- Approve policies relevant to the business of the Committee as delegated by the Board.
- Scrutinise RD&I Business cases which exceed the delegated limits of the Chief Executive to consider prior to formal Trust Board approval.

3.3 Monitoring and Review

- The Sub-Committee will, in respect of its assurance role, seek assurance that research governance and innovation arrangements are appropriately designed, implemented and are operating appropriately to ensure the provision of a high-quality RD&I service.
- To achieve this, the Sub-Committee will need assurance that the following aspects of RD&I are being effectively managed:
 - The safety, rights, dignity and wellbeing of participants in Innovation and Research development projects is above all other considerations.
 - There is clear, consistent strategic direction, strong leadership and transparent lines of accountability

- The diversity of the organisation's patients, service users, donors and staff are valued and that their active involvement in the development of Research, Development and Innovation as appropriate.
- There is close collaboration with partner Organisations in higher education to improve quality, promote joint working for best RD&I outcomes and avoid unnecessary duplication of functions. In this respect, the work of RD&I Sub-Committee will be reflected in the agenda and priorities of the Trust's Academic Partnership Board.
- The organisation ensures compliance with appropriate legislation and regulation such as the, UK Policy Framework for Health and Social Care Research 2017 the EU Clinical Trials Directive 2004 as amended, Good Laboratory Practice, Good Manufacturing Practice in manufacturing products for clinical trials and Good Clinical Practice in the conduct of all clinical Research and Innovation activities as appropriate.
- Systems are in place to monitor compliance with regulatory requirements of the Trust as well as organisational standards and to investigate complaints and deal with irregular or inappropriate behaviour in the conduct of Research and Innovation activity.
- Research and Innovation investment and expenditure is accounted for and complies with audit requirements as well as the requirements of external funders or sponsors as appropriate.
- The Committee will scrutinise research and/or innovation proposals and/or business cases that are seeking charitable funding PRIOR to submission to the Charitable Funds Committee, in order to provide assurance on the quality and safety of RD&I related activity.
- When research or innovation findings have commercial potential, the Trust takes action to protect and exploit them in collaboration with its Research and Innovation partners and where appropriate commercial Organisations.

3.4 Access

The Chair of the RD&I Sub-Committee shall have reasonable access to Executive Directors and other relevant senior staff.

4. MEMBERSHIP

Members

4.1 A minimum of two (2) members to include:

Chair	Independent member of the Board (University) or delegated Independent Board member
-------	--

One Independent Member of the Board

Attendees

4.2 In attendance

- Executive Director with responsibility for RD&I currently Medical Director
- Executive Director of Finance or nominated officer with RD&I funding responsibilities
- Associate Medical Director with responsibility for R&D
- Clinical Director (or Nominated Deputy) – Velindre Cancer Centre
- Executive Director of Nursing AHP and Health Sciences
- Director of Corporate Governance
- Trust Head of Innovation
- Head of Velindre Cancer Research Strategy
- Trust Head of Research & Development
- Research Delivery Manager
- Research, Development and Innovation Finance Business Partner
- Representative - Velindre Cancer Centre Strategic Leadership Team
- Representative – Welsh Blood Service SMT Lead for RD&I
- Representative – Welsh Blood Service Lead Clinician for RD&I
- WBS RD&I Facilitation Lead
- Service User/Lay Representatives
- Staff Side Representative

4.3 **By invitation**

The Sub-Committee Chair may extend invitations as required to the following:

- Head of Information Governance (in advisory capacity)
- Divisional Directors
- Representatives of stakeholder organisations

As well as others internal or external to the Organisation who the Sub-Committee consider should be in attendance, taking account of the matters under consideration at each meeting.

4.4 **Secretariat**

As determined by the Director of Corporate Governance.

4.5 **Member Appointments**

Members shall be appointed for a maximum of 3 consecutive years before formally reviewing their role on the Committee. During this time a member may resign or be removed by the Board.

4.6 **Support to Committee Members**

The Director of Corporate Governance on behalf of the Committee Chair shall:

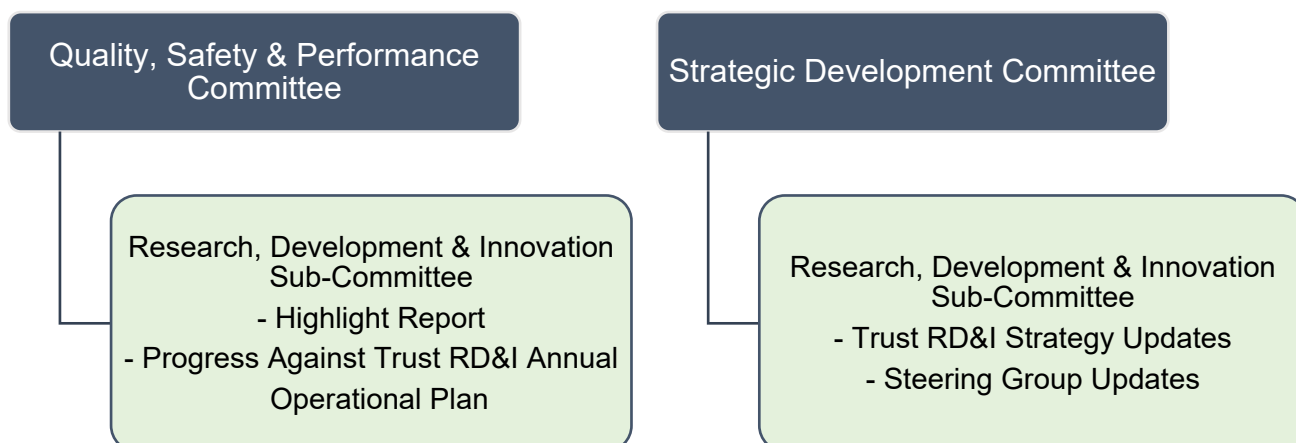
- Arrange the provision of advice and support to Committee members on any aspect related to the conduct of their role: and
- Ensure the provision of a programme of Organisational development for Committee members as part of the Trust's overall OD programme developed by the Director of Workforce and Organisational Development.

5. SUB-COMMITTEE MEETINGS

5.1 The Committee has, with approval of the Trust Board, established the:

- Research, Development & Innovation Sub-Committee

The Sub-Committee will have a dual reporting line to both the Quality, Safety and Performance Committee and the Strategic Development Committee as follows :



Although the Research, Development & Innovation Sub-Committee, is a sub-committee with dual reporting lines, it will both retain the delegated authority for decision making granted to the current committee by Trust Board. Further details regarding delegated powers and authority are set out in each of the Sub-Committee Terms of Reference.

The Research, Development & Innovation Sub-Committee is also accountable to the Trust Charitable Funds Committee in relation to ensuring business cases are aligned with RD&I strategy and Trust's strategic objectives. Further details are set out in each of the respective Terms of Reference. In addition, the wider governance and accountability reporting arrangements in place at a divisional level that feed upwards into the RD&I Sub-Committee structure are also summarised at **Appendix 1**.

5.1 Quorum

At least two members must be present to ensure the quorum of the Committee, one of whom should be the Committee Chair. If the Chair is not present an agreement as to who will Chair from the Independent Members in their absence.

5.2 Frequency of Meetings

Meetings shall be held no less than four times a year and otherwise as the Chair of the Committee deems necessary – consistent with the Trust's annual plan of Board Business.

5.3 Withdrawal of individuals in attendance

The Committee may ask any or all of those who normally attend but who are not members to withdraw to facilitate open and frank discussion of particular matters.

6. RELATIONSHIPS & ACCOUNTABILITIES WITH THE BOARD AND ITS COMMITTEES/GROUPS

- 6.1 Although the Board has delegated authority to the Sub-Committee for the exercise of certain functions as set out within these terms of reference, it retains overall responsibility and accountability for the safety, security and use of information to support the quality and safety of healthcare for its citizens through the effective governance of the Organisation.
- 6.2 The Sub-Committee is directly accountable to the Quality, Safety and Performance Committee, Strategic Development Committee and Charitable Funds Committee for its performance in exercising the functions set out in these terms of reference.
- 6.3 The Sub-Committee shall embed the Trust's corporate objectives, priorities, and requirements, e.g., equality and human rights through the conduct of its business.

7. REPORTING AND ASSURANCE ARRANGEMENTS

- 7.1 The Committee Chair shall:

Report formally, to the:

- i. Quality, Safety & Performance Committee on the performance and delivery of RD&I quarterly.
- ii. Strategic Development Committee Board on strategic development and updates to the RD&I Strategy quarterly and
- iii. Charitable Funds Committee to recommend for approval business cases aligned with the RD&I Strategy and Trust's overarching strategic objectives.

- 7.2 The Sub-Committee shall receive:

- i. A briefing from the Executive Medical Director with responsibility for RD&I
- ii. A quarterly RD&I Integrated Performance Report (following presentation at EMB)
- iii. A quarterly Highlight Report from the Advancing Radiotherapy Fund Programme Board on the activity of the programme.

- 7.3 The Director of Corporate Governance, on behalf of the Board, shall oversee a process of regular and rigorous self-assessment and evaluation of the Committee's performance and operation including that of any Sub Committees established.

8. APPLICABILITY OF STANDING ORDERS TO COMMITTEE BUSINESS

- 8.1 The requirements for the conduct of business as set out in the Trust's Standing Orders are equally applicable to the operation of the Sub-Committee.

9. REVIEW

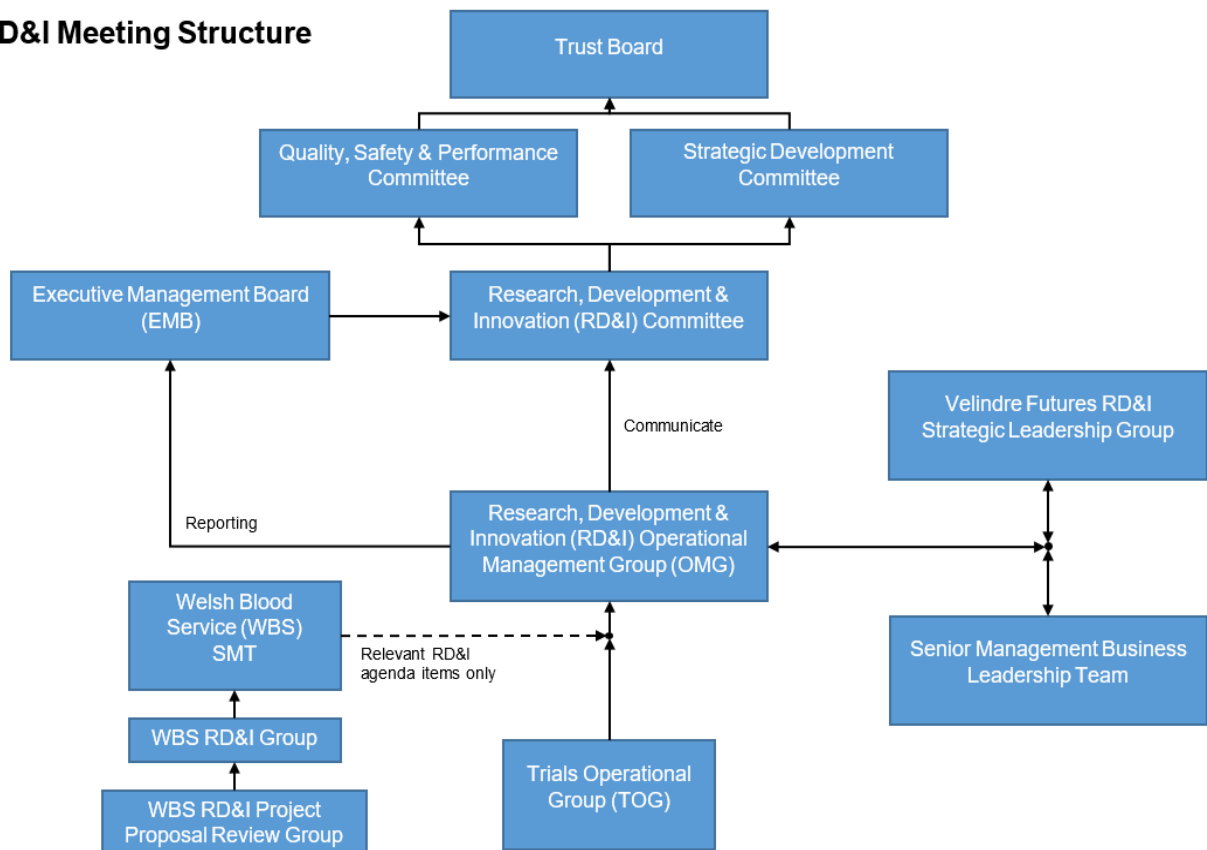
9.1 These terms of reference and operating arrangements shall be reviewed annually by the Sub-Committee with reference to the Board.

10. CHAIR'S ACTION ON URGENT MATTERS

- 10.1 There may, occasionally, be circumstances where decisions which would normally be made by the Sub-Committee need to be taken between scheduled meetings. In these circumstances, the Sub-Committee Chair, supported by the Director of Corporate Governance as appropriate, may deal with the matter on behalf of the Board, after first consulting with two other Members of the Sub-Committee. The Director of Corporate Governance must ensure that any such action is formally recorded and reported to the next meeting of the Sub-Committee for consideration and ratification.
- 10.2 Chair's urgent action may not be taken where the Chair has a personal or business interest in the urgent matter requiring decision.

APPENDIX 1

RD&I Meeting Structure





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Ymddiriedolaeth GIG
Prifysgol Felindre
Velindre University
NHS Trust

Research, Development & Innovation (RD&I) Sub-Committee ~~(RD&I)~~

Terms of Reference
&
Operating Arrangements

Approved:

Next Review Due:

~~October 2021~~

1. ~~1.~~ INTRODUCTION

- 1.1 ~~Within 3.1.1 of the~~ The Trust's standing orders ~~it provides~~provide that "The Board may and, where directed by the ~~Welsh Ministers~~Assembly Government must, appoint Committees of the Trust either to undertake specific functions on the Board's behalf or to provide advice and assurance to the Board in the exercise of its functions. ~~The Board's commitment to openness and transparency in the conduct of all its business extends equally to the work carried out on its behalf by Committees~~".
- 1.2 The Quality, Safety & Performance Committee, Strategic Development Committee and Charitable Funds Committee have been established by the Board to assist in discharging its functions and meeting its responsibilities with regards to the quality, safety and performance of healthcare, strategic and organisational development and to make and monitor arrangements for the control and management of the Trust's charitable funds.
- 1.3 As part of the aforementioned Committee functions, the **Research, Development & Innovation (RD&I) Sub-Committee** has been established to act as the "front door" for all RD&I business at Board level and will perform the following functions on their behalf:
- ~~oversee and maintains oversight of the RD&I Strategy on behalf of the Strategic Development Committee.~~
 - i. ~~oversee the development of an annual implementation plan that operationalises the Strategy and~~ monitor the Division's performance and delivery of RD&I on behalf of the Quality, Safety & Performance Committee;
 - ii. ~~develop the RD&I Strategy on behalf of the Strategic Development Committee; and~~
 - iii. ~~review and approve business cases for alignment with strategy and funding on behalf of the Charitable Funds Committee.~~
- 1.4 Research, Development and Innovation ~~and Research~~ are defined as follows:
- ~~Innovation – is the exploration of emerging technologies and / or processes that positively impact~~ Research and Development, from a healthcare by improving the care experience, individual perspective - refers to systematic investigation and population health, and reducing costs.
 - ~~Research – is designed and conducted~~ study to generate new knowledge; and insight to drive improved patient care.
 - ~~Innovation, from a healthcare perspective - refers to the application of original research into new or improved health policies, practices, systems, products and technologies, services or delivery methods for improved patient outcomes.~~
 -

2. ~~2.~~ PURPOSE

- 2.1 The purpose of the RD&I Sub-Committee is to ~~provide~~:

- ~~Strategy~~Provide strategy and ~~Policy~~policy oversight for ~~Research, Development and Innovation~~RD&I activities ~~at~~undertaken by the Trust ~~—and for any Strategy that requires Board approval this to then be taken~~reporting to the ~~Trust~~ Strategic Development Committee.
- ~~—Receive~~Provide assurance on the ~~monitoring of~~ performance ~~—[through Quality lens]~~
- ~~[Exception of RD&I activity reporting] and as defined by~~ to the Quality, Safety and Performance Committee, ~~elements of this performance monitoring assurance may need to also be taken there—according to performance, quality, assurance frameworks and exception reporting criteria for that Committee.~~
- ~~Promotion~~Promote and ~~encouragement of~~encourage a ~~Research and Innovation~~RD&I ethos and culture, which is integral to the Trusts vision, mission and values including the identification of new and enhanced funding opportunities to grow the significance and reach of Trust's RDI activities.
- ~~Assurance~~Provide assurance to the Board in relation to the Trust's arrangements for ensuring compliance with the UK Policy Frameworks for Health & Social Care Research as amended from time to time.
- ~~Consideration of~~Consider relevant matters with reference to the parameters identified for risk appetite in relation to ~~research, development and innovation~~RD&I as set by the Board.
- The RD&I Sub-Committee is underpinned and informed through the work of a number of Management Groups and Assurance Processes as set out in **Appendix 1.**

3. DELEGATED POWERS AND AUTHORITY

With regards to its role in providing advice to the Board, the ~~Sub~~-Committee will fulfil the following functions:

3.1 Strategy & Policy Development

- Promote and encourage ~~an Innovation and Research~~a RD&I ethos and culture within the Trust.
- Oversee the development of all ~~Research and Innovation~~RD&I strategies and implementation plans ensuring the conduct of good quality projects within the Trust's portfolio of ~~Innovation and Research~~RD&I activity.
- Consider the strategic implications for the Trust from the findings arising from national developments, review, audit and/or inspection, and monitor the successful implementation of any actions required resulting from these findings.
- ~~Matters~~Ensure that matters of ~~Strategic~~strategic development ~~for the assurance and all approval of the Trust Board to be~~are escalated as appropriate to ~~the~~ Trust Strategic Development Committee and, ~~as appropriate,~~ on to Trust Board for assurance and approval as required.

3.2 Strategy & Policy Approval

- Approve policies relevant to the business of the ~~Sub~~-Committee as delegated by the Board.
- Scrutinise ~~Research and Innovation~~RD&I Business cases which exceed the delegated limits of the Chief Executive to consider prior to formal Trust Board approval.

3.3 Monitoring and Review

- The Sub-Committee will, in respect of its assurance role, seek assurance that research governance and innovation arrangements are appropriately designed, implemented and are operating appropriately to ensure the provision of a high-quality ~~Innovation and Research~~RD&I service.
- To achieve this, the Sub-Committee will need assurance that the following aspects of ~~Research and Innovation development~~RD&I are being effectively managed:
 - The safety, rights, dignity and wellbeing of participants in Innovation and Research development projects is above all other considerations.
 - There is clear, consistent strategic direction, strong leadership and transparent lines of accountability.
 - The diversity of the organisation's patients, service users, donors and staff ~~is~~are valued and that their active ~~participation~~involvement in the development, ~~undertaking of~~ Research, Development and ~~use of~~ Innovation ~~and Research is promoted~~as appropriate.
 - There is close collaboration with partner Organisations in higher education to improve quality, promote joint working for best RD&I outcomes and avoid unnecessary duplication of functions. In this respect, ~~the~~ RD&I Sub-Committee will be reflected in the agenda and priorities of the Trust's Academic Partnership Board.
 - The ~~Organisation~~organisation ensures compliance with appropriate legislation and regulation such as the, UK Policy Framework for Health and Social Care Research 2017, the EU Clinical Trials Directive 2004 as amended, Good Laboratory Practice, Good Manufacturing Practice in manufacturing products for clinical trials and Good Clinical Practice in the conduct of all clinical Research and Innovation ~~and Research~~ activities as appropriate.
 - Systems are in place to monitor compliance with regulatory requirements of the Trust as well as organisational standards and to investigate complaints and deal with irregular or inappropriate behaviour in the conduct of Research and Innovation ~~and Research~~ activity.
 - Research and Innovation investment and expenditure is accounted for and complies with audit requirements ~~and~~as well as the requirements of external funders or sponsors as appropriate.

- The Committee will scrutinise research and/or innovation proposals and/or business cases that are seeking charitable funding PRIOR to submission to the Charitable Funds Committee, in order to provide assurance on the quality and safety of RD&I related activity.
- When research or innovation findings have commercial potential, the Trust takes action to protect and exploit them in collaboration with its Research and Innovation ~~and Research~~ partners and where appropriate commercial Organisations.

3.4 Access

The Chair of the RD&I Sub-Committee shall have reasonable access to Executive Directors and other relevant senior staff.

4. ~~4.~~ MEMBERSHIP

~~4.1~~ Members

4.1 A minimum of two (2) members to include:

_____ Chair _____ Independent member of the Board (~~Non-Executive Director~~University) or _____ delegated Independent Board member

_____ One ~~independent member~~Independent Member of the Board (~~Non-Executive Director~~)

~~4.2~~ Attendees

4.2 In attendance

- Executive Director with responsibility for RD&I currently Medical Director
- Executive Director of Finance or nominated officer with RD&I funding responsibilities
- Associate Medical Director with responsibility for R&D

- Clinical Director (or Nominated Deputy) – Velindre Cancer Centre
- Executive Director of Nursing, AHP and Health Sciences
- Director of Corporate Governance
- Trust Head of RD&I Innovation
- Head of Velindre Cancer Research Strategy
- Trust Head of Research & Development
- Research Delivery Manager
- Research, Development and Innovation Finance Business Partner
- Representative - Velindre Cancer Centre Strategic Management Leadership Team
- Representative – Welsh Blood Service Strategic Management Team SMT Lead for RD&I
- Representative – Welsh Blood Service Lead Clinician for RD&I
- WBS RD&I Facilitation Lead
- ~~Trust Head of Research & Development~~
- Service User/Lay ~~representatives~~ Representatives
- Staff Side Representative

4.3 By invitation

The Sub-Committee Chair may extend invitations as required to the following:

- Head of Information Governance ~~Manager~~ (in advisory capacity)
- Divisional Directors
- Representatives of stakeholder ~~Organisations~~ organisations

As well as others ~~from within~~ internal or ~~outside~~ external to the Organisation who the Sub-Committee consider should ~~attend~~ be in attendance, taking account of the matters under consideration ~~of~~ at each meeting.

4.4 Secretariat

As determined by the Director of Corporate Governance.

4.5 Member Appointments

Members shall be appointed for a maximum of 3 consecutive years before formally reviewing their role on the ~~Sub~~-Committee. During this time a member may resign or be removed by the Board.

4.6 Support to Committee Members

The Director of Corporate Governance on behalf of the ~~Sub~~-Committee Chair shall:

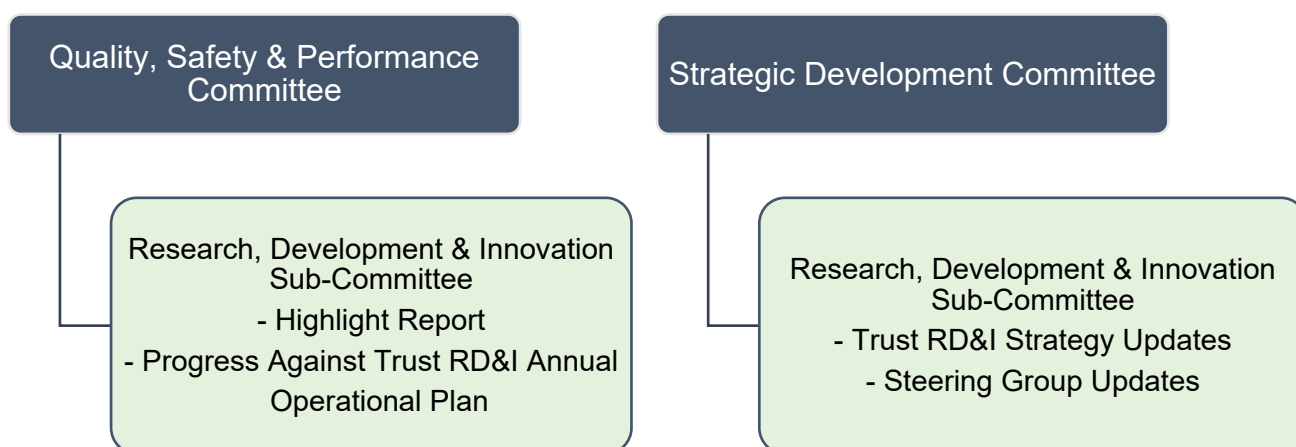
- Arrange the provision of advice and support to **Sub-Committee** members on any aspect related to the conduct of their role: and
- Ensure the provision of a programme of Organisational development for **Sub-Committee** members as part of the Trust's overall OD programme developed by the Director of Workforce and Organisational Development.

5. **5. SUB-COMMITTEE MEETINGS**

5.1 The Committee has, with approval of the Trust Board, established the:

- Research, Development & Innovation Sub-Committee

The Sub-Committee will have a dual reporting line to both the Quality, Safety and Performance Committee and the Strategic Development Committee as follows :



Although the Research, Development & Innovation Sub-Committee, is a sub-committee with dual reporting lines, it will both retain the delegated authority for decision making granted to the current committee by Trust Board. Further details regarding delegated powers and authority are set out in each of the Sub-Committee Terms of Reference.

The Research, Development & Innovation Sub-Committee is also accountable to the Trust Charitable Funds Committee in relation to ensuring business cases are aligned with RD&I strategy and Trust's strategic objectives. Further details are set out in each of the respective Terms of Reference. In addition, the wider governance and accountability reporting arrangements in place at a divisional level that feed upwards into the RD&I Sub-Committee structure are also summarised at **Appendix 1.**

5.1 **Quorum**

At least two members must be present to ensure the quorum of the ~~Sub~~-Committee, one of whom should be the ~~Sub~~-Committee Chair. If the Chair is not present an agreement as to who will ~~chair~~Chair from the Independent Members in their absence.

5.2- Frequency of Meetings

Meetings shall be held no less than four times a year and otherwise as the Chair of the ~~Sub~~-Committee deems necessary – consistent with the Trust's annual plan of Board Business.

5.3 Withdrawal of individuals in attendance

The ~~Sub~~-Committee may ask any or all of those who normally attend but who are not members to withdraw to facilitate open and frank discussion of particular matters.

6. ~~6.~~ RELATIONSHIPS & ACCOUNTABILITIES WITH THE BOARD AND ITS COMMITTEES/GROUPS

6.1 Although the Board has delegated authority to the Sub-Committee for the exercise of certain ~~functions~~ as set out within these terms of reference, it retains overall responsibility and ~~accountability~~ for the safety, security and use of information to support the quality and ~~safety~~ of healthcare for its citizens through the effective governance of the Organisation.

6.2 The Sub-Committee is directly accountable to the Quality, Safety and Performance Committee, Strategic Development Committee and Charitable Funds Committee for its performance in exercising the functions set out in these terms of reference.

6.3 The Sub-Committee shall embed the Trust's corporate objectives, priorities, and requirements, e.g., equality and human rights through the conduct of its business.

7. ~~7.~~ REPORTING AND ASSURANCE ARRANGEMENTS

7.1 ~~7.1~~—The ~~Sub~~-Committee Chair shall:

- Report formally, to the:
 - i. Quality, Safety & Performance Committee ~~by exception~~ on the performance and delivery of RD&I; quarterly.
 - ii. Strategic Development Committee Board on strategic development and updates to the RD&I Strategy; quarterly and
 - iii. Charitable Funds Committee to recommend for approval business cases aligned with the RD&I Strategy and Trust's overarching strategic objectives.

7.2 The Sub-Committee shall receive:

- i. A briefing from the Executive Medical Director with responsibility for RD&I
- ii. A quarterly RD&I Integrated Performance Report (following presentation at EMB)

- iii. A quarterly Highlight Report from the Advancing Radiotherapy Fund Programme Board on the activity of the programme.

- 7.3 The Director of Corporate Governance, on behalf of the Board, shall oversee a process of regular and rigorous self-assessment and evaluation of the ~~Sub~~-Committee's performance and operation including that of any Sub Committees established.

8. ~~8.~~ **APPLICABILITY OF STANDING ORDERS TO COMMITTEE BUSINESS**

- 8.1- The requirements for the conduct of business as set out in the Trust's Standing Orders ~~are~~ equally applicable to the operation of the Sub-Committee.

9. ~~9.~~ **REVIEW**

- 9.1 ~~9.1~~ — These terms of reference and operating arrangements shall be reviewed annually by ~~the~~ Sub-Committee with reference to the Board.

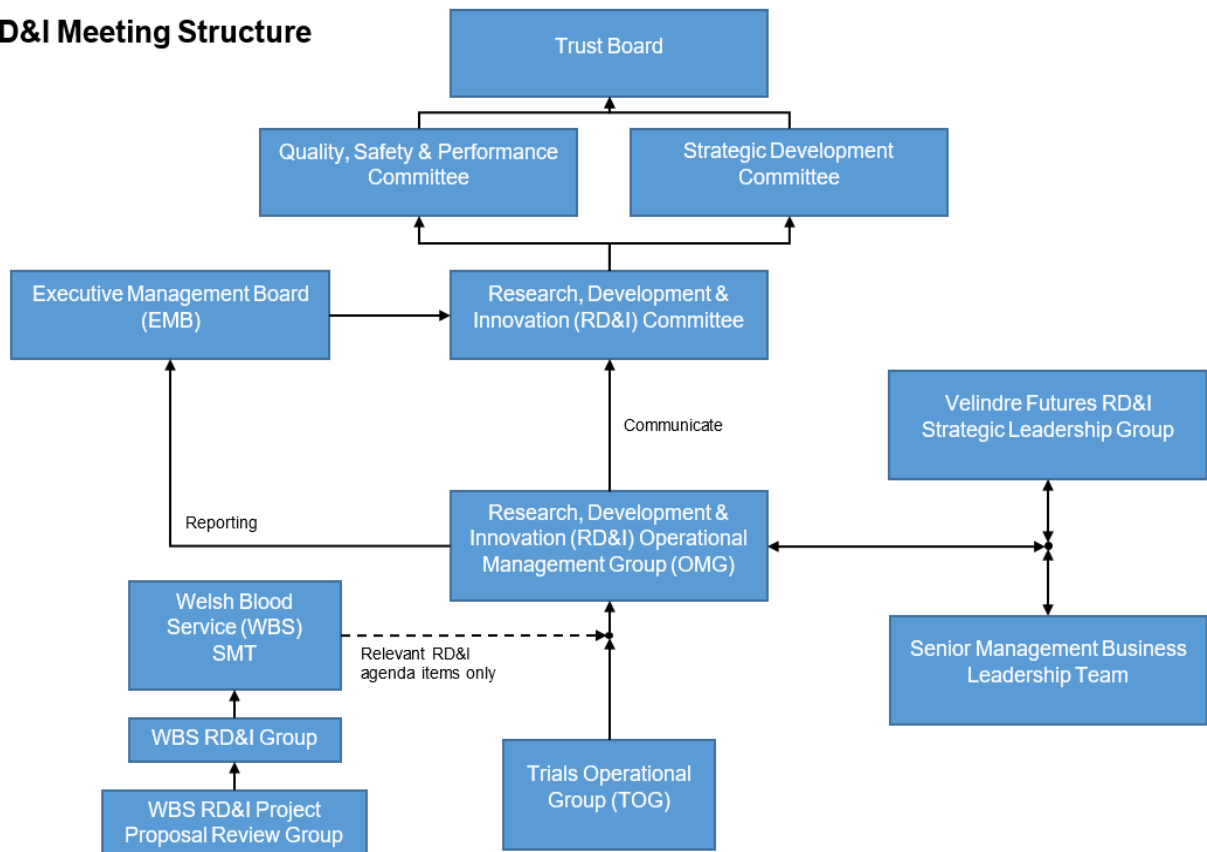
~~10.~~

10. **CHAIR'S ACTION ON URGENT MATTERS**

- 10.1 There may, occasionally, be circumstances where decisions which would normally be made by the Sub-Committee need to be taken between scheduled meetings. In these circumstances, the Sub-Committee Chair, supported by the Director of Corporate Governance as appropriate, may deal with the matter on behalf of the Board, after first consulting with two other Members of the Sub-Committee. The Director of Corporate Governance must ensure that any such action is formally recorded and reported to the next meeting of the Sub-Committee for consideration and ratification.
- 10.2 Chair's urgent action may not be taken where the Chair has a personal or business interest in the urgent matter requiring decision.

APPENDIX 1

RD&I Meeting Structure



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

Date 07/04/2022
Time 16:15-17:00
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		
Dr Jacinta Abraham	Executive Medical Director and R&D Lead	JA
Matthew Bunce	Executive Director of Finance	MB
Christopher Moreton	Deputy Director of Finance	CM
Professor Jane Hopkinson	Velindre Cancer Centre Professor of Nursing and Interdisciplinary Cancer Care	JH
Edwin Massey	Deputy Medical Director, Welsh Blood Service	EM
Peter Richardson	SMT Lead RD&I , Welsh Blood Service	AP
Robyn Davies	Head of Innovation	RD
Jonathan Patmore	RD&I Finance Business Partner	JP
Emma Stephens	Head of Corporate Governance	ES
Sarah Townsend	Head of Research & Development	ST
Libby Batt	Head of R&D Cancer Strategy	LB
SECRETARIAT		
Sandra Cusack	Business Support Officer	SMC

1.0.0	STANDARD BUSINESS	
	Welcome & Introduction Andrew Westwell welcomed everyone to the Private RD&I Sub-Committee Meeting.	
1.1.0	Apologies were received from : <ul style="list-style-type: none"> • Steve Ham, Chief Executive Officer • Eve Gallop-Evans, Consultant, Velindre Cancer Service • Paul Wilkins, Interim Director of Velindre Cancer Service • Huw Llewellyn, TCS Project Director 	
1.2.0	In Attendance <ul style="list-style-type: none"> • Dr Tom Rackley, Consultant (Item 3.1.1) • Dr Robert Jones, Consultant (Item 3.1.2) • Carl James / Phil Hodson (Item 3.1.3) 	
1.3.0	Declarations of Interest Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee There was no declaration of interests.	
1.4.0	Matters Arising – Action Log Led by Dr Jacinta Abraham, Executive Medical Director 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 Committee held on the 13th January 2022 Led by Professor Andrew Westwell, Chair of the Research, Development & Innovation Sub-Committee The Sub-Committee APPROVED the Minutes of the Private Meeting held on the 13th January 2022 as a true and accurate record.	
3.0.0	MAIN AGENDA	
3.1.0	BUSINESS CASE EXPENDITURE PROPOSALS	
3.1.1	PEARL CLINICAL TRIAL : EXTENSION OF CONSULTANT CLINICAL LEAD SESSIONS Led by Dr Tom Rackley, Consultant TR 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	

	<p>to the Charitable Funds Committee for their consideration and approval to be funded by the Velindre Charity.</p> <p>The Sub-Committee ENDORSED FOR SUBMISSION to the Charitable Funds Committee.</p>	
3.1.2	<p>EARLY PHASE TRIALS: MEDICAL SESSIONS FOR THE APPOINTMENT OF A NEW ACADEMIC MEDICAL ONCOLOGIST IN PARTNERSHIP WITH CARDIFF UNIVERSITY FUTURE</p> <p>Led by Dr Robert Jones, Consultant</p> <p>RJ 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.</p> <p>The Sub-Committee ENDORSED FOR SUBMISSION to the Charitable Funds Committee.</p>	
3.1.3	<p>CARDIFF CANCER RESEARCH HUB: COMMISSIONING AN INVESTMENT STRATEGY</p> <p>Led by Libby Batt, Head of R&D Cancer Strategy</p> <p>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, this proposal would then be submitted to the Charitable Funds Committee for their consideration and approval to be funded by the Velindre Charity.</p> <p>ACTION: Further meetings with the Finance Team required to discuss the leadership aspects, shaping the scope of the work and to drive forward this project prior to submission to the CFC.</p> <p>The Sub-Committee APPROVED FOR SUBMISSION to the Charitable Funds Committee.</p>	LB
4.0.0	<p>DATE AND TIME OF THE NEXT MEETING:</p> <p>The date of the next Private Research, Development & Innovation Sub Committee will be held on Thursday 21st July 2022 at 12:00 via Microsoft Teams.</p>	
5.0.0	CLOSE	

RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

Executive Briefing to RD&I Sub-Committee

DATE OF MEETING	21 July 2022
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PUBLIC OR PRIVATE REPORT	Public
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IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report
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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
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COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING

COMMITTEE OR GROUP	DATE	OUTCOME

ACRONYMS

ASCO	American Society of Clinical Oncology
BBTS	British Blood Transfusion Society

BEST	Biomedical Excellence for Safer Transfusion
BSC	Blood Supply Chain
CEO	Chief Executive Officer
CReSt	Cancer Research Strategy for Wales
EMB	Executive Management Board
FY	Financial Year
HEI	Higher Education Institution
IISE	Institute of Industrial and Systems Engineers
IMTP	Integrated Medium-Term Plan
JET	Joint Executive Team
KESS	Knowledge Economy Skills Scholarship
Q	Quarter
R&D	Research & Development
RD&I	Research, Development & Innovation
UHB	University Health Board
WBS	Welsh Blood Service

1. SITUATION / BACKGROUND

The purpose of this paper is to report a high-level update on Research, Development & Innovation activities taking place in Quarter (Q) 1 of Financial Year (FY) 2022/23 introduce the Activity Data Benchmarking with other UK Cancer Centres presentation.

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

2.1. Welsh Blood Service

2.1.1. Using advanced mathematics to plan clinics

A Welsh Blood Service (WBS) research project used mathematical modelling to propose optimised clinic plans and resource utilisation to maximise flow and efficiency whilst maintaining excellent standards of donor service and ensuring equity of donation opportunities for donors. Emily Williams has been awarded her doctorate for her healthcare modelling research into the supply and demand of blood products with the aim of developing an automated decision support tool that optimises blood collection clinic selection.

Emily was a doctorate student through a joint Knowledge Economy Skills Scholarship between the Welsh Blood Service and Cardiff Metropolitan University. Her research has been part of our Donor RD&I theme since 2017 and was supervised by our interim BSC lead, Jayne Davey.

The research aimed to improve alignment of blood product supply to demand, thus reducing waste and ensuring sufficient amounts of the right blood products are available for patient needs. The work uses algorithms to evaluate historical clinic data and produce automated clinic planning options.

The literature review for this research was published in the journal IISE Transactions on Healthcare Systems Engineering in 2020. Emily also received the 'Best Presentation by an Early Career Researcher' award at the Operational Research Applied to Health Services conference in 2019.

2.1.2. New ways to store platelets

As part of a second KESS 2 studentship conducted with Cardiff Metropolitan University, Jamie Nash has conducted the research as part of the Welsh Blood Service's RD&I Products theme, with Jamie's supervisor at WBS being Dr Christine Saunders.

The research project investigated a range of new approaches to assess the viability and functionality of platelets in different storage conditions. A particular aspect of the work looked at extracellular vesicles in platelet components. These small particles

shed by platelets may play an important role in transfused platelet units' ability to stop bleeding.

Finding alternatives to our current standard-of-care room temperature storage has the potential to benefit patients requiring transfusion. Cold-stored platelets may have improved haemostasis and less risk of bacterial contamination, resulting in a safer and more effective transfusion for patients in trauma settings.

Various elements of the research have been publicised at conferences and in external publications. Jamie has presented at the BBTS Annual General Meeting in 2019 and most recently at the BEST Collaborative Spring 2022 Meeting, after winning their prestigious Scott Murphy award.

2.2. Research and Development

2.2.1. Cancer Research Strategy for Wales (CReSt)

The first-ever coordinated Cancer Research Strategy for Wales (CReSt), which will bring together the whole research community in the fight against cancer, was published on 6th July 2022.

The strategy has been developed by Health and Care Research Wales, the Wales Cancer Network, and the Wales Cancer Research Centre, as well as groups across Wales who want to improve cancer diagnosis and treatment, including patients, members of the public and cancer researchers. Importantly, it also builds on key strategic advice received from a panel of external experts.

The strategy focuses on six priority research themes where there is already a track record of excellence in Wales that can be developed further to be internationally leading:

- Precision and mechanistic oncology - looking at how genetics can affect who gets cancer, how that cancer behaves, and finding ways to treat cancers with particular genetic 'signatures'
- Immuno-oncology - understanding how our bodies' immune responses change when cancer develops, and finding ways to use the immune system to help fight cancer
- Radiotherapy - exploring how radiotherapy can kill cancer cells while limiting the impact on the rest of the body

- Cancer clinical trials - bringing promising new treatments to patients in trials and testing new ways of giving existing treatments
- Palliative and supportive oncology - finding the best ways to look after patients with cancer, such as pain control, side effect management and mental health support
- Population health-based cancer prevention, early diagnosis, primary care, and health services research - finding new ways to prevent cancer and detect it early and making sure that health services in Wales are underpinned by strong science.

2.2.2. Joint Executive Team Meeting

The Trust's End of Year Joint Executive Team meeting took place with Welsh Government's Director General Health and Social Services / NHS Wales Chief Executive on 16 June 2022.

The Trust presented its performance across its responsibilities and accountabilities in 2021/22 as well as learning from the past year, describing plans for ensuring the learning is taken on board going forward.

There was an opportunity to present RD&I highlights and an update from FY2021/22.

The Trust's presentation at the meeting placed an emphasis on resetting the organisation to meeting demands, as well as also balancing ambition with the organisation's capacity.

2.2.3. University Designation Status

The Trust participated in a Triennial review and presentation of its University status in the summer of 2021. Welsh Government communicated at this point that how there would be oversight of each Health organisation's university status would be developing from the set piece triennial review and presentation process into the emphasis instead being on embedding the principles of the university status throughout the organisation

Welsh Government have advised that there will be a report required from the Trust in September 2022 to summarise the progress made in this respect. The Trust has met with Welsh Government for an initial briefing meeting of this requirement and scope of the report.

The Trust is proposing a working group is established, with representatives from across the Trust by division/ function and across the three pillars of university designation: Innovation, Training and Education and Research and Development.

Links with Trust's academic and wider strategic partners is also being considered.

Discussions of the proposed membership and structure of this group will take place at an EMB Shape meeting and will include consideration of the outline and approach to the report submission to Welsh Government.

2.2.4. University Designation Showcase Event

The Trust was invited to attend the University Health Board and Trust Designation Showcase Event on 30 June 2022.

This was an opportunity for the Trust to demonstrate strong, dynamic, and evolving partnerships with both the HEI and industry sector showcasing some great examples of good practice. It also provided the opportunity to discuss with colleagues across the NHS and university sector some of the barriers to success and bring some collective thought on how together we address those challenges.

This showcase event was also organised to support organisations in their preparations for submitting University Designation Status report in September 2022, to provide further clarity on expectations, learn from other organisations and discuss issues.

The Trust was asked to send two examples of activities that illustrate a transformative or accelerated change undertaken or an activity that has brought added benefit in strengthening the Trust's university designated status.

The Trust's examples were:

- Professor Mererid Evans presenting on the Cardiff Cancer Research Centre – A Tripartite Partnership.
- Chloë George presenting on Right Here, Right Now Right Blood The continuing challenge for Transfusion Medicine.

2.2.5. Cardiff Cancer Research Hub

The Cardiff Cancer Research Hub Clinical Output Model has been agreed by the Tripartite Partnership Board and approved by each organisation. The branding of the

hub is under discussion and the communication teams from each of the organisations will be involved.

A sustainable investment strategy is in development, with short-term funding secured within the Trust to recruit staff.

The high-risk Early Phase Trial portfolio for solid tumours includes:

- Two studies in set-up.
- Two studies where VUNHST has been selected as a site.

The first solid tumour Advanced Therapy research study is in set-up.

2.2.6. **FAKTION**

Prof Rob Jones reported the Trust sponsored FAKTION trial's latest data at American Society of Clinical Oncology (ASCO) conference on 04 June 2022. This was also published simultaneously in the prestigious Lancet Oncology journal.

This builds on 2019 FAKTION trial data findings that by combining capivasertib with a standard hormonal treatment, in this instance fulvestrant, patients may expect their cancer to be controlled for more than 10 months rather than under five months with the current standard care.

New evidence from Phase 2 of the FAKTION trial looks primarily at how long patients can expect to live for and if the genetic makeup of their cancer influences this.

Over half of patients in the trial were identified as having a specific mutation in their cancer specimen which activated the AKT pathway. Patients in this group who were treated with the combination of capivasertib and fulvestrant lived for around 39 months compared to 20 months if given fulvestrant and a placebo.

This is a significant 19 (exact figure = 18.9) months extension in overall survival.

2.2.7. **One Site Wales**

Velindre University NHS Trust led the coordination across Wales of a research study sponsored by University of Oxford, to assess a multi-cancer early detection test – the SYMPLIFY study. 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 opened to recruitment at 19 district hospitals across six health boards. The study was coordinated from the Trust R&D Office by Sarah Townsend, Head of Research & Development and Christopher Cotterill-Jones, Research Delivery Manager.

Having coordinated the study under the “One Site Wales”, the Trust working in collaboration with six health boards 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 has been invited to send representatives to a Health and Care Research Wales “One Site Wales” group to facilitate shared learning and experience to help further develop the process.

2.2.8. **MediWales Connects**

Trust RD&I were invited to take part in the delivery of two sessions at the MediWales Connects 2022 conference on 29 June 2022. The sessions were:

- **Workshop: Health and Care Research Wales – Excellence in Research Delivery**

The session of four panel members looked at how a One Wales approach to research delivery that has allowed sponsors, researchers, NHS staff and patients to collaborate to achieve research excellence with tangible patient benefit throughout the COVID-19 pandemic. The delivery model has since been adapted and applied beyond the pandemic context, for example in cancer diagnostics and it continues to provide an ambitious blueprint for research delivery that meets the UK vision and reaches patients and participants throughout Wales.

Each panel member gave feedback on their experiences of using the One Wales approach, with the Trust’s Head of Research and Development, Sarah Townsend, discussing the Trust’s experience in using and adapting the “One Site Wales” approach for delivery of the SYMPLIFY study.

- **Parallel Session 4: Cancer – Patient Engagement**

This parallel session focused on patient centred care, discussing ways to talk to cancer patients about their experience while receiving treatment and the ways in which we can better support the cancer patient journey. The session was chaired by the Trust’s Head

of Innovation, Robyn Davies and there were contributions from the Trust's Chief Operating Officer, Cath O'Brien and Innovation Project Manager, Ross McLeish

2.2.9. **Moondance Cancer Awards**

Velindre was shortlisted for the following awards with RD&I involvement at the Moondance Cancer Awards 2022.

- **Category: Achievement: Award: Response to COVID**
COVID19 vaccine and cancer study (Cardiff University, Velindre, Wales Cancer Bank)
- **Category: Pioneering Innovation: Award: Innovation in early detection & diagnosis**
The SYMPLIFY Study (Swansea Bay, Velindre, Health & Care Research Wales)

The Moondance Cancer Awards 2022 ceremony took place on 16 June 2022. The SYMPLIFY study won the award for Innovation in early detection and diagnosis in the Pioneering Innovation category.

Judi Rhys – CEO Tenovus Cancer Care presented the award and said “This was a world class shortlist, with 6 fantastic nominations for us to consider but the panel did feel like one stood out ...”

Sarah Townsend, Health of Research & Development and Christopher Cotterill-Jones, Research Delivery Manager, along with colleague from Health and Care Research Wales, accepted the award on behalf of all who took part in the SYMPLIFY study.

2.2.10. **Integrated Medium-Term Plan**

The Trust's Integrated Medium-Term Plan (IMTP) has been updated for 2022 to 2025. One of the Trust's strategic goals is to be “A beacon for research, development and innovation.”

The IMTP has been updated with the following RD&I strategic priorities in support of the strategic goal:

- The Trust will drive forward the implementation of its Cancer Research and Development Ambitions 2021-2031.
- The Trust will maximise the Research and Development ambitions of the Welsh Blood Service.

- The Trust will implement the Velindre Innovation Plan.
- The Trust will maximise collaborative opportunities locally, nationally & internationally.

Research, Development & Innovation are now working towards achieving these strategic priorities.

2.2.11. RD&I Internal Audit

A review of Research and Development (R&D) will be undertaken in line with the 2022/23 Internal Audit Plan. The review seeks to provide the Trust with assurance regarding the effective management of R&D within the Trust. The scope of the review is to provide assurance that there are effective systems, processes, and governance in place around the research and development function, including partnership working.

The Audit fieldwork is due to take place between July and September 2022, with an Audit Debrief meeting is planned to take place in September 2022. The review output will be presented to the Audit Committee in October 2022.

This will also be reported to the RD&I Sub-Committee at a future meeting.

2.2.12. Radiotherapy Research

Currently there are capacity issues in the core Radiotherapy service that are having an impact on radiotherapy research, including:

- The types of research studies that can be conducted
- The number of patients that can be recruited to research studies
- The staff capacity for research

A Task & Finish group has been established to identify issues make recommendations. The findings and outcomes will be feedback to the RD&I Operational Management Group and RD&I Strategic Leadership Group.

A report will be made to the RD&I Sub-Committee in February 2023.

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outlined in this report.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	<ul style="list-style-type: none"> • 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	There is no direct impact on resources as a result of the activity outlined in this report.

4. RECOMMENDATION

It is recommended that the RD&I Sub-Committee note for discussion the presentation and report.

Research, Development & Innovation (RD&I) Sub-Committee 21 July 2022

Executive Lead Briefing

Dr. Jacinta Abraham, Executive Medical Director

Content

- Welsh Blood Service
 - Using advanced mathematics to plan clinics
 - New ways to store platelets
- Research & Development
 - Cancer Research Strategy for Wales (CReSt)
 - JET Meeting
 - University Designation Status
 - University Designation Showcase Event
 - Overarching Cancer R&D Ambitions
 - Cardiff Cancer Research Hub
 - FAKTION
 - One Site Wales
 - MediWales Connects
 - Moondance Cancer Awards
- Research & Development (*continued*)
 - Integrated Medium-Term Plan
 - RD&I Sub-Committee Annual Report 2021/22
 - RD&I Internal Audit
 - Radiotherapy

Velindre University NHS Trust: Welsh Blood Service

Using advanced mathematics to plan clinics

- A WBS project set out to determine if mathematic modelling in clinical planning could optimise clinic plans and resource utilisation to maximise flow and efficiency whilst maintaining excellent donor service and ensuring equity in donor opportunities.
- Emily Williams, KESS doctoral student, has been awarded a doctorate for healthcare modelling research into supply and demand of blood products
- Emily's work uses algorithms to evaluate historical clinical data and produce clinic planning options
- The IISE Transactions on Healthcare Systems Engineering published the literature review in 2020.
- Emily received the 'Best Presentation by an Early Career Researcher' at the Operational Research Applied to Health Services conference in 2019.

New ways to store platelets

- KESS doctoral student, Dr Jamie Nash's work on storage of platelets has produced some interesting results that challenge the established practices of platelet storage.
- The research investigated a range of new approaches to assessing viability / functionality of platelets in different storage conditions. Cold-stored platelets may have improved homeostasis and less risk of bacterial contamination, resulting in safer and more effective patient transfusion in trauma settings over standard room temperature storage
- Jamie's work has been publicised widely and recently awarded the prestigious Scott Murphy award at the BEST Collaborative Spring 2022 meeting.

Velindre University NHS Trust: Research & Development

Cancer Research Strategy for Wales (CReSt)

- Cancer Research Strategy for Wales (CReSt) was published 06 July 2022.
- Developed by Health and Care Research Wales, the Wales Cancer Network and the Wales Cancer Research Centre, as well as other key stakeholders who want to improve cancer diagnosis and treatment.
- The strategy builds on key advice received from an external expert panel, and input was received from patients, members of the public and cancer researchers.
- The strategy focuses on six priority research themes where there is already a track record of excellence in Wales that can be developed further to be internationally leading.

Joint Executive Team Meeting

- The Trust's End of Year Joint Executive (JET) meeting took place with Welsh Government's Director General Health and Social Services / NHS Wales Chief Executive on 16 June 2022.
- The Trust presented its performance and lessons learnt for FY2021/22 as well as the organisation's plans for FY2022/23.
- Included an opportunity to present RD&I highlights and update from FY2021/22.
- Emphasis on meeting demands but also balancing ambition with the organisation's capacity

Velindre University NHS Trust: Research & Development

University Designation Status

- The Trust took part in a Triennial review of its University status in summer 2021.
- Welsh Government's oversight of each organisation's university status is developing from a set piece triennial review into the emphasis being on embedding principles of university status throughout the organisation.
- In September 2022, the Trust will be expected to report to Welsh Government summarising the Trust's progress in this respect.
- The Trust is proposing to establish a working group with representatives from across the Trust.
- Discussion on the membership, structure report outline and approach will be take place at a EMB Shape meeting.

University Designation Showcase Event

- The Trust attended the University Designation Showcase Event on 30 June 2022.
- The event gave the Trust an opportunity to demonstrate examples of good practice in strong, dynamic and evolving partnerships with both the HEI and industry sector.
- The Trust was invited to present two examples of added benefit at the showcase event.
- These were:
 - Professor Mererid Evans presented Cardiff Cancer Research Centre – A Tripartite Partnership.
 - Chloë George presented Right Here, Right Now Right Blood The continuing challenge for Transfusion Medicine.

Velindre University NHS Trust: Research & Development

Overarching Cancer R&D Ambitions

- Ten year “Overarching Cancer Research & Development Ambitions agreed by Trust Board.
- The Trust’s Research Themes are:
 - Putting patients first and at the centre of everything we do.
 - Advancing new treatments, interventions and care.
 - Driving translational research through connecting the laboratory and clinic.
 - Embedding research and innovation within the organisational culture.
- The implementation plan has been included in the Trust’s Integrated Medium Term Plan updated for 2022 to 2025 identifying key deliverables and objectives.

Cardiff Cancer Research Hub

- The Cardiff Cancer Research Hub Clinical Output Model has been agreed by the Tripartite Partnership Board and approved by each organisation.
- A sustainable investment strategy is in development
- Short-term funding has been secured within the Trust to recruit staff.
- The high-risk Early Phase Trial portfolio for solid tumours includes:
 - Two studies in set-up.
 - Two studies where VUNHST has been selected as a site.
- The first solid tumour Advanced Therapy research study is in set-up.

Velindre University NHS Trust: Research & Development

FAKTION

- The Trust sponsored FAKTION trial's latest data was presented by Prof. Rob Jones at the American Society of Clinical Oncology conference (04 June 2022) and published simultaneously in Lancet Oncology.
- The new data primarily investigated how long patients can expect to live for and if the genetic make up of their cancer influences this.
- Over half the patients in the trial were identified as having a specific genetic mutation in their cancer
- The data shows that Capivasertib gives a significant 19 months extension in overall survival.

One Site Wales

- VUNHST led the coordination across Wales of a research study sponsored by University of Oxford, to assess a multi-cancer early detection test – the SYMPLIFY study.
- Having coordinated the study under the “One Site Wales”, the Trust working in collaboration with six health boards 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 has been invited to send representatives to a Health and Care Research Wales “One Site Wales” group to facilitate shared learning and experience to help further develop the process.

Velindre University NHS Trust: Research & Development

MediWales Connects

- RD&I were invited to take part in the delivery two sessions at the MediWales Connects 2022 conference on 29 June 2022.
- These were:
 - Workshop: Health and Care Research Wales – Excellence in Research Delivery. Sarah Townsend, Head of Research & Development was a panel member discussing the Trust's experience in using the One Site Wales approach to research delivery, having adapted and applied the model beyond the pandemic context
 - Parallel Session: Cancer- Patient Engagement. Robyn Davies, chaired a session focussing on patient centred care and discussed ways in which we can better support the cancer patient journey

Moondance Cancer Awards

- RD&I had two nominations shortlisted for the Moondance Cancer Awards 2022.
- These were:
 - COVID19 vaccine and cancer study (nominated for the Response to COVID Award)
 - The SYMPLIFY Study (nominated for the Innovation in early detection & diagnosis award)
- The SYMPLIFY study successfully won the award in the category "Pioneering Innovation" and the award: "Innovation in early detection & diagnosis"
- Judi Rhys – CEO Tenovus Cancer Care presented the award and said "This was a world class shortlist, with 6 fantastic nominations for us to consider but the panel did feel like one stood out....."

Velindre University NHS Trust: Research & Development

Integrated Medium-Term Plan

- The Trust's Integrated Medium-Term Plan (IMTP) has been updated for 2022 to 2025.
- The Trust has a strategic goal to be "A beacon for research development and innovation."
- The IMTP has been updated with the following RD&I strategic priorities in support of the strategic goal:
 - The Trust will drive forward the implementation of its Cancer Research and Development Ambitions 2021-2031.
 - The Trust will maximise the Research and Development ambitions of the Welsh Blood Service.
 - The Trust will implement the Velindre Innovation Plan.
 - The Trust will maximise collaborative opportunities locally, nationally & internationally.

RD&I Sub-Committee Annual Report 2021/22

- Key achievements highlighted in the Research, Development & Innovation (RD&I) Sub-committee annual 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: Research & Development

RD&I Internal Audit

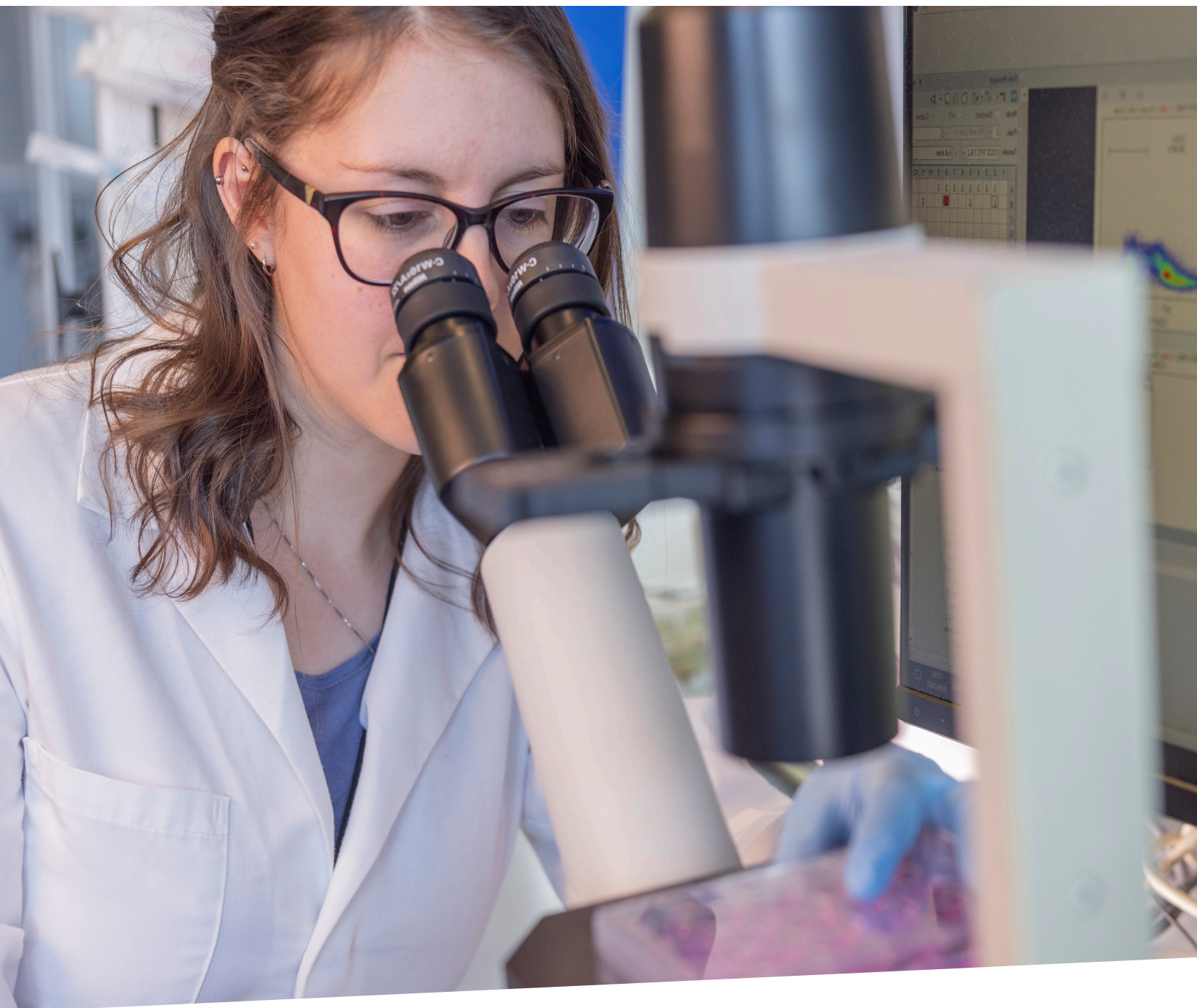
- A review of R&D is to be undertaken in line with the 2022/23 Internal Audit Plan.
- The review seeks to provide the Trust with assurance regarding the effective management of R&D within the Trust.
- Fieldwork is due to take place between July and September 2022.
- The Audit Debrief meeting is planned to take place in September 2022.
- The review will be presented to the Audit Committee in October 2022.
- This will also be reported to the RD&I Sub-Committee at a future meeting

Radiotherapy

- Currently there are capacity issues in the core Radiotherapy service.
- This is having an impact on radiotherapy research including:
 - The types of studies that can be conducted.
 - The number of patients that can be recruited.
 - The staff capacity for research.
- A task and finish group has been set-up to identify issues and make recommendations.
- Outcomes from the group will be fed back to the RD&I Operational Management Group and the RD&I Strategic Leadership Group
- A report will be made to the RD&I Sub-Committee at a future meeting

Moving Forward: A Cancer Research Strategy for Wales

July 2022





Eluned Morgan MS, Minister for Health and Social Services

As a government, we are committed to improving cancer services and outcomes in Wales.

Over the years, cancer has been the single biggest area of Welsh Government health research investment. Significant government funding has, for example: supported the delivery of clinical trials in NHS settings; funded project grants and personal awards; and built key research infrastructure through funding for the Wales Cancer Bank, the Wales Cancer Research Centre and, with Cancer Research UK, the Experimental Cancer Medicine Centre.

However, as we strive for improvements in prevention, diagnosis and treatment, and work hard to address inequality, including gender inequality, and deliver better patient outcomes, we have increasingly recognised the importance of focusing investment in areas where Welsh research is nationally and internationally competitive.

I am delighted to see that the Welsh cancer research community has responded to this challenge by coming together to produce and endorse this new strategy. It is a document that recognises both current and emerging strengths. In setting out our 'USP', I hope that research funders across the UK will be encouraged to invest, and that researchers will be attracted to Wales excited to be playing their part in our research effort.

I look forward to seeing the community working together to implement the strategy in ways that will drive growth in research excellence, research capability and, of course, patient and public benefit.

This strategy is supported by the following organisations:





Professor Kieran Walshe, Director, Health and Care Research Wales

Research plays an integral role in the fight against cancer in Wales. From the clinicians and lab technicians to supporting staff and members of the public who take part in studies, there is a large and thriving community dedicated to improving the lives of people across the nation.

The new Cancer Research Strategy is a crucial step forward for Wales and we are proud to support its development and implementation. The key recommendations outlined will help us work together on life-saving research, reinforcing our commitment to providing the best possible standard of cancer care to people in Wales.



Professor Tom Crosby, National Cancer Clinical Director for Wales

We know that participation in clinical research is one of the best measures of service quality and that patient outcomes are improved in research-rich environments.

There has never been a more important time to research and innovate to help reset and redesign a better system of cancer care. This strategy will aim to improve access to research for all of the public and patients in Wales across the cancer pathway.



Dr Tracey Cooper, Chief Executive, Public Health Wales

In the 2016 Cancer Delivery Plan we committed to delivering a comprehensive cancer research strategy for Wales, the aim being to bring the cancer community together to raise the profile of cancer research in Wales.

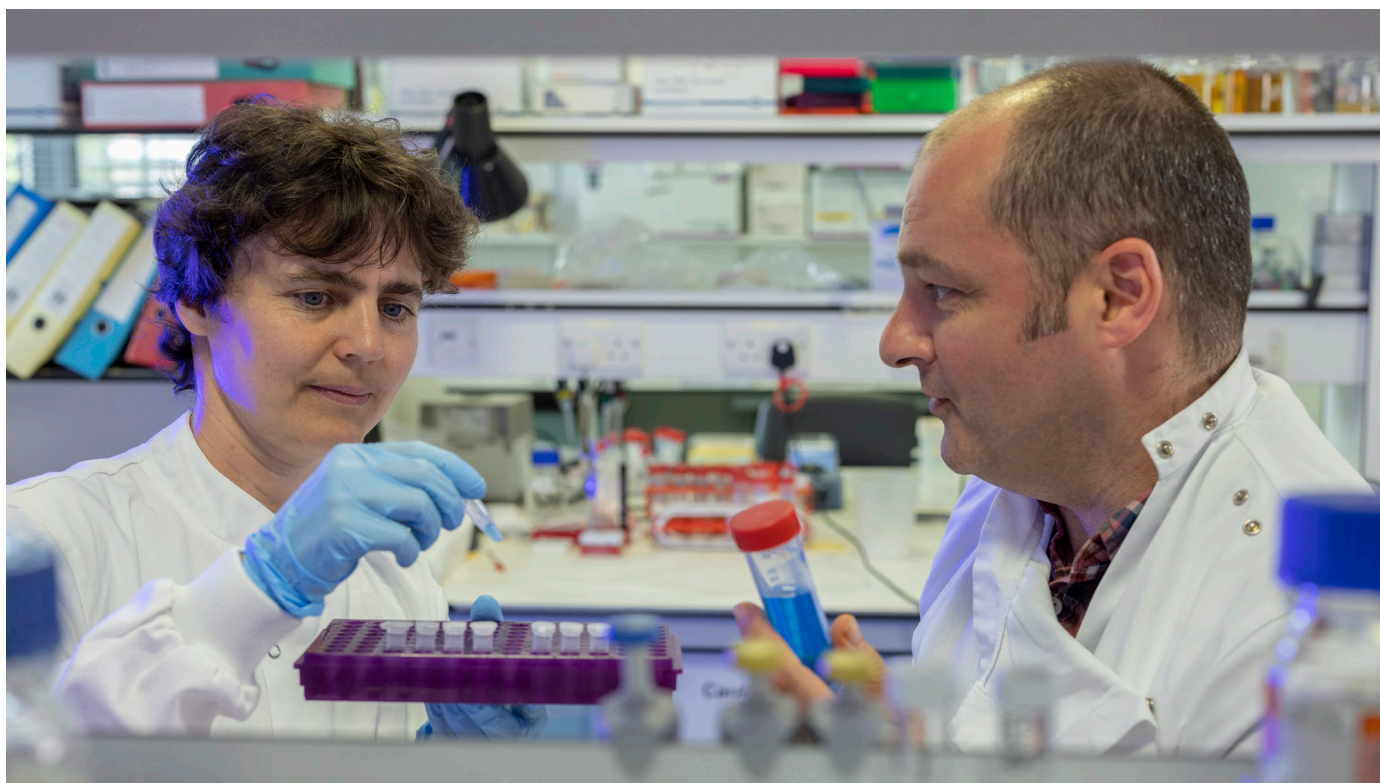
This new strategy will be key to embedding a vibrant culture of research into the prevention and treatment of cancer across Wales. This has always been key for us, but it is even more important to now move this forward at pace given the challenging environment for our population that has arisen as a result of the coronavirus pandemic.



Professor Mererid Evans, Director, Wales Cancer Research Centre

During the COVID-19 pandemic, we have faced huge challenges to our ways of working, but this has also led to opportunities to reshape cancer research in Wales. Our goal is to unite those involved in cancer research in Wales and focus on research excellence across six priority cancer themes. This will pave the way for further trailblazing studies and trials.

Above all, we will not lose sight of who we are working for: patients and public in Wales and beyond. People are at the core of what we do, and we are dedicated to building a cancer research landscape that best serves their needs.



A new chapter for cancer research in Wales

Cancer research is a key component of high quality cancer care. It provides the evidence needed to offer the best treatments, experience and services.

Patients treated in research-active settings have better outcomes, with benefits extending beyond those actively involved in studies. Participation in research empowers patients to become more involved in their treatment, helping to achieve the outcomes that matter to them the most.

Researchers in fields such as population health, prevention and early diagnosis help us understand how to increase public awareness of cancer risk factors and symptoms. This enables early detection of disease and prompt treatment to prevent disease progression and costly health outcomes.

Discovery and preclinical scientists, based in our universities, make new scientific breakthroughs. They develop new targeted cancer drugs, cancer vaccines and immunotherapies that are brought through to the clinic by translational researchers.

Clinical trials ensure research is available and accessible to the population. They also provide clear evidence of successful outcomes for NHS clinicians and scientists, which then feed into further research opportunities.

There is a strong record of cancer research in Wales. This has been achieved in part through investment into research infrastructure groups, supported and funded by Welsh Government via Health and Care Research Wales (HCRW).

These groups work in tandem to:

- Provide equitable, inclusive opportunities for patients to take part in research trials
- Empower Wales-based clinicians to take part in research activity
- Drive forward groundbreaking innovations in cancer research.

There is a crucial need to map the way forward for cancer research in Wales which, in turn, will help address the significant burden of cancer within the nation's population.

The COVID-19 pandemic has exacerbated the pressures on cancer patients and services in Wales, but has also highlighted the potential to develop new therapies in record time. It is time to do the same for cancer research in Wales.

The aims of the Cancer Research Strategy for Wales (CReSt) are to:

1. Develop a collaborative, efficient, well-supported and focused research community, which will in turn...
2. Increase research grant income from all sources to expand the research base, which will in turn...
3. Improve prevention, diagnosis and treatment for all patients with cancer.

Key principles

Cancer research in Wales must:

- Contribute to building an evidence-based approach to cancer policies, health and care services, and a culture in NHS organisations which supports and embeds research to meet the needs of the people of Wales
- Work closely in partnership with key collaborators at a UK and international level, and seek to build strong and enduring partnerships
- Focus on building research themes in which there is a critical mass of researchers in Wales based on collaborative working and sustainable workforce investment and planning.

Future research must focus on areas where:

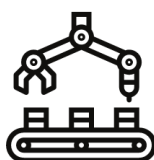
- There is a strong track record of excellence, with Welsh researchers leading and contributing to the global understanding of cancer at a UK and international level
- There are opportunities for wider cross-cutting collaboration in cancer and non-cancer research across Wales, the UK and internationally
- There is alignment with the strategic priorities of major UK cancer research funders (charities, government agencies and industry) with existing and potential opportunities for investment in Wales.



FUNDERS



CENTRAL BODIES



INDUSTRY



PATIENTS AND PUBLIC



THIRD SECTOR



HIGHER EDUCATION



HEALTHCARE

The Wales Cancer Research Landscape

The state of cancer research in Wales

There is a long and distinguished history of cancer research in Wales across a range of areas, including immunology, drug development and clinical trials. This has improved cancer care for patients in the UK and internationally.

Research infrastructure

Welsh Government invests approximately £9M per year into supporting research infrastructure groups in Wales, including for cancer:

- Wales Cancer Research Centre (WCRC)
- Wales Cancer Bank (WCB)
- Wales Centre for Primary and Emergency Care Research (PRIME)
- Brain Repair and Intracranial Neurotherapeutics (BRAIN) Unit.

External infrastructure investments in cancer research in Wales include:

- Marie Curie Palliative Care Research Centre, Cardiff University
- Cancer Research UK (CRUK) Centre for Trials Research, Cardiff University
- CRUK Experimental Cancer Medicine Centre (ECMC), Cardiff University (with Welsh Government co-funding)
- EU funded Institute for Life Science 1 & 2 and Centre for Nanohealth, Swansea University.

Other research assets that can support cancer research in Wales include:

- Data infrastructure: including the Secure Anonymised Information Linkage (SAIL) Databank for collecting routine anonymised data and the Welsh Cancer Intelligence and Surveillance Unit (WCISU) for patient data
- Genomics facilities: Wales Gene Park and All Wales Medical Genomics Service
- National advanced imaging facilities: including the Cardiff University Brain Research Imaging Centre and the Wales Research and Diagnostic Positron Emission Tomography Imaging Centre
- Novel drug discovery: Medicines Discovery Institute, Cardiff University.



Research grant income

Research funding enables new discoveries and generates evidence for better treatments.

Data from the National Cancer Research Institute shows that around £40m was awarded in cancer research grants to Wales between 2013/14 and 2019/20.

CRUK is the largest single funder of cancer research grants in Wales, and other charities also make an important contribution.

Research delivery

NHS Wales supports recruitment into around 160 cancer studies annually, with approximately 3000 participants recruited across Wales in 2019/20.

The COVID-19 pandemic has had a significant impact on cancer research. Most cancer studies were paused to recruitment during 2020. Although the situation is improving, there is an ongoing impact on the workforce and funding for cancer research in Wales.

Key issues for cancer research in Wales

Despite the previous successes of cancer research in Wales, there are issues that must be addressed to create a thriving and successful cancer research environment in Wales for the future.

- ◆ Wales attracts less than half its proportionate population share of funding from UK cancer funders.
- ◆ Wales is losing ground in an increasingly competitive funding environment.
- ◆ Lower patient participation in clinical trials than in England.
- ◆ Inequalities in access for patients to research across Wales.
- ◆ A relative lack of cancer research leaders in Wales.
- ◆ Declining investment in cancer research workforce and career pathways particularly in key areas to translate basic science into clinical practice.
- ◆ A need for urgent investment in posts within those research themes which currently have the greatest potential.



Priority research themes for Wales

An ambition to develop a Cancer Research Strategy was set in the 2016 Cancer Delivery Plan for Wales.

The CReSt strategy was developed by HCRW, the Wales Cancer Network, cancer research leads and research partners in Wales, with advice from an External Expert Review Panel.

It identifies six priority research themes where there is a strong track record of research excellence and future opportunity in Wales:

THEME 1

Precision & mechanistic oncology



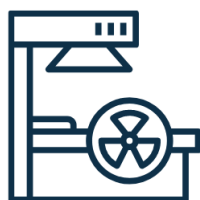
THEME 2

Immuno-oncology



THEME 3

Radiotherapy



THEME 4

Cancer clinical trials



THEME 5

Palliative & supportive oncology



THEME 6

Population health-based cancer prevention, early diagnosis, primary care & health services research



The aim is to develop critical mass and a sustainable platform for cancer research in each of the priority themes, from which other future strengths can emerge. The six themes provide opportunities for cross-theme collaboration and for collaboration with non-cancer research, as well as third sector and industry partners.

The themes align with existing Wales and UK-wide programmes and reflect the priorities of the 2021 Welsh Government Quality Statement for Cancer¹. Along with enabling new research discoveries, supporting research delivery within our NHS is critically important so that patients benefit from new discoveries.

Wales needs to have a research-ready environment in health and social care settings where opportunities exist for researchers, clinicians and patients to participate in cancer research now and in the future.

The UK government and devolved nations have developed a bold vision for the future of UK Clinical Research Delivery² in the wake of the COVID-19 pandemic, which will help enable the clinical delivery aspects of the Wales Cancer Research Strategy.

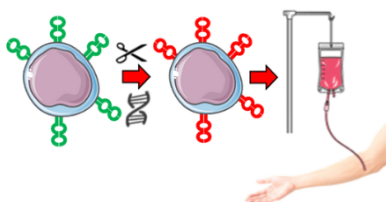
¹ <https://gov.wales/quality-statement-cancer-html>

² <https://healthandcareresearchwales.org/health-and-care-professionals/future-uk-clinical-research-delivery>

CANCER RESEARCH IN WALES: A SNAPSHOT

From discovery research that seeks to understand DNA biology, to research that aims to influence health behaviours and diagnose cancers earlier

Developing effective T-cell therapies for cancer



Bringing novel therapies to the clinic in Wales



Engineering viruses to become cancer vaccines



Combining antibodies with drugs to target cancer



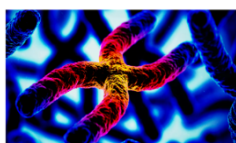
Leading UK & international clinical trials



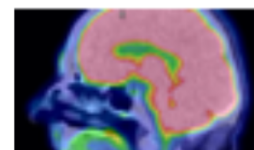
Researching patient experiences & preferences for care



Exploring DNA to diagnose cancers & predict outcomes



Imaging cancers & adapting radiotherapy to improve response



Influencing health behaviours to prevent & diagnose cancers earlier



Using new tech & artificial intelligence (AI) to diagnose cancers earlier



Using AI to automate & set new standards in imaging & radiotherapy



Moving forward: Recommendations for the future of cancer research in Wales

Cancer research in Wales is at a crossroads. Focus and investment is now required to secure the future of cancer research across the nation and beyond. The strategy makes eight key recommendations to achieve this:

1. High level strategic support is needed from Welsh universities, NHS Health Boards and Trusts and Welsh Government agencies who need to work collaboratively with a collective responsibility for the future of cancer research in Wales.

2. Future focus and investment should principally be in the six priority research themes, whilst not precluding support for new areas of potential excellence.

3. A nominated research leader should be appointed to define research priorities and act as a champion and ambassador for each of the six themes.

4. A Wales Cancer Strategy Leadership group should be established to bring the research community together, develop costed plans and implement the key next steps.

5. This group should undertake a cross-cutting project to identify gaps in the cancer research workforce and career pathways in Wales across all disciplines.

6. The group should work with Welsh Government, Welsh institutions and with UK funders of cancer research to explore future opportunities for cancer funding.

7. Development of new cancer research infrastructure should be supported, including the tripartite NHS/Academic Cardiff Cancer Research Hub providing the translational pipeline between the laboratory and clinic.

8. Joint ventures/investment from industry and pharma, including spin out companies, should be explored as additional income sources for research.

Implementing the Wales Cancer Research Strategy is a crucial step towards redefining the cancer research landscape in Wales and improving cancer care for Welsh patients.

This work will be led by the Wales Cancer Research Centre (WCRC, funded by Welsh Government through Health and Care Research Wales), the Wales Cancer Network and NHS and Academic institutions and partners across Wales.



Symud ymlaen: Strategaeth Ymchwil Canser Cymru

Gorffennaf 2022





Eluned Morgan AS, Gweinidog Iechyd a Gwasanaethau Cymdeithasol

Fel llywodraeth rydym wedi ymrwymo i wella gwasanaethau a chanlyniadau cancer yng Nghymru.

Dros y blynyddoedd, mae Llywodraeth Cymru wedi buddsoddi mwy i fewn i ymchwil cancer nag unrhyw faes arall o ymchwil iechyd. Mae cyllid sylweddol gan y llywodraeth wedi: cefnogi darpariaeth treialon clinigol yn sefydliadau'r GIG; ariannu prosiectau ac ymchwilwyr; ac adeiladu selwaith allweddol ar gyfer ymchwil yn cynnwys Banc Cancer Cymru, Canolfan Ymchwil Cancer Cymru, ac ar y cyd gyda Cancer Research UK, y Ganolfan Meddygaeth Cancer Arbrofol.

Fodd bynnag, wrth i ni ymdrechu i sicrhau gwelliannau yn y ffordd rydym yn atal, canfod a thrin cancer, a gweithio'n galed i fynd i'r afael ag anghydraddoldeb, gan gynnwys anghydraddoldeb rhwng y rhywiau, a sicrhau canlyniadau gwell i gleifion, rydym wedi cydnabod yn gynyddol bwysigrwydd canolbwytio buddsoddiad mewn meysydd lle mae ymchwil Cymru yn gystadleuol yn genedlaethol ac yn rhyngwladol.

Mae'n bleser gennyf weld bod cymuned ymchwil cancer Cymru wedi ymateb i'r her hon drwy ddod at ei gilydd i lunio a chymeradwyo'r strategaeth newydd hon. Mae'n ddogfen sy'n cydnabod ein cryfderau presennol a'r rhai sy'n dod i'r amlwg. Wrth uwchleuo ein cryfderau unigryw, rwy'n gobeithio y bydd cyllidwyr ymchwil ledled y DU yn cael eu hannog i fuddsoddi ac y bydd ymchwilwyr yn cael eu denu i Gymru yn llawn cyffro i chwarae eu rhan yn ein hymdrech ymchwil.

Edrychaf ymlaen at weld y gymuned yn cydweithio i weithredu'r strategaeth mewn ffyrdd a fydd yn ysgogi twf mewn rhagoriaeth ymchwil, gallu ymchwil ac, wrth gwrs, o fudd i gleifion a'r cyhoedd.

Cefnogir y strategaeth hwn gan y sefydliadau canlynol:





Yr Athro Kieran Walshe, Cyfarwyddwr, Ymchwil Iechyd a Gofal Cymru

Mae ymchwil yn chwarae rhan allweddol yn y frwydr yn erbyn cancer yng Nghymru. O'r clinigwyr a'r technegwyr labordy, i'r staff cynorthwyol a'r aelodau o'r cyhoedd sy'n cymryd rhan mewn ymchwil, mae yna gymuned fawr a ffyniannus sy'n ymroddedig i wella bywydau pobl ledled y wlad.

Mae'r Strategaeth Ymchwil Cancer newydd hon yn gam hollbwysig ymlaen i Gymru, ac rydyn ni'n falch o gefnogi ei datblygiad a'i gweithrediad. Bydd yr argymhellion allweddol sydd wedi'u hamlinellu yn ein helpu i gydweithio ar ymchwil a fydd yn achub bywydau, gan atgyfnerthu ein hymrwymiad i ddarparu'r safon uchaf bosib o ofal cancer i bobl yng Nghymru.



Yr Athro Tom Crosby, Cyfarwyddwr Clinigol Cancer Cenedlaethol Cymru

Gwyddom mai cymryd rhan mewn ymchwil glinigol yw un o'r mesurau gorau o ansawdd gwasanaeth, a bod canlyniadau i gleifion yn well mewn amgylcheddau sy'n gyfoethog o rhan ymchwil.

Ni fu erioed amser pwysicach i ymchwilio ac i arloesi er mwyn helpu i ailosod ac ailgynllunio system well o ofal cancer. Nod y strategaeth hon fydd gwella mynediad at ymchwil i holl gleifion a'r cyhoedd yng Nghymru ar hyd y llwybr cancer.



Dr Tracey Cooper, Prif Weithredwr, Iechyd Cyhoeddus Cymru

Yng Nghynllun Cyflawni Cancer 2016 fe wnaethom ymrwymo i ddarparu strategaeth ymchwil cancer gynhwysfawr i Gymru, gyda'r nod o ddod â'r gymuned ynghyd i godi proffil ymchwil cancer yng Nghymru.

Bydd y strategaeth newydd hon yn allweddol i sefydlu diwylliant bywiog o ymchwil ledled Cymru, i wella'r ffordd rydym yn atal a thrin cancer. Mae hyn wedi bod yn allweddol i ni erioed ond mae'n bwysicach fyth nawr o ystyried yr amgylchedd heriol sydd yn wynebu ein poblogaeth o ganlyniad i'r pandemig coronafeirws.



Yr Athro Mererid Evans, Cyfarwyddwr, Canolfan Ymchwil Cancer Cymru

Yn ystod y pandemig COVID-19, rydyn wedi wynebu heriau enfawr i'n ffordd o weithio, ond mae hyn hefyd wedi arwain at gyfleoedd i ail-lunio ymchwil cancer yng Nghymru. Ein nod yw uno pawb sy'n chwarae rhan mewn ymchwil cancer yng Nghymru, a chanolbwyntio ein hymdrechion ar sefydlu ragoriaeth mewn ymchwil ar draws chwe brif thema. Bydd hyn yn paratoi'r ffordd ar gyfer ddarganfyddiadau arloesol a threialon pellach.

Yn fwy na dim, ni fyddwn yn colli golwg ar bwy rydym yn gweithio iddynt: cleifion a'r cyhoedd yng Nghymru a'r tu hwnt. Mae pobl wrth wraidd yn hyn a wnawn, ac rydym yn benderfynol i adeiladu tirwedd ymchwil cancer yn Nghymru fydd yn ymateb i'w anghenion yn y ffordd orol posib.



Pennod newydd i ymchwil cancer yng Nghymru

Mae ymchwil cancer yn gydran allweddol o ofal cancer o ansawdd uchel. Mae'n darparu'r dystiolaeth sydd ei hangen i gynnig y triniaethau, y profiadau a'r gwasanaethau gorau.

Mae cleifion sy'n cael eu trin mewn lleoliadau sy'n weithgar o ran ymchwil yn cael canlyniadau gwell, ac mae'r manteision yn ymestyn y tu hwnt i'r cleifion sy'n cymryd rhan mewn ymchwil i fod o fudd i bawb. Mae cyfrannu mewn ymchwil yn grymuso cleifion i chwarae rhan fwy yn eu triniaeth, gan helpu i gyflawni'r canlyniadau sydd fwyaf pwysig iddyn nhw.

Mae ymchwilwyr mewn meysydd fel iechyd y boblogaeth ac atal a diagnosis cynnar, yn ein helpu i ddeall sut i godi ymwybyddiaeth ymysg y cyhoedd o ffactorau risg a symptomau cancer. Mae hyn yn galluogi canfod cancer yn gynt a dechrau triniaeth yn brydlon er mwyn atal y clefyd rhag datblygu ymhellach.

Mae gwyddonwyr cyn-glinigol a darganfyddol yn ein prifysgolion, yn gwneud datblygiadau gwyddonol newydd. Maent yn datblygu cyffuriau cancer newydd wedi'u targedu, brechlynnau cancer, ac imiwnotherapiau, sy'n cael eu cyflwyno i'r clinig gan ymchwilwyr trosiadol.

Mae treialon clinigol yn sicrhau bod ymchwil ar gael ac yn hygyrch i'r boblogaeth. Maent hefyd yn darparu tystiolaeth glir o ganlyniadau llwyddiannus i wyddonwyr a chlinigwyr y GIG, sydd yna'n bwydo i mewn i gyfleoedd ymchwil pellach.

Mae hanes cryf o ymchwil cancer yng Nghymru. Cyflawnwyd hyn yn rhannol drwy fuddsoddiad mewn grwpiau seilwaith ymchwil craidd, a gaiff eu cefnogi

a'u hariannu gan Lywodraeth Cymru drwy Ymchwil Iechyd a Gofal Cymru (HCRW).

Mae'r grwpiau hyn yn cydweithio er mwyn:

- Darparu cyfleoedd teg a chynhwysol i gleifion allu cymryd rhan mewn treialon ymchwil
- Grymuso clinigwyr yng Nghymru i gymryd rhan mewn gweithgaredd ymchwil
- Sbarduno datblygiadau aroesol newydd ym maes ymchwil cancer.

Mae'n hanfodol mapio'r ffordd ymlaen ar gyfer ymchwil cancer yng Nghymru, a fydd, yn ei dro, yn helpu i fynd i'r afael â'r baich sylweddol o ganser ym mhoblogaeth y genedl.

Mae pandemig COVID-19 wedi gwaethgu'r pwysau ar gleifion a gwasanaethau cancer yng Nghymru, ond mae hefyd wedi amlygu'r potensial i ddatblygu therapïau newydd yn gyflymach nag erioed. Mae'n bryd gwneud yr un peth ar gyfer ymchwil cancer yng Nghymru.

Nod Strategaeth Ymchwil Cancer Cymru (CreSt) yw:

1. Datblygu cymuned ymchwil gydweithredol, effeithlon, sydd â ffocws ac wedi'i chefnogi'n dda, a fydd yn ei thro yn...
2. Cynyddu incwm o grantiau ymchwil o bob ffynhonnell i enhangu'r sylfaen ymchwil, a fydd yn ei dro yn...
3. Gwella'r gallu i atal, canfod a thrin cancer i bob claf.

Mae'n rhaid i ymchwil cancer yng Nghymru wneud y canlynol:

- Cyfrannu at feithrin agwedd tuag at bolisiau cancer, gwasanaethau iechyd a gofal a gaiff ei llywio gan dystiolaeth, a diwylliant yn sefydliadau'r GIG sy'n cefnogi ac yn ymgorffori ymchwil i fodloni anghenion pobl Cymru
- Gweithio mewn partneriaeth agos â chydweithredwyr allweddol ar lefel y Deyrnas Unedig ac yn rhyngwladol, a cheisio meithrin partneriaethau cryf a pharhaus
- Canolbwyntio ar adeiladu themâu ymchwil lle mae mäs critigol o ymchwilwyr yng Nghymru, yn seiliedig ar gydweithio a buddsoddi a chynllunio'r gweithlu yn gynaliadwy.

Mae'n rhaid i ymchwil y dyfodol ganolbwyntio ar feysydd lle:

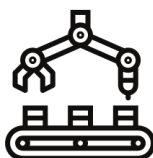
- Mae hanes cryf o ragoriaeth, gydag ymchwilwyr Cymru'n arwain ac yn cyfrannu at y ddealltwriaeth fyd-eang o ganser ar lefel y Deyrnas Unedig ac yn rhyngwladol
- Mae cyfleoedd ar gyfer cydweithio trawsbynciol ehangach mewn ymchwil cancer a di-ganser ledled Cymru, y Deyrnas Unedig ac yn rhyngwladol
- Mae aliniad â blaenoriaethau strategol prif arianwyr ymchwil cancer y Deyrnas Unedig (elusennau, asiantaethau llywodraeth, a diwydiant) a chyfleoedd i ddenu buddsoddiad i Gymru.



ARIANWYR



CYRFF CANOLOG



DIWYDIANNAU



CLEIFION A'R CYHOEDD



Y TRYDYDD SECTOR



ADDYSG UWCH



GOFAL IECHYD

Tirwedd Ymchwil Cancer Cymru

Cyflwr presennol ymchwil cancer yng Nghymru

Mae hanes hir a nodedig o ymchwil cancer yng Nghymru ar draws ystod o feysydd, gan gynnwys imiwnoleg, datblygu cyffuriau newydd a threialon clinigol. Mae hyn wedi gwella gofal cancer i gleifion yn y DU ac yn rhyngwladol.

Seilwaith ymchwil

Mae Llywodraeth Cymru yn buddsoddi oddeutu £9 miliwn y flwyddyn i ddarparu seilwaith ymchwil yng Nghymru, gan gynnwys ar gyfer cancer:

- Canolfan Ymchwil Cancer Cymru (WCRC)
- Banc Cancer Cymru (WCB)
- Canolfan Cymru ar gyfer Ymchwil Gofal Sylfaenol a Gofal Brys (PRIME)
- Uned Trwsio'r Ymennydd a Niwrotherapiwteg Mewngreuanol (BRAIN).

Mae buddsoddiadau allanol sy'n cefnogi seilwaith ymchwil cancer yng Nghymru yn cynnwys:

- Canolfan Ymchwil Gofal Lliniarol Marie Curie, Prifysgol Caerdydd
- Canolfan Treialon Ymchwil, Cancer Research UK (CRUK), Prifysgol Caerdydd
- Canolfan Meddygaeth Cancer Arbrofol (ECMC) CRUK, Prifysgol Caerdydd (gyda chyllid ar y cyd gan Lywodraeth Cymru)
- Sefydliad Gwyddor Bywyd 1 a 2 a ariennir gan yr UE a'r Ganolfan Nanoiechyd, Prifysgol Abertawe.

Mae asedau ymchwil eraill sy'n gallu cefnogi ymchwil cancer yng Nghymru yn cynnwys:

- Seilwaith data: gan gynnwys Banc Data SAIL ar gyfer casglu data dienw ar lefel y boblogaeth, ac Uned Deallusrwydd a Gwyliadwraeth Cancer Cymru (WCISU) ar gyfer data cleifion
- Cyfleusterau genomeg: Parc Geneteg Cymru a Gwasanaeth Genomeg Feddygol Cymru
- Cyfleusterau delweddu uwch cenedlaethol: gan gynnwys Canolfan Ymchwil Delweddu'r Ymennydd Prifysgol Caerdydd a Chanolfan Delweddu Tomograffeg Allyriad Positronau Ymchwil a Diagnostig Cymru (PETIC)
- Darganfod cyffuriau newydd: Y Sefydliad Darganfod Meddyginiaethau, Prifysgol Caerdydd.



Incwm grantiau ymchwil

Mae cyllid ymchwil yn galluogi darganfyddiadau newydd ac yn cynhyrchu tystiolaeth ar gyfer triniaethau gwell.

Mae data gan y Sefydliad Ymchwil Cancer Cenedlaethol yn dangos y dyfarnwyd tua £40 miliwn mewn grantiau ymchwil cancer i Gymru rhwng 2013/14 - 2019/20.

CRUK yw'r ariannwr unigol mwyaf o grantiau ymchwil cancer yng Nghymru, ac mae elusennau eraill hefyd yn gwneud cyfraniad pwysig.

Cyflawni ymchwil

Mae GIG Cymru yn recriwtio i oddeutu 160 o astudiaethau cancer y flwyddyn, gyda tua 3000 o gleifion yn cael eu recriwtio ledled Cymru yn 2019/20.

Mae pandemig COVID-19 wedi cael effaith sylweddol ar ymchwil cancer. Bu'n rhaid oedi recriwtio i'r rhan fwyaf o astudiaethau cancer yn 2020. Er bod y sefyllfa'n gwella, mae effaith barhaus ar y gweithlu ac ar gyllid ar gyfer ymchwil cancer yng Nghymru.

Materion allweddol ar gyfer ymchwil cancer yng Nghymru

Er gwaethaf llwyddiannau blaenorol ymchwilwyr cancer yng Nghymru, mae materion y mae'n rhaid mynd i'r afael â nhw er mwyn creu amgylchedd ymchwil cancer ffyniannus a llwyddiannus yng Nghymru ar gyfer y dyfodol.

- ♦ Mae Cymru'n denu llai na hanner ei chyfran boblogaeth gyfatebol o gyllid gan arianwyr cancer y DU.
- ♦ Mae Cymru'n colli tir mewn amgylchedd ariannu sy'n gynyddol gystadleuol.
- ♦ Mae llai o gleifion yn cymryd rhan mewn treialon clinigol yng Nghymru o gymharu â Lloegr.
- ♦ Anghydraddoldebau o rhan mynediad cleifion at ymchwil ledled Cymru.
- ♦ Diffyg cymharol o arweinwyr ymchwil cancer yng Nghymru.
- ♦ Lleihad mewn buddsoddiad yn y gweithlu a llwybrau gyrfaol, yn enwedig mewn meysydd allweddoli ddod a darganfyddiadau newydd i'r clinig.
- ♦ Angen buddsoddiad ar frys mewn swyddi yn y themâu ymchwil sydd â'r potensial mwyaf i rhagori.



Themâu ymchwil â blaenoriaeth i Gymru

Gosodwyd dyhead i ddatblygu Strategaeth Ymchwil Cancer (CReSt) yn y Cynllun Cyflawni ar gyfer Cancer Cymru yn 2016.

Datblygwyd y strategaeth gan HCRW, Rhwydwaith Cancer Cymru, arweinwyr ymchwil cancer a phartneriaid ymchwil yng Nghymru, gyda chynghor gan Banel Adolygu Arbenigol Allanol.

Mae'r strategaeth yn blaenoriaethu chwe thema ymchwil lle mae hanes cryf o ragoriaeth ymchwil a chyfleoedd ar gyfer y dyfodol yng Nghymru:

THEMA 1

**Oncoleg
mecanistig a
manwl**



THEMA 2

Imiwno-oncoleg



THEMA 3

Radiotherapi



THEMA 4

Treialon clinigol cancer



THEMA 5

**Oncoleg cefnogol
a lliniarol**



THEMA 6

**Dulliau atal cancer yn
seiliedig ar iechyd y
boblogaeth, diagnosis cynnar,
gofal sylfaenol, ac ymchwil
gwasanaethau iechyd**



Y nod yw datblygu mäs critigol a llwyfan cynaliadwy ar gyfer ymchwil cancer ym mhob un o'r themâu â blaenoriaeth, lle gellir adeliadu may o gryfderau yn y dyfodol. Mae'r chwe thema yn darparu cyfleoedd ar gyfer cydweithio ar draws themâu, cydweithio gyda ymchwil di-ganser, a gweithio ynghyd â phartneriaid ym myd diwydiant a'r trydydd sector.

Mae'r themâu'n gyson â rhaglenni presennol Cymru a'r DU, ac yn adlewyrchu blaenoriaethau Datganiad Ansawdd ar gyfer Cancer Llywodraeth Cymru 2021. Ynghyd â galluogi darganfyddiadau ymchwil newydd, mae cefnogi ymchwil yn y GIG yn hollbwysig fel bod cleifion yn elwa ar ddarganfyddiadau newydd.

Mae angen i Gymru greu amgylchedd sy'n barod i gynnal ymchwil ar draws y maes iechyd a gofal cymdeithasol, a sicrhau fod cyfleoedd yn bodoli i ymchwilwyr, clinigwyr a chleifion gymryd rhan mewn ymchwil cancer nawr ac yn y dyfodol.

Mae Llywodraeth y DU a'r cenhedloedd datganoledig wedi datblygu gweledigaeth feiddgar ar gyfer dyfodol Cyflawni Ymchwil Clinigol y DU yn dilyn pandemig COVID-19, a fydd yn helpu i gyflawni agweddau clinigol Strategaeth Ymchwil Cancer Cymru.

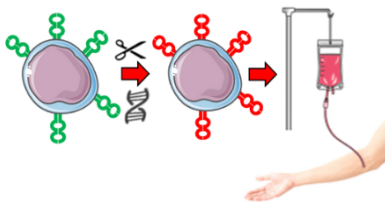
1 <https://gov.wales/quality-statement-cancer-html>

2 <https://healthandcareresearchwales.org/health-and-care-professionals/future-uk-clinical-research-delivery>

YMCHWIL CANSER YNG NGHYMRU: CIPOLWG

O ymchwil darganfyddol sy'n ceisio deall bioleg DNA, i ymchwil sydd â'r nod o ddylanwadu ar ymddygiadau iechyd a gwneud diagnosis o ganser yn gynharach.

Datblygu therapïau celloedd-T effeithiol ar gyfer cancer



Dod â therapïau newydd i'r clinig yng Nghymru



Peirannu firysau i fod yn frechlynnau yn erbyn cancer



Cyfuno gwrthgyrff gyda chyffuriau i dargedu cancer



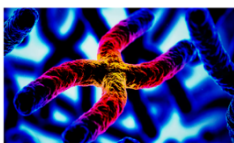
Arwain treialon clinigol ar draws y DU ac yn rhyngwladol



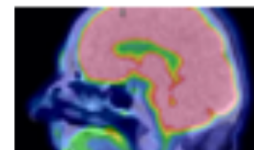
Ymchwilio i brofiadau cleifion a'u dewisiadau ar gyfer eu gofal



Archwilio DNA i wneud diagnosis o ganser a rhagamcanu canlyniadau



Dylanwadu ar ymddygiadau iechyd i atal a gwneud diagnosis cynnar o ganser



Defnyddio technoleg newydd a Deallusrwydd Artiffisial (DA) i wneud diagnosis cynharach o ganser



Defnyddio DA a gosod safonau newydd mewn delweddu a radiotherapi



Symud ymlaen: Argymhellion ar gyfer dyfodol ymchwil cancer yng Nghymru

Mae ymchwil cancer yng Nghymru ar groesffordd. Mae angen ffocws a buddsoddiad i sicrhau dyfodol disglair iddo ar draws y genedl a'r tu hwnt. Mae'r strategaeth yn gwneud wyth argymhelliad i gyflawni hyn:

1. Mae angen cefnogaeth strategol lefel uchel gan brifysgolion Cymru, Byrddau Iechyd ac Ymddiriedolaethau y GIG, ac asiantaethau Llywodraeth Cymru, ac mae angen iddynt gydweithio gyda chyfrifoldeb ar y cyd am ddyfodol ymchwil cancer yng Nghymru.

2. Dylai ffocws a buddsoddiad y dyfodol fod yn bennaf yn y chwe thema ymchwil sydd â blaenoriaeth, heb i hynny atal cefnogaeth ar gyfer meysydd newydd o ragoriaeth.

3. Dylid enwebi arweinydd o'r byd ymchwil i ddiffinio blaenoriaethau ymchwil a gweithredu fel eiriolwr a llysgennad ar gyfer pob un o'r chwe thema.

4. Dylid sefydlu grŵp Arweinyddiaeth Strategaeth Cancer Cymru i ddod â'r gymuned ymchwil ynghyd, datblygu cynlluniau â chostau, a gweithredu'r camau allweddol nesaf.

5. Dylai'r grŵp gynnal prosiect trawsbynciol i ganfod lle mae bylchau yn y gweithlu ymchwil cancer a llwybrau gyrfa yng Nghymru, ar draws pob disgyblaeth.

6. Dylai'r grŵp weithio gyda Llywodraeth Cymru, sefydliadau yng Nghymru ac arianwyr ymchwil cancer yn y Deyrnas Unedig i gynyddu'r cyfleoedd ar gyfer ariannu ymchwil cancer yng Nghymru yn y dyfodol.

7. Dylid cefnogi y gwaith o ddatblygu seilwaith ymchwil cancer newydd, gan gynnwys system deiran y GIG/Canolfan Ymchwil Cancer Academiaidd Caerdydd sy'n darparu'r biblinell i drosi canfyddiadau newydd rhwng y labordy a'r clinig.

8. Dylid archwilio buddsoddiad/mentrau ar y cyd gyda diwydiant a'r maes fferyllol, gan gynnwys cwmnïau deillio, fel ffynonellau incwm ychwanegol ar gyfer ymchwil.

Mae gweithredu Strategaeth Ymchwil Cancer Cymru yn gam hanfodol tuag at ailddiffinio'r tirlun ymchwil cancer yng Nghymru a gwella gofal cancer i gleifion yng Nghymru.

Bydd y gwaith hwn yn cael ei arwain gan Ganolfan Ymchwil Cancer Cymru (a ariennir gan Lywodraeth Cymru drwy Ymchwil Iechyd a Gofal Cymru), Rhwydwaith Cancer Cymru a'r GIG a sefydliadau academiaidd a phartneriaid ledled Cymru.



RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

Trust RD&I Sub-Committee Annual Report 2021

DATE OF MEETING	21/07/2021
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PUBLIC OR PRIVATE REPORT	Public
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IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report
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PREPARED BY	Sarah Townsend, Head of Research & Development / Emma Stephens, Head of Corporate Governance
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PRESENTED BY	Emma Stephens, Head of Corporate Governance
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EXECUTIVE SPONSOR APPROVED	Jacinta Abraham, Executive Medical Director
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REPORT PURPOSE	ENDORSE FOR COMMITTEE APPROVAL
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COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING

COMMITTEE OR GROUP	DATE	OUTCOME

ACRONYMS

RD&I	Research, Development & Innovation
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1. SITUATION / BACKGROUND

- 1.1. Under Standing Order 4.3.2, each Sub-Committee of the Board is required to submit an annual report ***“setting out its activities during the year and detailing the results of a review of its performance.”***
- 1.2. This is the Annual report for the Research, Development & Innovation Sub-Committee and details the activities and performance for the reporting period January – December 2021.

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

This report summarises the key areas of business activity undertaken by the Sub-Committee from January to December 2021, and highlights some of the key issues the Sub-Committee will progress and further consider over the next 12 months.

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	Yes (Please see detail below)
	The RD&I Committee provides evidence based, timely advice to the Board to assist in discharging its functions and meeting its responsibilities with regards to research, development and innovation activity. Assurance is also provided in relation to compliance with the Trust's regulatory responsibilities related to research, development and innovation.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	<ul style="list-style-type: none"> Standard 3.3 Quality Improvement, Research and Innovation Standard 3.4 – Information Governance and Communications Technology
EQUALITY IMPACT ASSESSMENT COMPLETED	Not required



GIG
CYMRU
NHS
WALES

Ymddiriedolaeth GIG
Prifysgol Felindre
Velindre University
NHS Trust

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.

4. RECOMMENDATION

The Research, Development & Innovation Sub-Committee is asked to **ENDORSE** for **COMMITTEE APPROVAL** the Annual Report 2021.

Velindre University NHS Trust

Research, Development & Innovation (RD&I) Sub-Committee

Annual Report 2021



GIG
CYMRU
NHS
WALES

Ymddiriedolaeth GIG
Prifysgol Felindre
Velindre University
NHS Trust



Canolfan Ganser Felindre
Velindre Cancer Centre



Gwasanaeth Gwaed Cymru
Welsh Blood Service

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**Professor Donna Mead,
OBE**

**Trust Chair and
Chair of the RD&I
Sub-Committee (2021)**



**Dr Jacinta Abraham,
Executive Medical Director
and Executive Lead for
Research & Development**

Despite the pandemic and the disruption it has caused, research at Velindre University NHS Trust has continued even though some changes were necessary for periods of time to meet the demands caused by the Coronavirus.

In particular, over the last year, we have taken the time to redesign and reinvigorate our Research Strategy for both the Velindre Cancer Service and the Welsh Blood Service and we now look forward to seeing the ambitions contained in the Trust's Research Strategies realised.

Research matters like never before and the Trust is proud to have played a significant role in research directly related to the pandemic. The lessons we have learned particularly in relation to study recruitment will stand us in good stead for the future. Details can be found in the body of this report.

I never cease to be inspired by the passion and commitment of our staff to be engaged in research whether this involves new treatment regimes or addressing issues of patient and donor experience and well-being. I am grateful also to our partners in industry and the third sector who place their confidence in Velindre University NHS Trust by working with us to improve our services through new treatments, application of digital technology or through improving our understanding of patient experience.

Professor Donna Mead OBE

As the Executive lead for Research Development and Innovation I am delighted to see the progress that is demonstrated in this annual report. It has been a time of change with the forming of a new subcommittee, and with it a refreshed agenda with a streamlined Trust performance report. In spite of the constraints with the arrival of the pandemic, we have continued to excel in research study recruitment and have made several new key appointments and successful developments to celebrate. The component laboratory set up at WBS is one example of this success that has huge potential looking forward. I am also immensely proud of the work that has culminated in the approval of a 10-year Velindre Cancer Research ambition which has put Velindre in a leadership position to influence Cancer Research in Wales. The investment into clinical leadership across the Trust has strengthened our ability to contribute at a strategic level and ensures that the multidisciplinary clinical workforce has a research voice.

Dr Jacinta Abraham

1. Introduction

In September 2020, the Trust Board approved a new Board & Committee model resulting in the move from a top line nine committee model to a five-committee model. Amongst a number of key changes, the new model resulted in the revised establishment of the previous Research & Development Committee into a newly formed Research, Development & Innovation (RD&I) Sub-Committee.

Under the revised arrangements the RD&I Sub-Committee acts as the “front door” for all RD&I business at Board level, with the right expertise around the table. In addition, a key aim of the newly established RD&I Sub-Committee is to act as the point in the organisation where the quality of RD&I bids are assessed from a strategic alignment; science; ethics and value for money perspective feeding into three overarching Committees of the Trust Board, namely:

- i. Quality, Safety & Performance Committee – for assurance of the performance of research and development.
- ii. Strategic Development Committee – for Innovation and RD&I strategy overall.
- iii. Charitable Funds Committee – for alignment with strategy and funding of business cases.

Under the revised arrangements the RD&I Sub-Committee has retained the delegated authority for decision making granted to the previously established Research & Development Committee by the Trust Board.

This Annual Report summarises the key areas of business activity undertaken by the newly established RD&I Sub-Committee in its first year of operation, encompassing the period from the 1 January 2021 up to and including the 31 December 2021.

This Annual Report highlights some of the key issues which the RD&I Sub-Committee intends to give further consideration to over the next 12 months, as well as the outcome of the 2021 RD&I Sub-Committee Annual Effectiveness Survey, together with any opportunities for continuous improvement in the year ahead.

2. Roles and Responsibilities

The primary purpose of the RD&I Sub-Committee is to:

- Provide strategy and policy oversight for RD&I activities undertaken by the Trust feeding into its overarching Strategic Development Committee.
- Provide assurance on the performance of Research and Development activity feeding into its overarching Quality, Safety & Performance Committee.
- Promote and encourage a RD&I ethos and culture, integral to the Trust's vision, mission and values.
- Provide assurance to the Board in relation to the Trust's arrangements for ensuring compliance with the UK Policy Frameworks for Health & Social Care Research as amended from time to time.
- Consider relevant matters with reference to the parameters identified for risk appetite in relation to RD&I as set by the Board.

The RD&I Sub-Committee meets on a quarterly basis and met four times during the year and received and discussed presentations and reports on matters that fall within its terms of reference.

During 2021, the RD&I Sub-Committee business was underpinned and informed through the work of a number of Management Groups, and Governance and Assurance Processes as set out in **Appendix 1**.

3. Agenda Planning Process

In line with the agreed Committee Cycle of Business, the Chair of the RD&I Sub-Committee, in conjunction with the Executive Medical Director, Head of Research & Development and the Head of Corporate Governance, set the agenda for Committee meetings. The Committee secretariat for the meeting is provided by the Business Support Officer to the Executive Medical Director.

The Committee's agenda and meeting papers are disseminated to members and attendees a minimum of ten working days before the meeting and are also made available on the Trust website. All papers are required to be accompanied by a cover

report which provides a summary of key matters for consideration and supporting details on the action required by the Committee.

4. Terms of Reference and Operating Arrangements

The Committee's Terms of Reference and Operating Arrangements are reviewed on an annual basis. Their first annual review was due to be completed by the end of December 2021. However, due to the prevalence of the Omicron variant and increased demands on Trust officers to respond to the escalating position, this has not been able to be fully progressed, has been deferred and will now be progressed in the New Year. This will afford the opportunity for the newly appointed Chair of the RD&I Sub-Committee to undertake a holistic review in conjunction with Trust officers with recommendations and any revisions to the Terms of Reference and Operating Arrangements received at the July 2022 meeting.

5. Membership, Frequency and Attendance

The Committee's Terms of Reference and Operating Arrangements specify that the Committee comprises a minimum of two members including:

- Committee Chair
(Independent Member of the Board)
- One Independent Member of the Board
(Independent Member of the Board - University)

In addition, the Committee is also attended and supported in its operating arrangements by:

- Executive Director with responsibility for RD&I currently Medical Director
- Executive Director of Finance or nominated officer with RD&I funding responsibilities
- Associate Medical Director with responsibility for R&D
- Clinical Director (or Nominated Deputy) – Velindre Cancer Centre
- Executive Director of Nursing AHP and Health Sciences
- Head of Corporate Governance
- Head of RD&I Strategy

- Representative - Velindre Cancer Centre Strategic Management Team
- Representative – Welsh Blood Service Strategic Management Team
- WBS RD&I Lead
- Trust Head of Research & Development
- Service User/Lay representatives

The Committee may also co-opt additional independent ‘external’ members from outside the organisation to provide specialist skills, knowledge and expertise.

During the year, the Committee met on four occasions with attendance by its Members as outlined below:

Members	Committee Attendance				Attendance
	Date 27/01/21	Date 28/04/21	Date 22/07/21	Date 21/10/21	
Prof. Donna Mead OBE, CStJ. (Chair of the Committee for the reporting period)	✓	✓	✓	✓	100%
Prof. Donald Fraser (Independent Member of the Board – University) <i>[Jan 2021 – Aug 2021]</i>	✓	✓	✓	N/A	100%
Prof. Andy Westwell (Independent Member of the Board – University) <i>[Aug 2021 – present]</i>	N/A	N/A	N/A	✓	100%

6. RD&I Sub-Committee Activity

The Trust's strategic approach to Research, Development and Innovation (RD&I) is informed by patient need, strategic funding priorities and staff RD&I expertise at a national and local level and is underpinned by established RD&I processes: robust research governance, performance monitoring and quality assurance mechanisms; increasing service improvements and knowledge and expertise amongst staff.

The Sub-Committees Cycle of Business is configured to obtain assurance, on behalf of the Board, in relation to Trust activities within the Committee's scope.

In its first year the RD&I Sub-Committee supported the collaborative work plans of the divisions of the Trust – the RD&I Division, Welsh Blood Service (WBS) and Velindre Cancer Centre (VCC), and where appropriate the Trust's collaboration with key stakeholder organisations within the NHS and Higher Education Institutions.

For 2021, the RD&I Sub-Committee has fulfilled its core work programme with the following key priorities continuing to provide focus for the Sub-Committee:

- The continued development of one Trust-wide Research, Development & Innovation (RD&I) Strategy and implementation plan.
- Provision of a robust governance framework and infrastructure to support the Trust's RD&I agenda.
- Assuring the RD&I arrangements support the delivery of the RD&I agenda.
- Reviewing the resources available for support within the Trust
- Ensuring the Trust is fully engaged in national programmes and policies
- Ensuring RD&I related risk is considered and managed appropriately
- The review of RD&I related business cases.
- The monitoring of performance against key RD&I deliverables on behalf of the Trust Board including:
 - The RD&I priorities for the annual Operational Plans
 - Health and Care Research Wales (HCRW) key performance indicators
 - Healthcare Standards Standard 3.3 Quality Improvement, Research and Innovation

- Progress against the Integrated Medium-Term Plan (IMTP) / Annual Planning Framework

During 2021, the Committee obtained assurance in relation to a wide range of additional RD&I activities over and above those highlighted, these are summarised below.

6.1 Velindre Futures Cancer R&D Ambitions

The development of a 10-year Velindre Cancer research ambition through the work of the Velindre Futures RD&I group has been a major achievement. This was a multi stake holder group with patient and public representation which met from September 2020 to January 2021 which worked intensely to produce an exciting, shared vision and strategy for cancer research. The Trust Board welcomed and approved the “Overarching Cancer Research and Development Ambitions 2021-31” document in March 2021. These ambitions have complemented very well the research recommendations from the Nuffield Trust’s advice on the proposed model for non-surgical tertiary oncology services in Southeast Wales which was published in December 2020. It has also since been endorsed by several fora including CREST, the Research Strategy Group for Wales Cancer Collaborative Leadership Group (South-East Wales) and is aligned to the UK Future of Clinical Research Delivery Strategy document published in March 2021.

Since the Trust approved the document, work has been ongoing to develop a Velindre Futures RD&I infrastructure to support and develop a detailed implementation plan in partnership with Cardiff University and University Health Board partners across South-East Wales. Additionally, the Trust is engaging with Charities, Industry and the Welsh Government as key partners in cancer research across the region and beyond.

6.2 COVID19 Pandemic

In response to the Urgent Public Health COVID19 pandemic, the RD&I Division took action to develop a business continuity plan on behalf of the Trust to manage the research study portfolio during the pandemic. The Division took action to:

- Halt screening and recruitment activities for all hosted research.
- Not open new research studies except for prioritised COVID19 research and research that provided patient benefit or reduced burden on clinical services.

- Issue guidance to research sites for managing the Trust's sponsored research.

Additionally, the Division took action to plan for staff redeployment to other areas of the Trust, as appropriate.

Once the Trust was able, the Division planned the reactivation of the research study portfolio based on an agreed set of key prioritisation principles in three cohorts over a 9-month period. The consultants, as Principal Investigators, responsible for the safe delivery of the research activity confirmed the reactivation programme's prioritisation. Since reactivating the Trust's research study portfolio, the RD&I Division continued to manage the portfolio in line with the NIHR documents, endorsed by the devolved nations.

The Trust's Welsh Blood Service (WBS) Division's blood supply chain provided an outstanding contribution to the collection of, and management of, the supply of convalescent plasma for the REMAP-CAP and RECOVERY research studies. Peter Richardson, Head of Quality Assurance, led on this work within the Welsh Blood Service.

The clinical liaison with Principal Investigators at the RECOVERY study research sites in Wales and the respective blood banks was managed through the Blood Health Team under the leadership of Lee Wong, Head of Department, and Janet Birchall, Medical Director.

The findings reported by RECOVERY in January 2021 showed that convalescent plasma treatment did not show evidence of improving outcomes for moderately ill COVID19 patients. This followed the announcement, also in January 2021, that the UK arm of the REMAP-CAP trial also reported interim findings of no benefit in intensive care patients.

WBS's involvement in these trials to find effective treatments for COVID19 patients cannot be underestimated especially in helping to deliver the world's largest randomised control trial of convalescent plasma.

6.3 Head of Innovation

A full-time Head of Innovation, Robyn Davies, was appointed by the Trust during the third quarter of 2021. Robyn joins the Trust RD&I senior leadership team, further strengthening the Trust's Innovation Service and leading the development of a Trust wide innovation strategy aligned with the Trust 2032 strategy.

6.4 Nursing and Interdisciplinary Led Research

The Trust has recognised that in order to fulfil the requirements in relation to University status there was a need to invest in further strengthening its nursing and interdisciplinary led research portfolio by increasing the nursing, allied health professional (AHP) and clinical scientist research activity.

A Velindre Professor of Nursing and Interdisciplinary Cancer Care was appointed to lead this important initiative supported by a research fellow.

As part of this initiative, in October 2021, the Trust held a successful Nursing, Allied Healthcare Professional (AHPs) and Clinical/Healthcare Scientists Research Celebration Event with the welcome by Professor Donna Mead OBE, Chair of the Trust and guest speaker Professor Bridget Johnston FRCN, Clinical Professor of Nursing and Palliative University of Glasgow and Chief Nurse Research, NHS Greater Glasgow & Clyde.

6.5 Trust RD&I Small Grant Scheme

In order to support an increase in activity in the Nursing and Interdisciplinary led research portfolio the Trust has established an annual Small Grant Scheme. The award for 2021 was £50k, (5 studies of £10k or pro-rata for smaller projects) and will be coordinated and managed by the Trust R&D Office. The scheme seeks to support the development of nurse, allied health professional and health/clinical science researchers in a multidisciplinary and supportive environment to undertake research aligned to strategic priorities.

In 2021, the scheme launched by Nicola Williams, the Trust's Executive Director of Nursing, AHPs & Health Science, received ten applications. The RD&I Small Grant Scheme award panel was convened in September 2021, chaired by Nicola Williams and

consisted of the Trust Chair, Professor Donna Mead OBE, with representation from the Welsh Blood Service and Velindre Cancer Centre to consider applications and determine the awards to be made.

6.6 “One Site Wales” model of research delivery and SYMPLIFY Study

In response to the delivery of Urgent Public Health COVID19 vaccine research studies, Wales developed and implemented a new model of research study delivery – “One Site Wales”.

Velindre capitalised on an opportunity arising from engagement sought from Health and Care Research Wales to lead on the further development and implementation of this “One Site Wales” model outside Urgent Public Health research. The model was tested on a study to assess a multi-cancer early detection test (using GRAIL’s Galleri technology) and was sponsored by Oxford University.

Velindre worked with six University Health Boards to set-up and deliver this study with Professor Dean Harris (Swansea Bay UHB) and Professor Tom Crosby (Velindre University NHS Trust) as Principal Investigators. The Study exceeded its recruitment target of 700 patients to be recruited in Wales.

There was very positive feedback from all parties with Professor Kieran Walsh, Director of Health and Care Research Wales, saying:

“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.”

Velindre will play a key role in the future development of this model of research delivery in Wales.

6.7 Component Development Research Laboratory

The Welsh Blood Service (WBS) held a successful launch event on 11 October 2021 for the Component Development Research Laboratory (CDRL). The event consisted of

a mix of live segments and pre-recorded videos that enabled the involvement of multiple external collaborators and the entirety of the CDRL team.

The event was opened by the Head of Quality Assurance, Peter Richardson, and the Head of the CDRL, Chloe George. The rest of the event included:

- A “Meet the Team” video, putting names to faces and giving some background on the team’s expertise
- Christine Saunders gave a presentation on the CDRL’s interest in cold platelet storage and their ongoing projects.
- Jamie Nash, a KESS 2 PhD candidate, gave a presentation on working with the laboratory on optimising the storage and function of platelets – an example of an excellent partnership between WBS and Cardiff Metropolitan University.
- A virtual laboratory tour of the facilities and insight into the equipment on offer and future investments the laboratory will make.
- Insights from key collaborators that the CDRL supports and discussion on the benefits the research has on patients.
- An open forum on horizon scanning and a question and answer session led by Chloe George and Siân James.

6.8 Divisional Assurance Mechanisms and Reports

The two operational divisions of the Trust, i.e. the Welsh Blood Service and the Velindre Cancer Service, each provided a divisional report to the Research, Development & Innovation Sub-Committee for assurance. The purpose of each report was to provide the Committee with an update on the key quality, safety and performance outcomes and metrics for the reporting period, together with an overview of key priority areas, any issues, corrective actions and monitoring arrangements in place, together with any service developments planned or underway.

In 2021, the reporting arrangements were reviewed and a Trust RD&I Integrated Performance Report developed. The content of the report now enables a more triangulated and holistic approach by combining research output data with financial and work force information.

The RD&I Sub-Committee approved the format of the first fully integrated Trust RD&I Performance report at their meeting of 21 October 2021. The format of this report will continue to mature and develop in line with Trust business.

6.9 Presentations

The RD&I Sub-Committee has also received a number of presentations throughout its inaugural year. These included those highlighted below:

- Velindre Futures Research & Development Group Strategy (Professor Mererid Evans).
- Velindre Cancer Centre Patient Personal Assistant – RiTTa Chatbot (Professor Peter Barrett-Lee and Mr Ross McLeish).
- Addressing the Platelet Storage Lesion (Dr Edwin Massey and Mr Jamie Nash).

The Sub-Committee also received presentations on a number of Business Cases relating to the supporting and improving research activities in the Trust.

6.10 Policy Approvals

The RD&I Sub-Committee approved the following Trust policy during the inaugural year:

- Intellectual Property (IP) Policy

6.11 External Reviews, Internal Audit Reviews and Reports

The Sub-Committee received and considered external reviews and reports, including:

- Nuffield Trust – Advice on the proposed model for non-surgical tertiary oncology services in South East Wales
- UK Strategy – Saving and improving lives: the future of UK clinical research delivery
- UK Strategy – The Future of UK Clinical Research Delivery: 2021 to 2022 Implementation Plan
- Wales Chief Medical Officer (CMO) letters relating to the management of urgent public health studies and other research study activities during the COVID19 pandemic

6.12 Endorsements / Approvals

The Sub-Committee **ENDORSED** a number of items to support and enable the Trust's ongoing commitment towards quality and excellence in Research, Development and Innovation:

- VUNHST Overarching Cancer Research and Development Ambitions 2021-31
- RD&I Committee Financial Performance Report
- Trust RD&I Integrated Performance Report

6.13 Strategy, Policy Implementation and Performance

The Sub-Committee has sought assurance through regular review and scrutiny of the regularly received RD&I Performance Reports to provide the Sub-Committee with the necessary assurance around performance of the RD&I Division. These provide the Sub-Committee with an update on the key performance outcomes and metrics for the research activity of the Welsh Blood Service and Velindre Cancer Service.

A noteworthy development in Quarter 3 saw the RD&I Sub-Committee approve the format of the first fully integrated Trust RD&I Performance report at their meeting of 21 October 2021. Additionally, the Sub-Committee also received regular progress reports and assurance in respect of the RD&I Division's financial performance in achieving a balanced position against its income and expenditure position for the year ending 31 March 2021. The RD&I Division's financial performance has been incorporated into the Trust RD&I Integrated Performance Report. The format of this report will continue to mature and develop as the Sub-Committee enters its second year.

Finally, in terms of performance, the Sub-Committee received reports on key projects and programmes of work underway for the RD&I Division, this included but was not limited to:

- Research, Development & Innovation Annual Operational Plan
- Research, Development & Innovation Integrated Performance Report
- Research, Development & Innovation Financial Performance Report
- Trust Innovation Updates
- Welsh Blood Service RD&I Updates

- nVCC Research, Development & Innovation Group Updates
- Advancing Radiotherapy Fund Highlight Report

7. Discussion held in Part B / Private Committee

There is facility for the Committee to consider reports that contain commercially sensitive or potentially identifiable / sensitive information in Part B / Private Committee. The Committee considered reports in Private in relation to:

- Business Case Expenditure Proposals
- Business Case Annual Evaluation Reports
- Health & Care Research Wales – feedback from Annual Meeting
- Feedback from the Trust Research & Development Annual Performance Meeting
- Discussion on access to the FAKTION Fund (the reader will not know what the Faktion fund is). A general statement that this refers to income generated through research for research
- Innovation Idea for Palliative Care

8. Reporting the Committee's Work

The Chair of the RD&I Sub-Committee reports the key issues discussed at each of its meetings by way of a Highlight Report to the Quality, Safety & Performance Committee and Strategic Development Committee as appropriate. The Highlight Report provides the facility for the Committee to alert/escalate; advise; assure; or inform its overarching Committees in relation to quality, safety, performance and strategic matters. Committee papers, including minutes, are published on the Trust's internet pages.

9. RD&I Sub-Committee Annual Effectiveness Survey

The RD&I Sub-Committee Effectiveness Survey is undertaken on an annual basis to determine the effectiveness of the Committee in meeting its operations in accordance with its Terms of Reference and the Trust Standing Orders.

9.1 Methodology

A Committee survey consisting of eighteen questions was established via an online survey platform. The survey questions were designed and selected to gain valuable feedback and harness the opinion of both Members and regular Attendees, to ascertain their views with respect to the Committee's inaugural year of operation. The aim of which was to identify any learning opportunities in the pursuit of continuous improvement.

All questions were posed in a structured format. The questionnaire was designed to require respondents to answer each question before enabling them to progress onto the next question. No personal data was collected in the completion of the survey questionnaire and all responses are anonymised.

9.2 Findings

20 surveys were sent out and a total of 11 responses were received, therefore an overall completion rate of 55%. The full survey results are provided below:

9.2.1 Survey question 1

Please indicate if you are a 'Member' of the Research, Development & Innovation Sub-Committee i.e. Independent Member or a regular 'Attendee' of the Committee.

Members:

The Committee is made up of 2 'Members' i.e. Committee Chair and 1 Independent Member, 2 'Members' responded to the survey, providing an overall response rate of 100% by the Committee's Members.

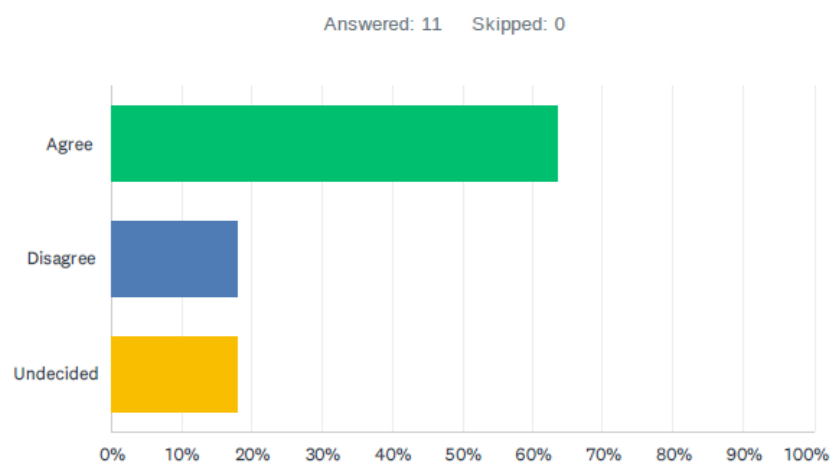
Regular Attendees:

In the Committee's first year of operation there were a total of 18 'Regular Attendees'. This includes representatives of independent and partner organisations and patients. A

total of 9 ‘Regular Attendees’ responded to the survey, providing an overall response rate of 50 % by the Committee’s ‘Regular Attendees’.

9.2.2 Survey question 2

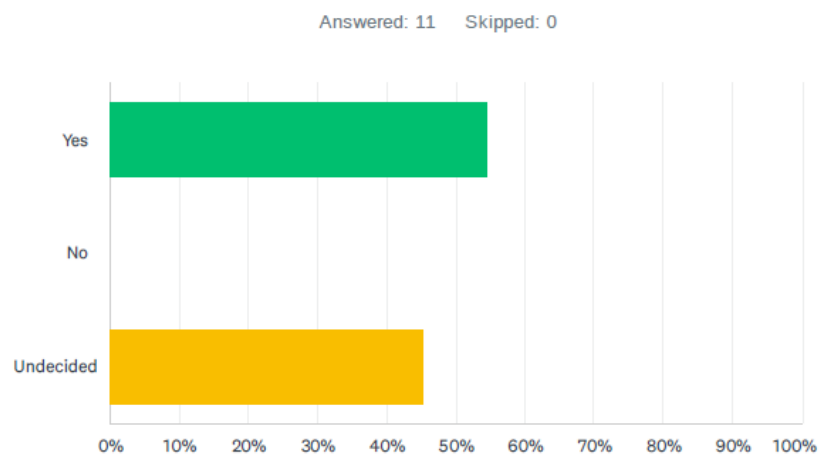
There are clear Terms of Reference, with clarity as to the role of the Research, Development & Innovation Sub-Committee and the relationship between the Committee and the Trust Board.



ANSWER CHOICES		RESPONSES	
Agree		63.64%	7
Disagree		18.18%	2
Undecided		18.18%	2
TOTAL			11

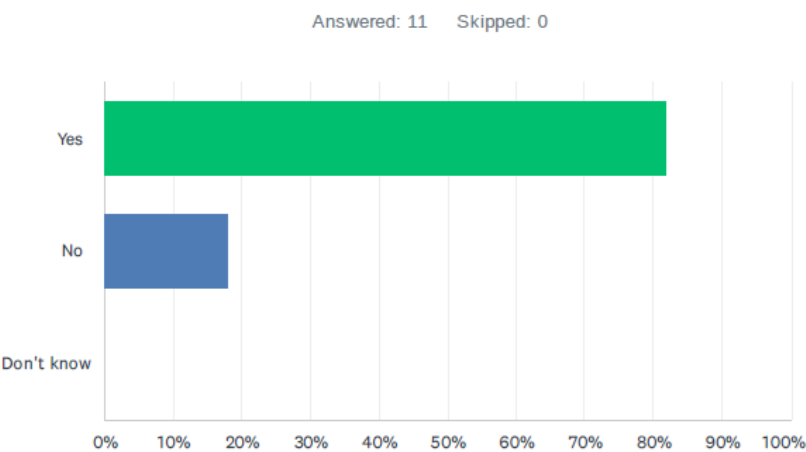
9.2.3 Survey question 3

Has the Research, Development & Innovation Sub-Committee been provided with sufficient authority and resources to fulfil its role effectively?



9.2.4 Survey question 4

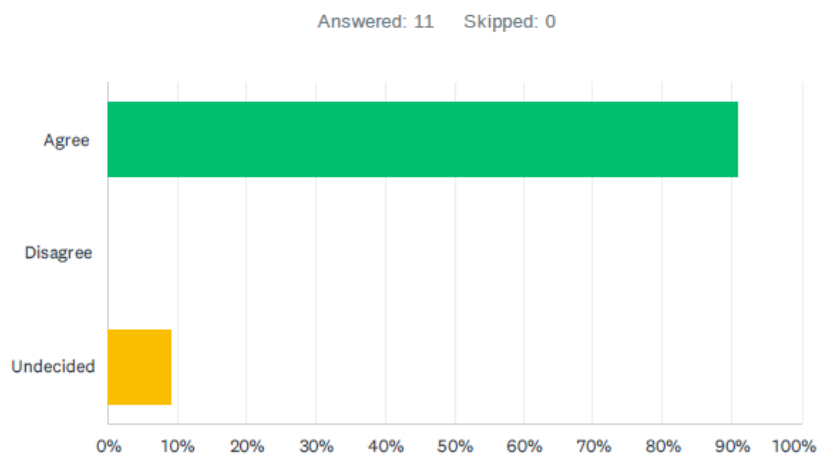
Has the Research, Development & Innovation Sub-Committee established a Cycle of Business to be dealt with during the year?



ANSWER CHOICES	RESPONSES	
Yes	81.82%	9
No	18.18%	2
Don't know	0.00%	0
TOTAL		11

9.2.5 Survey question 5

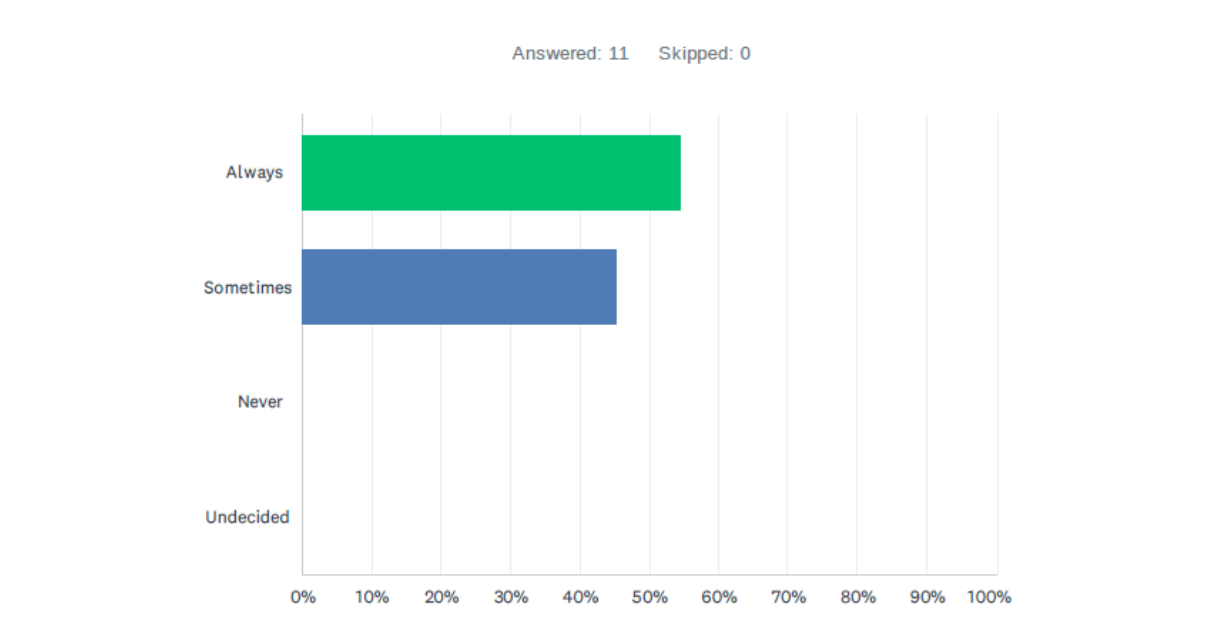
The number and length of meetings is sufficient to allow the Research, Development & Innovation Sub-Committee to fully discharge its duties.



ANSWER CHOICES	RESPONSES	
Agree	90.91%	10
Disagree	0.00%	0
Undecided	9.09%	1
TOTAL		11

9.2.6 Survey question 6

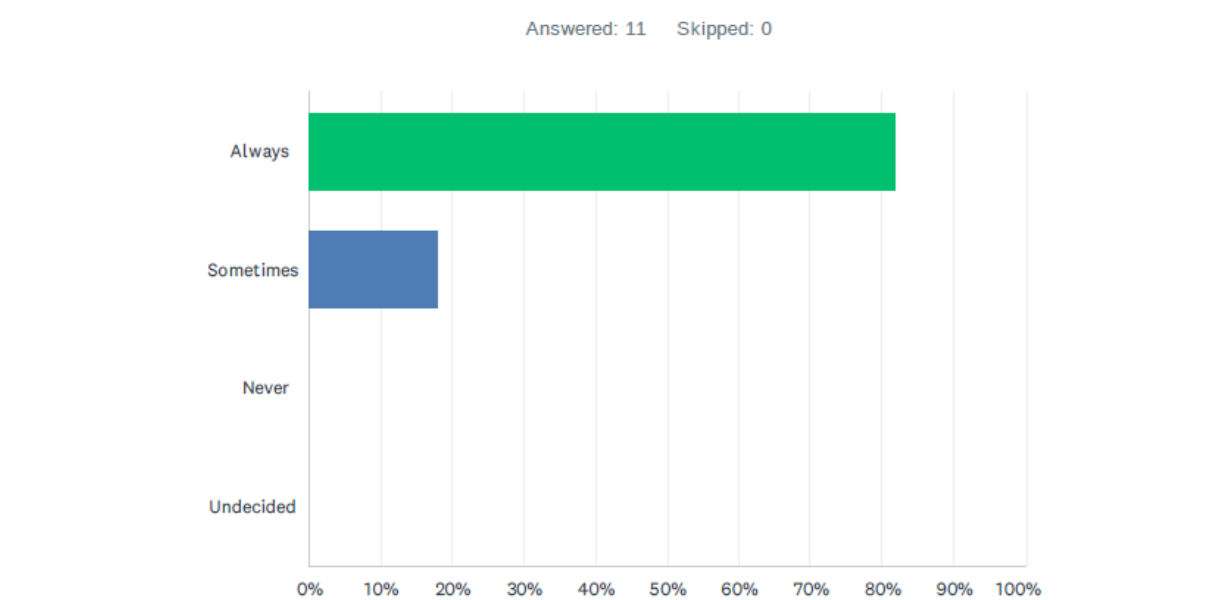
Is sufficient time allowed for questions, discussion and debate at the Research, Development & Innovation Sub-Committee meetings?



ANSWER CHOICES	RESPONSES	
Always	54.55%	6
Sometimes	45.45%	5
Never	0.00%	0
Undecided	0.00%	0
TOTAL		11

9.2.7 Survey question 7

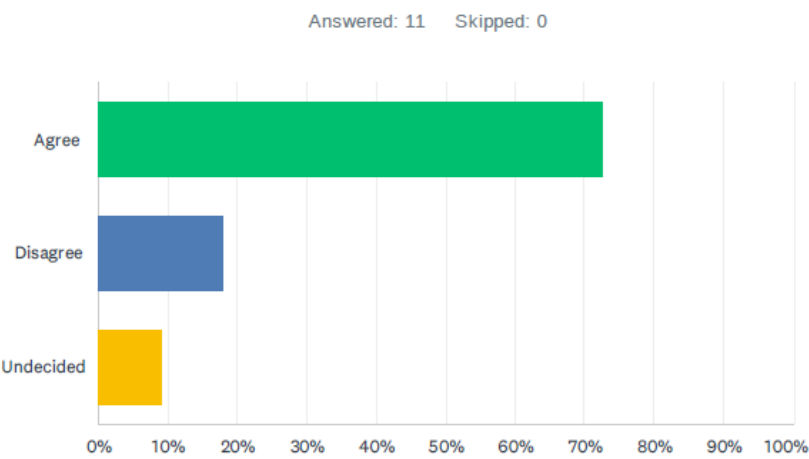
The Research, Development & Innovation Sub-Committee papers are received sufficiently far in advance of meetings?



ANSWER CHOICES	RESPONSES	
Always	81.82%	9
Sometimes	18.18%	2
Never	0.00%	0
Undecided	0.00%	0
TOTAL		11

9.2.8 Survey question 8

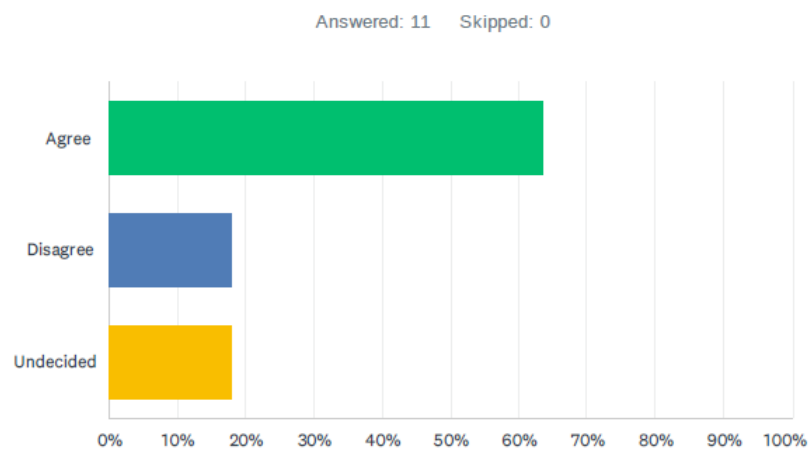
The papers received by the Research, Development & Innovation Sub-Committee are concise and relevant?



ANSWER CHOICES	RESPONSES	
Agree	72.73%	8
Disagree	18.18%	2
Undecided	9.09%	1
TOTAL		11

9.2.9 Survey question 9

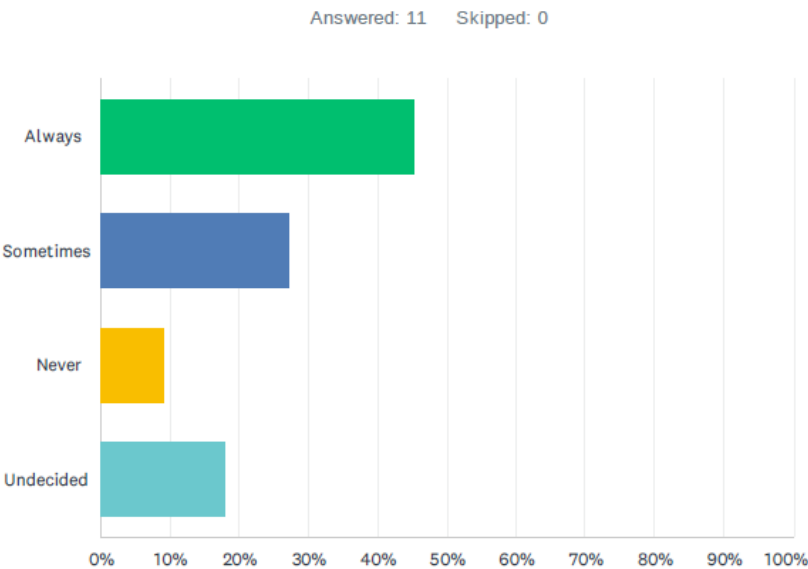
I feel the Research, Development & Innovation Sub-Committee receives sufficient detail, at the right level to allow me to focus on asking the right questions.



ANSWER CHOICES		RESPONSES	
Agree		63.64%	7
Disagree		18.18%	2
Undecided		18.18%	2
TOTAL			11

9.2.10 Survey question 10

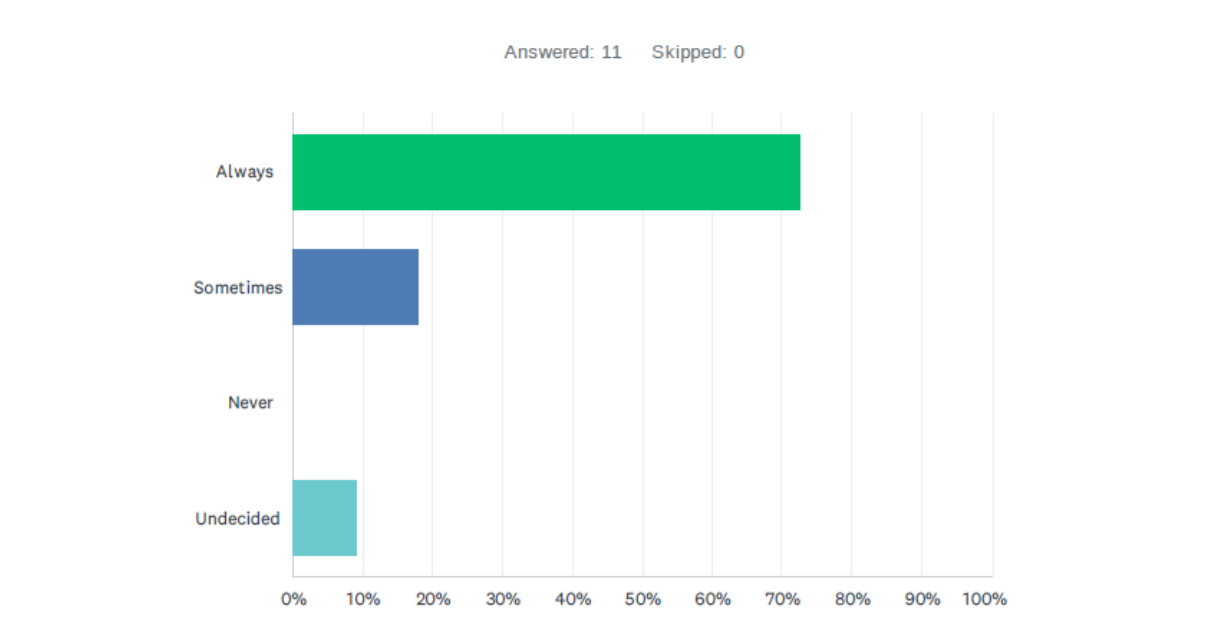
Are Research, Development & Innovation Sub-Committee meetings scheduled prior to important decisions being made?



ANSWER CHOICES	RESPONSES	
Always	45.45%	5
Sometimes	27.27%	3
Never	9.09%	1
Undecided	18.18%	2
TOTAL		11

9.2.11 Survey question 11

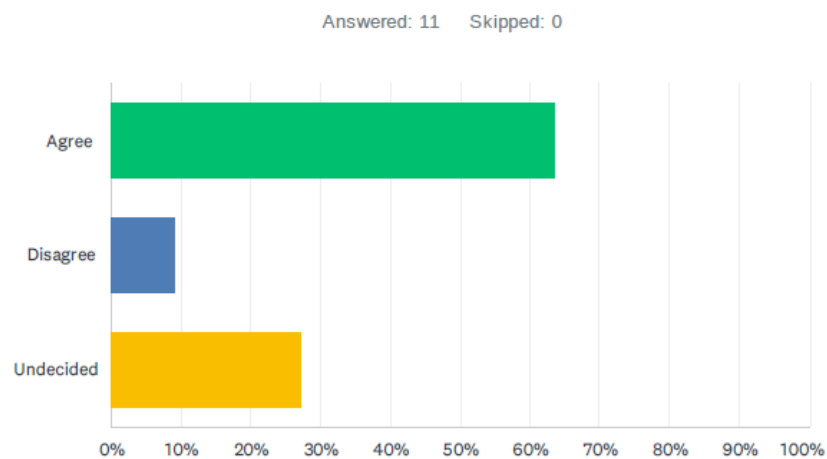
Is the behaviour of all Members / Attendees at the Research, Development & Innovation Sub-Committee meetings courteous and professional?



ANSWER CHOICES		RESPONSES	
Always		72.73%	8
Sometimes		18.18%	2
Never		0.00%	0
Undecided		9.09%	1
TOTAL			11

9.2.12 Survey question 12

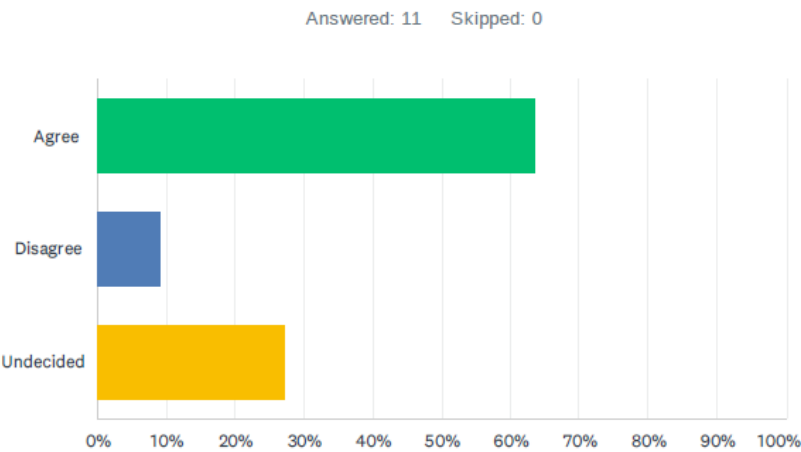
The Research, Development & Innovation Sub-Committee Chair has a positive impact on the performance of the Committee.



ANSWER CHOICES	RESPONSES	
Agree	63.64%	7
Disagree	9.09%	1
Undecided	27.27%	3
TOTAL		11

9.2.13 Survey question 13

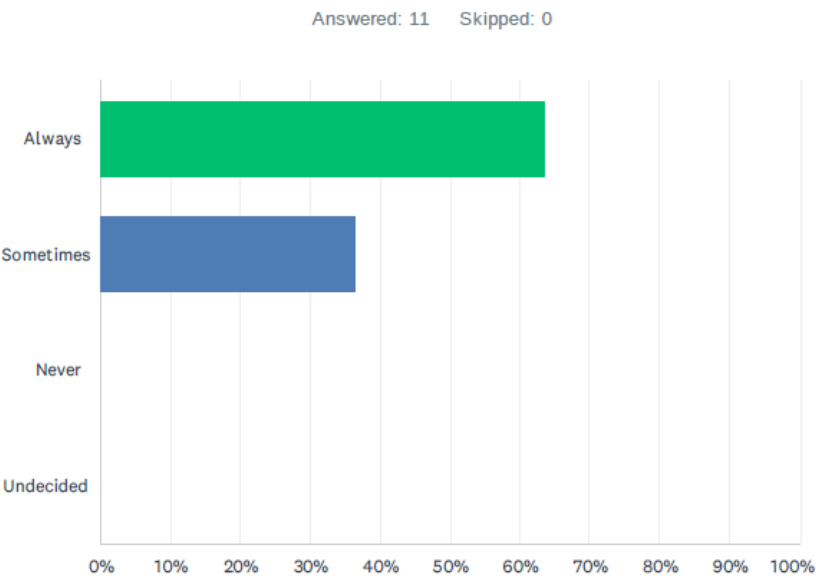
The Research, Development & Innovation Sub-Committee meetings are chaired effectively with clarity of purpose and outcome.



ANSWER CHOICES	RESPONSES	
Agree	63.64%	7
Disagree	9.09%	1
Undecided	27.27%	3
TOTAL		11

9.2.14 Survey question 14

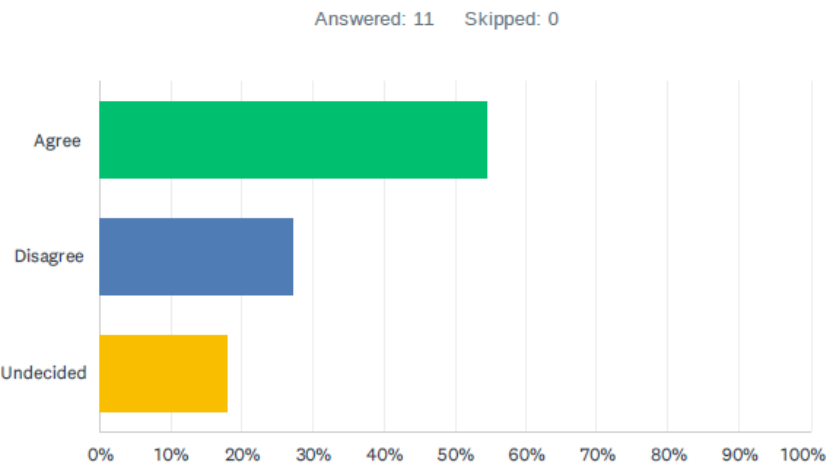
Is each agenda item at the Research, Development & Innovation Sub-Committee closed off with clarity on the decision / outcome of discussion?



ANSWER CHOICES	RESPONSES	
Always	63.64%	7
Sometimes	36.36%	4
Never	0.00%	0
Undecided	0.00%	0
TOTAL		11

9.2.15 Survey question 15

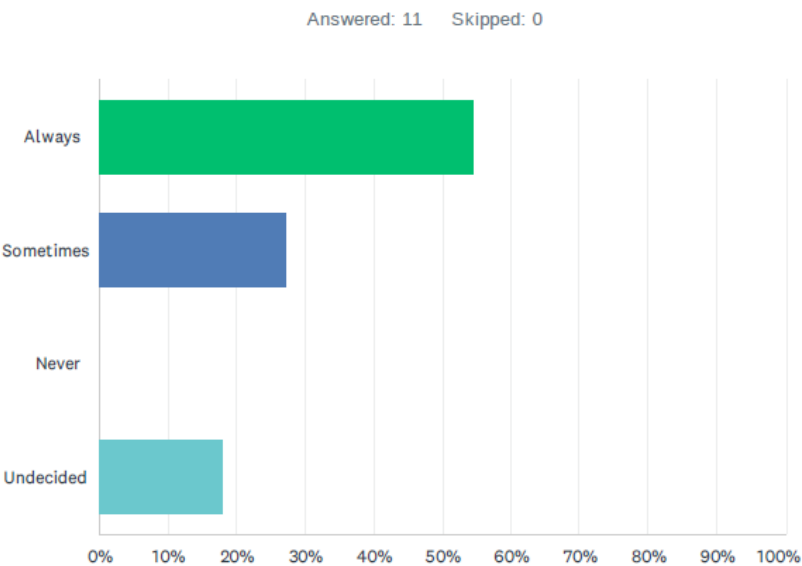
The Research, Development & Innovation Sub-Committee Chair allows debate to flow freely and does not assert their own views too strongly.



ANSWER CHOICES	RESPONSES	
Agree	54.55%	6
Disagree	27.27%	3
Undecided	18.18%	2
TOTAL		11

9.2.16 Survey question 16

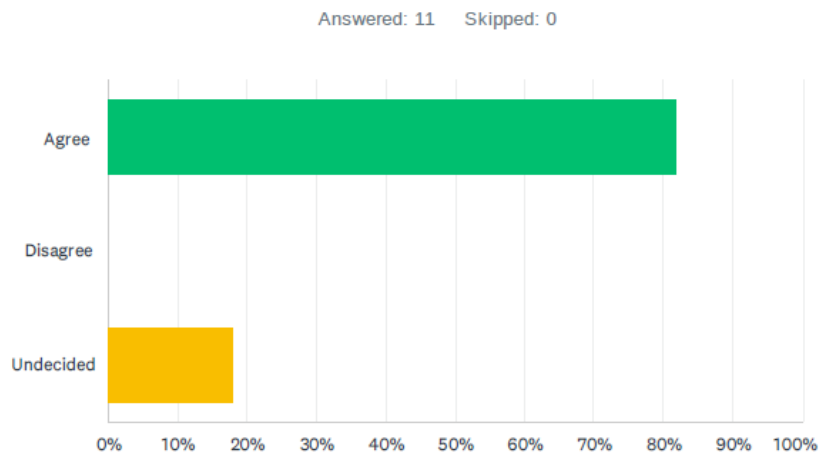
Is the atmosphere at the Research, Development & Innovation Sub-Committee meeting conducive to open and productive debate?



ANSWER CHOICES	RESPONSES	
Always	54.55%	6
Sometimes	27.27%	3
Never	0.00%	0
Undecided	18.18%	2
TOTAL		11

9.2.17 Survey question 17

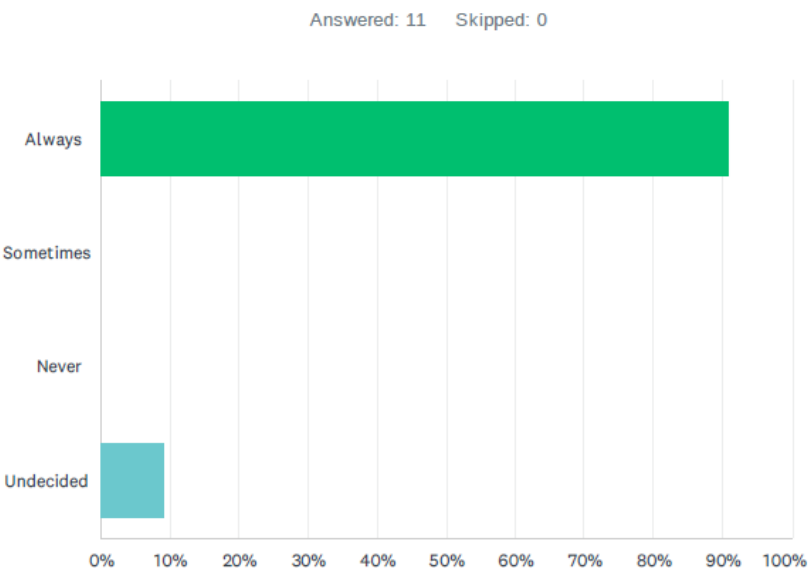
The Research, Development & Innovation Sub-Committee has effective escalation arrangements in place to alert relevant individuals, Committees, Board of any urgent / critical matters that may affect the operation and / or reputation of the Trust.



ANSWER CHOICES		RESPONSES	
Agree		81.82%	9
Disagree		0.00%	0
Undecided		18.18%	2
TOTAL			11

9.2.18 Survey question 18

Do you consider that where Private (Part B) Research, Development & Innovation Sub-Committee meetings are held, that these have been used appropriately for items that should not be discussed in the public domain?



ANSWER CHOICES	RESPONSES	
Always	90.91%	10
Sometimes	0.00%	0
Never	0.00%	0
Undecided	9.09%	1
TOTAL		11

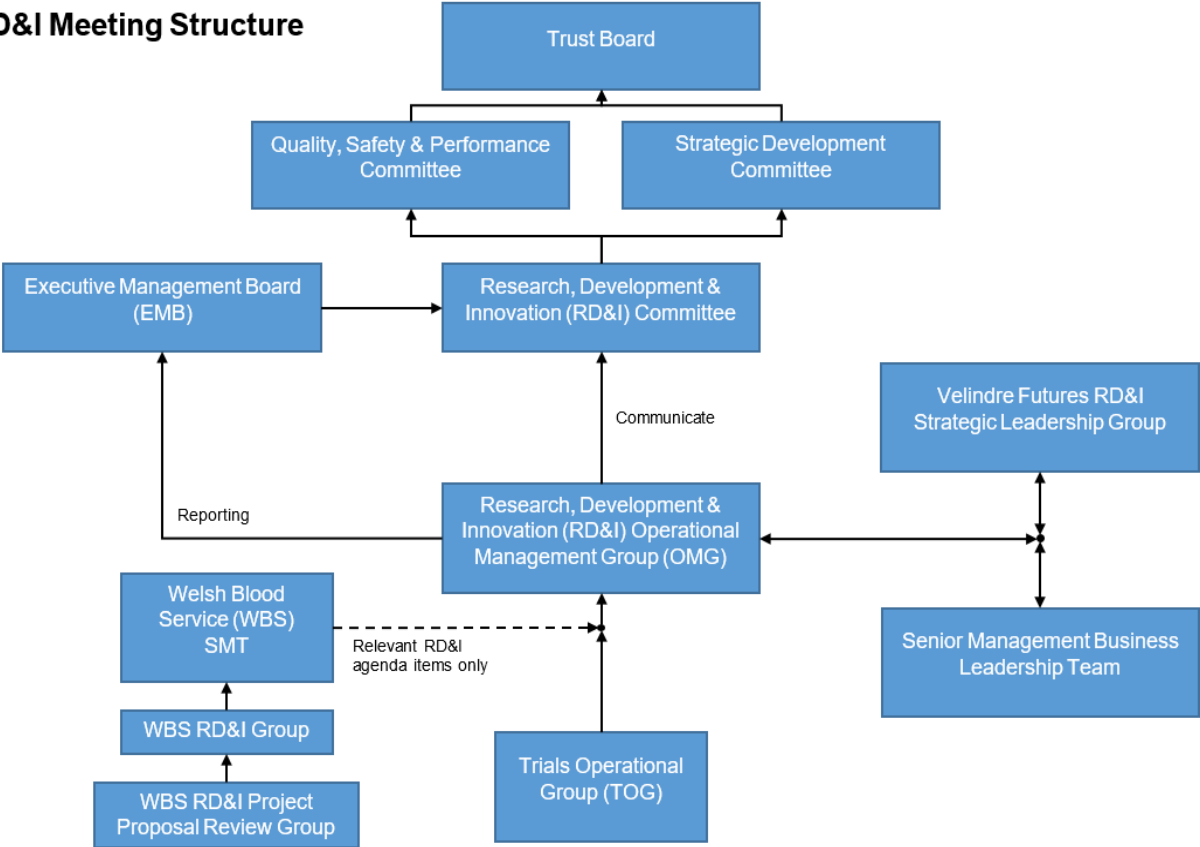
10. Conclusions and way forward

Members of the Trust Research, Development & Innovation Sub-Committee have extended thanks to all those involved in supporting the work of the Committee in its inaugural year, and for the constructive and positive way in which attendees have contributed to the work of the Committee as it evolves and continues to develop and mature.

The outcomes from the Committee Annual Effectiveness Survey will help to inform the continuing evolution of the Research, Development & Innovation Sub-Committee as it enters its second year. In addition to the above key areas of focus will include:

- Reviewing the current RD&I meeting structure, in accordance with the Corporate Governance Framework, to ensure an optimum, streamlined and compliant process that enables an agile RD&I service business model.
- Keeping the approved Cycle of Business under review to ensure that it remains appropriate to inform the delivery of the Sub-Committees work in line with the Terms of Reference.
- Continuing the work commenced in 2021 to keep the agenda and reports streamlined and concise.

RD&I Meeting Structure



Appendix 2

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 note-worthy published material.

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. Rutenberg, 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.
3. L. Garrigos, C. Saura, C. Martinez-Vila, A. Zambelli, M. Bower, B. Pistilli, M. Lambertini, D. Ottaviani, N. Diamantis, A. Lumsden, S. Pernas, D. Generali, E. Segui, G. Vinas, E. Felip, A. Sanchez, G. Rizzo, A. Santoro, A. Cortellini, Y. Perone, J. Chester, M. Iglesias, M. Betti, B. Vincenzi, M. Libertini, F. Mazzone, F. Zoratto, R. Berardi, A. Guida, R. Wuerstlein, A. Loizidou, R. Sharkey, J. Aguilar Company, M. Matas, C. Saggia, L. Chiudinelli, E. Colomba-Blameble, M. Galazi, U. Mukherjee, M. Van Hemelrijck, M. Marin, C. Strina, A. Prat, H. Pla, E. M. Ciruelos, A. Bertuzzi, L. Del Mastro, G. Porzio, T. Newsom-Davis, I. Ruiz, M. B. Delany, M. Krengli, V. Fotia, A. Viansone, N. Chopra, M. Romeo, R. Salazar, I. Perez, F. d'Avanzo, M. Franchi, M. Milani, F. Pommeret, M. Tucci, P. Pedrazzoli, N. Harbeck, D. Ferrante, D. J. Pinato and A. Gennari (2021). "COVID-19 in breast cancer patients: a subanalysis of the OnCovid registry." *Therapeutic advances in medical oncology* 13: 17588359211053416.
4. S. Kuemmel, C. A. Tondini, J. Abraham, Z. Nowecki, B. Itrych, E. Hitre, B. Karaszewska, A. Juarez-Ramiro, F. Morales-Vasquez, J. M. Perez-Garcia, S. Cardona-Huerta, E. Monturus, M. Sequi, E. Restuccia, M. Benyunes and M. Martin (2021). "Subcutaneous trastuzumab with pertuzumab and docetaxel in HER2-positive metastatic breast cancer: Final analysis of MetaPHER, a phase IIIb single-arm safety study." *Breast cancer research and treatment* 187(2): 467-476.
5. R. Roberts, A. Borley, L. Hanna, G. Dolan, S. Ganesh and E. M. Williams (2021). "Identifying Risk Factors for Anthracycline Chemotherapy-induced Phlebitis in Women with Breast Cancer: An Observational Study." *Clinical oncology (Royal College of Radiologists (Great Britain))* 33(4): 230-240.
6. C. Saura, J. Matito, M. Oliveira, H. Wildiers, A. M. Brufksy, S. H. Waters, S. A. Hurvitz, B. Moy, S.-B. Kim, W. J. Gradishar, G. S. Queiroz, E. Cronemberger, G. J. Wallweber,

J. Bechuk, K. Keyvanjah, A. S. Lalani, R. Bryce, A. Vivancos, L. D. Eli and S. Delalogue (2021). "Biomarker Analysis of the Phase III NALA Study of Neratinib + Capecitabine versus Lapatinib + Capecitabine in Patients with Previously Treated Metastatic Breast Cancer." Clinical Cancer Research 27(21): 5818-5827.

Conference Abstracts

1. Bahl, J. Braybrooke, A. Bravo, E. Foulstone, J. Ball, M. Churn, S. Dubey, S. Spensley, R. Bowen, S. Waters, P. Riddle, D. Wheatley, P. Stephens, J. Mansi, P. Bezecny, S. Madhusudan, M. Verrill, A. Markham, S. Pearson and W. Wilson (2021). "Randomized multicenter trial of 3 weekly cabazitaxel versus weekly paclitaxel chemotherapy in the first-line treatment of HER2 negative metastatic breast cancer (MBC)." Journal of Clinical Oncology 39(15 SUPPL).
2. S. El Badri, B. Tahir, K. Balachandran, P. Bezecny, F. Britton, K. DeSouza, 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 combined with aromatase inhibitors (AIs) in women ≥ 75 years with oestrogen receptor positive (ER+ve), human epidermal growth factor receptor 2 negative (HER2-ve) advanced breast cancer: A real-world multicentre UK study." Annals of Oncology 32(Supplement 5): S466.
3. E. P. Hamilton, J. S. Wang, T. Pluard, S. Johnston, A. A. Morikawa, C. E. Dees, R. H. Jones, B. Haley, A. Armstrong, A. L. Cohen, P. Munster, G. Wright, F. Kayali, M. Korpai, L. Yu, L. Cantagallo, B. Destenaves, M. J. Pipas, T. Sahmouud, A. Gualberto, Z. Zhang, L. Gao and D. Juric (2021). "Phase I/II trial of H3B-6545, a novel selective estrogen receptor covalent antagonist (SERCA), in estrogen receptor positive (ER+), human epidermal growth factor receptor 2 negative (HER2-) advanced breast cancer." Cancer Research 81(4 SUPPL).
4. E. P. Hamilton, J. S. Wang, T. J. Pluard, S. R. D. Johnston, A. Morikawa, E. C. Dees, R. H. Jones, B. B. Haley, A. C. Armstrong, A. L. Cohen, P. N. Munster, G. L. S. Wright, F. Kayali, M. Korpai, J. A. Xiao, J. Long, B. Destenaves, L. Gao, A. Gualberto and D. Juric (2021). "Phase I/II study of H3B-6545, a novel selective estrogen receptor covalent antagonist (SERCA), in estrogen receptor positive (ER+), human epidermal growth factor receptor 2 negative (HER2-) advanced breast cancer." Journal of Clinical Oncology. Conference: Annual Meeting of the American Society of Clinical Oncology, ASCO 39(15 SUPPL).
5. M. Piccart, M. Ruiz Borrego, H. T. Arkenau, S. I. Escrivá-de-Romani, S. J. Howell, A. Hennequin, B. Jimenez-Rodriguez, G. Del Conte, M. Simonelli, M. Paleschi, F. Duhoux, B. Doger De Speville Uribe, G. Curigliano, S. Waters, P. G. Aftimos, H. Wildiers, D. Tosi, F. Amair-Pinedo, A. U. E. Pellacani and D. O. Laurent (2021). "MEN1611, a PI3K inhibitor, combined with trastuzumab (T) +/- fulvestrant (F) for HER2+/PIK3CA mutant (mut) advanced or metastatic (a/m) breast cancer (BC): Safety and efficacy results from the ongoing phase Ib study (B-PRECISE-01)." Annals of Oncology 32(Supplement 5): S478-S479.
6. Powell-Chandler, S. Chopra, Y. Sabah, L. Satherley, E. Davies, S. Goyal, A. Borley and D. Egbeare (2021). "P08. Management of the axilla after neoadjuvant chemotherapy-choosing the correct surgical option." European Journal of Surgical Oncology 47(5): e297-e298.
7. P. Schmid, J. Abraham, S. Chan, A. M. Brunt, G. Nemsadze, R. D. Baird, Y. H. Park, P. Hall, T. Perren, R. C. Stein, L. Mangel, J.-M. Ferrero, M. Phillips, J. Conibear, A. Prendergast, M. McLaughlin-Callan, M. Burgess, C. Lawrence, H. Cartwright, K. Mousa,

J. Cortes, A. Foxley, E. De Bruin, R. McEwen, M. Nikolaou, D. Stetson, B. Dougherty, N. Turner and D. Wheatley (2021). "Mature survival update of the doubleblind placebo-controlled randomised phase II PAKT trial of first-line capivasertib plus paclitaxel for metastatic triplenegative breast cancer." Cancer Research 81(4 SUPPL).

Cancer Site: Colorectal

Articles

1. R. Adams, K. Goey, B. Chibaudel, M. Koopman, C. Punt, D. Arnold, A. Hinke, S. Hegewisch-Becker, A. de Gramont, R. Labianca, E. Diaz Rubio, K. Magne Tveit, H. Wasan, R. Kaplan, L. Brown, T. Maughan and D. Fisher (2021). "Treatment breaks in first line treatment of advanced colorectal cancer: An individual patient data meta-analysis." Cancer treatment reviews 99: 102226.
2. R. A. Adams, D. J. Fisher, J. Graham, J. F. Seligmann, M. Seymour, R. Kaplan, E. Yates, M. Parmar, S. D. Richman, P. Quirke, R. Butler, E. Brown, F. Collinson, S. Falk, H. Wasan, K.-K. Shiu, G. Middleton, L. Samuel, R. H. Wilson, L. C. Brown, T. S. Maughan and F. T. Investigators (2021). "Capecitabine Versus Active Monitoring in Stable or Responding Metastatic Colorectal Cancer After 16 Weeks of First-Line Therapy: Results of the Randomized FOCUS4-N Trial." Journal of Clinical Oncology 39(33): 3693-3704.
3. R. Cohen, H. Liu, J. Fiskum, R. Adams, B. Chibaudel, T. S. Maughan, E. Van Cutsem, A. Venook, J.-Y. Douillard, V. Heinemann, C. Ja Punt, A. Falcone, C. Bokemeyer, R. Kaplan, H.-J. Lenz, M. Koopman, T. Yoshino, J. Zalcborg, A. Grothey, A. de Gramont, Q. Shi and T. Andre (2021). "BRAF V600E Mutation in First-Line Metastatic Colorectal Cancer: An Analysis of Individual Patient Data From the ARCAD Database." Journal of the National Cancer Institute 113(10): 1386-1395.
4. R. M. Goldberg, R. Adams, M. Buyse, C. Eng, A. Grothey, T. Andre, A. F. Sobrero, S. M. Lichtman, A. B. Benson, C. J. A. Punt, T. Maughan, T. Burzykowski, D. Sommeijer, E. D. Saad, Q. Shi, E. Coart, B. Chibaudel, M. Koopman, H.-J. Schmoll, T. Yoshino, J. Taieb, N. C. Tebbutt, J. Zalcborg, J. Tabernero, E. Van Cutsem, A. Matheson and A. de Gramont (2021). "Clinical Trial Endpoints in Metastatic Cancer: Using Individual Participant Data to Inform Future Trials Methodology." Journal of the National Cancer Institute.
5. C. R. Hanna, S. M. O'Cathail, J. S. Graham, M. Saunders, L. Samuel, M. Harrison, L. Devlin, J. Edwards, D. R. Gaya, C. A. Kelly, L.-A. Lewsley, N. Maka, P. Morrison, L. Dinnett, S. Dillon, J. Gourlay, J. J. Platt, F. Thomson, R. A. Adams and C. S. D. Roxburgh (2021). "Durvalumab (MEDI 4736) in combination with extended neoadjuvant regimens in rectal cancer: a study protocol of a randomised phase II trial (PRIME-RT)." Radiation Oncology 16(1): 163.
6. C. R. Hanna, F. Slevin, A. Appelt, M. Beavon, R. Adams, C. Arthur, M. Beasley, A. Duffton, A. Gilbert, S. Gollins, M. Harrison, M. A. Hawkins, K. Laws, S. O'Cathail, P. Porcu, M. Robinson, D. Sebag-Montefiore, M. Teo, S. Teoh and R. Muirhead (2021). "Intensity-modulated Radiotherapy for Rectal Cancer in the UK in 2020." Clinical oncology (Royal College of Radiologists (Great Britain)) 33(4): 214-223.
7. J. F. Seligmann, D. J. Fisher, L. C. Brown, R. A. Adams, J. Graham, P. Quirke, S. D. Richman, R. Butler, E. Domingo, A. Blake, E. Yates, M. Braun, F. Collinson, R. Jones, E. Brown, E. de Winton, T. C. Humphrey, M. Parmar, R. Kaplan, R. H. Wilson, M. Seymour, T. S. Maughan and F. T. Investigators (2021). "Inhibition of WEE1 Is Effective in TP53- and RAS-Mutant Metastatic Colorectal Cancer: A Randomized Trial (FOCUS4-C) Comparing Adavosertib (AZD1775) With Active Monitoring." Journal of Clinical Oncology 39(33): 3705-3715.

8. X. Stachtea, M. B. Loughrey, M. Salvucci, A. U. Lindner, S. Cho, E. McDonough, A. Sood, J. Graf, A. Santamaria-Pang, A. Corwin, P. Laurent-Puig, S. Dasgupta, J. Shia, J. R. Owens, S. Abate, S. Van Schaeybroeck, M. Lawler, J. H. M. Prehn, F. Ginty and D. B. Longley (2021). "Stratification of chemotherapy-treated stage III colorectal cancer patients using multiplexed imaging and single-cell analysis of T-cell populations." Modern Pathology.
9. S. Ten Hoorn, D. W. Sommeijer, F. Elliott, D. Fisher, T. R. de Back, A. Trinh, L. Koens, T. Maughan, J. Seligmann, M. T. Seymour, P. Quirke, R. Adams, S. D. Richman, C. J. A. Punt and L. Vermeulen (2021). "Molecular subtype-specific efficacy of anti-EGFR therapy in colorectal cancer is dependent on the chemotherapy backbone." British journal of cancer 125(8): 1080-1088.
10. J. Yin, R. Cohen, Z. Jin, H. Liu, L. Pederson, R. Adams, A. Grothey, T. S. Maughan, A. Venook, E. Van Cutsem, C. Punt, M. Koopman, A. Falcone, N. C. Tebbutt, M. T. Seymour, C. Bokemeyer, E. D. Rubio, R. Kaplan, V. Heinemann, B. Chibaudel, T. Yoshino, J. Zalcborg, T. Andre, A. De Gramont, Q. Shi and H.-J. Lenz (2021). "Prognostic and Predictive Impact of Primary Tumor Sidedness for Previously Untreated Advanced Colorectal Cancer." Journal of the National Cancer Institute.
11. J. Yin, S. Dawood, R. Cohen, J. Meyers, J. Zalcborg, T. Yoshino, M. Seymour, T. Maughan, L. Saltz, E. Van Cutsem, A. Venook, H.-J. Schmoll, R. Goldberg, P. Hoff, J. R. Hecht, H. Hurwitz, C. Punt, E. Diaz Rubio, M. Koopman, C. Cremolini, V. Heinemann, C. Tournigard, C. Bokemeyer, C. Fuchs, N. Tebbutt, J. Souglakos, J.-Y. Doulliard, F. Kabbinavar, B. Chibaudel, A. de Gramont, Q. Shi, A. Grothey and R. Adams (2021). "Impact of geography on prognostic outcomes of 21,509 patients with metastatic colorectal cancer enrolled in clinical trials: an ARCAD database analysis." Therapeutic advances in medical oncology 13: 17588359211020547.

Conference Abstracts

1. R. A. Adams, D. J. Fisher, J. Graham, J. Seligmann, M. Seymour, R. S. Kaplan, E. Yates, S. Richman, P. Quirke, R. Butler, E. Brown, F. Collinson, S. Falk, R. Wilson, L. C. Brown and T. Maughan (2021). "The FOCUS4-N trial results and individual patient data meta-analysis (IPDM) of maintenance therapy versus active monitoring for patients with metastatic colorectal cancer (mCRC)." Annals of Oncology 32(Supplement 5): S549.
2. J. Graham, L. C. Brown, R. A. Adams, J. Seligmann, R. Wilson and T. Maughan (2021). "Learning from FOCUS4: A molecularly stratified adaptive trial platform in metastatic colorectal cancer." Annals of Oncology 32(Supplement 5): S549.
3. J. Seligmann, D. J. Fisher, L. C. Brown, R. Adams, J. Graham, P. Quirke, S. Richman, R. Butler, E. Domingo, A. Blake, M. Braun, F. Collinson, R. Jones, E. Brown, E. De Winton, T. Humphries, R. Kaplan, R. Wilson, M. Seymour and T. Maughan (2021). "Inhibition of WEE1 is effective in TP53 and RAS mutant metastatic colorectal cancer (mCRC): A randomised phase II trial (FOCUS4-C) comparing adavosertib (AZD1775) with active monitoring." Annals of Oncology 32(Supplement 5): S530.
4. B. A. Weinberg, M. Rakez, B. Chibaudel, T. Maughan, R. Adams, J. R. Zalcborg, A. Grothey, T. Yoshino, Q. Shi, A. DeGramont and D. A. Deming (2021). "Tumor bulk as a prognosticbiomarker and predictor of benefit from anti-EGFR therapy in patients with metastatic colorectal cancer: Analysis of 476 patients from theARCAD Clinical Trials Program." Journal of Clinical Oncology. Conference 39(3 SUPPL).

Cancer Site: Gynecology

Articles

1. B. Frugtniet, S. Morgan, A. Murray, S. Palmer-Smith, R. White, R. Jones, L. Hanna, C. Fuller, E. Hudson, A. Mullard and A. E. Quinton (2021). "The detection of germline and somatic BRCA1/2 genetic variants through parallel testing of patients with high-grade serous ovarian cancer: a national retrospective audit." BJOG: An International Journal of Obstetrics and Gynaecology.

Cancer Site: Head & Neck

Articles

1. L. Feeney, Y. Jain, M. Beasley, O. Donnelly, A. Kong, R. Moleron, C. Nallathambi, M. Rolles, P. Sanghera, A. Tin, D. Ulahannan, H. S. Walter, R. Webster and R. Metcalf (2021). "Centralised RECIST Assessment and Clinical Outcomes with Lenvatinib Monotherapy in Recurrent and Metastatic Adenoid Cystic Carcinoma." Cancers. 13(17).
2. Michaelidou, D. Adjogatse, Y. Suh, L. Pike, C. Thomas, O. Woodley, T. Rackely, N. Palaniappan, V. Jayaprakasam, B. Sanchez-Nieto, M. Evans, S. Barrington, M. Lei and T. Guerrero Urbano (2021). "18F-FDG-PET in guided dose-painting with intensity modulated radiotherapy in oropharyngeal tumours: A phase I study (FiGaRO)." Radiotherapy & Oncology 155: 261-268.
3. L. Moss, C. Cox, J. Wadsley, K. Newbold, M. W. J. Strachan, M. Druce, N. Tolley, K. Graham, S. Jefferies, L. Fresco, S. Sivabalasingham, A. Balfour and C. Hurt (2021). "Medullary Thyroid Cancer Patient's Assessment of Quality of Life Tools: Results from the QaLM Study." European thyroid journal 10(1): 72-78.
4. M. Nutting, C. L. Griffin, P. Sanghera, B. Foran, M. Beasley, D. Bernstein, V. Cosgrove, S. Fisher, C. M. West, A. Sibtain, N. Palaniappan, T. G. Urbano, M. Sen, W. Soe, M. Rizwanullah, K. Wood, S. Ramkumar, E. Junor, A. Cook, T. Roques, C. Scrase, S. A. Bhide, D. Gujral, K. J. Harrington, H. Mehanna, A. Miah, M. Emson, D. Gardiner, J. P. Morden, E. Hall and A. D. T. M. Group (2021). "Dose-escalated intensity-modulated radiotherapy in patients with locally advanced laryngeal and hypopharyngeal cancers: ART DECO, a phase III randomised controlled trial." European journal of cancer (Oxford, England : 1990) 153: 242-256.

Conference Abstracts

1. M. Forster, R. Mendes, T. Guerrero Urbano, M. Evans, M. Lei, V. Spanswick, E. Miles, R. Simoes, G. Wheeler, S. Forsyth and L. White (2021). "ORCA-2: A phase I study of olaparib in addition to cisplatin-based concurrent chemoradiotherapy for patients with high risk locally advanced (LA) squamous cell carcinoma of the head and neck (HNSCC)." Annals of Oncology 32(Supplement 5): S789-S790.
2. J. Wallace, K. Soanes, S. Roberts, L. Moss, D. Scott-Coombes and R. Egan (2021). "Metaplastic thymic sarcoma of the thyroid: A case report and a review of the literature." British Journal of Surgery 108(SUPPL 6): vi100.

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.
2. J. Lester, C. Escriu, S. Khan, E. Hudson, T. Mansy, A. Conn, S. Chan, C. Powell, J. Brock, J. Conibear, L. Nelles, V. Nayar, X. Zhuo, A. Durand, A. Amin, P. Martin, X. Zhang and V. Pawar (2021). "Retrospective analysis of real-world treatment patterns and clinical outcomes in patients with advanced non-small cell lung cancer starting first-line systemic therapy in the United Kingdom." *BMC cancer* 21(1): 515.
3. C. Powell, S. Griffin and T. Roques (2021). "The Royal College of Radiologists Lung Cancer Consensus Statements 2020." *Clinical oncology (Royal College of Radiologists (Great Britain))* 33(5): 280-282.

Conference Abstracts

1. K. Banfill, G. Price, C. Peedell, K. Harland, C. Powell, N. Panakis, K. T. Jayaprakash, D. Mokhtar, M. Hatton and C. Faivre-Finn (2021). "P09.17 Changes in the Management of Patients Having Radical Radiotherapy in the UK During the COVID-19 Pandemic (COVID-RT Lung)." *Journal of Thoracic Oncology* 16(3 Supplement): S296.
2. K. B. Banfill, G. Price, K. Wicks, S. Ahmad, H. Bainbridge, M. Bayne, A. Britten, C. Carson, N. Dorey, B. Goranov, S. Guglani, K. Harland, M. Hatton, K. Thippu Jayaprakash, C. Hiley, A. Jegannathan, P. Koh, H. Lord, D. Mokhtar, N. Panakis, C. Peedell, T. Pope, A. Peters, C. Powell, C. Stilwell, S. Treece, B. Thomas, E. Toy, S. Zhou and C. Faivre-Finn (2021). "34 Changes in management for patients with lung cancer referred for radical radiotherapy during the first wave of the COVID 19 pandemic in the UK (COVID-RT Lung)." *Lung Cancer* 156(Supplement 1): S14.
3. C. Barrington and M. Carr (2021). "140 Survival outcomes for NSCLC patients following palliative radiotherapy in Velindre Cancer Centre." *Lung Cancer* 156(Supplement 1): S58.
4. C. Barrington, V. Vigneswaran, R. E. Evans and S. Taverner (2021). "139 Radical (chemo) radiotherapy for NSCLC, overall survival data from the South West Wales Cancer Centre (SWWCC)." *Lung Cancer* 156(Supplement 1): S58.
5. W. Croxford, K. Banfill, I. Fornacon-Wood, A. Britten, C. Carson, M. Hatton, K. T. Jayaprakash, A. Jegannathan, P. K. Koh, N. Panakis, C. Peedell, A. Pope, C. Powell, C. Stilwell, B. Thomas, V. Wood, S. Y. Zhou, G. Price and C. Faivre-Finn (2021). "Changes in radical radiotherapy for lung cancer patients in the UK during the COVID-19 pandemic." *Radiotherapy and Oncology* 161(Supplement 1): S994-S995.
6. C. Eng, J. Laraman, E. Barton, G. Lewns, S. Williams, P. Shaw, M. Button, I. Williamson and A. Ionescu (2021). "101 PDL-1 assessment - how does it affect lung cancer management? A service evaluation." *Lung Cancer* 156(Supplement 1): S42.

Cancer Site: Neurological

Articles

1. T. C. Booth, G. Thompson, H. Bulbeck, F. Boele, C. Buckley, J. Cardoso, L. Dos Santos Canas, D. Jenkinson, K. Ashkan, J. Kreindler, N. Huskens, A. Luis, C. McBain, S. J. Mills, M. Modat, N. Morley, C. Murphy, S. Ourselin, M. Pennington, J. Powell, D. Summers, A. D. Waldman, C. Watts, M. Williams, R. Grant and M. D. Jenkinson (2021). "A Position Statement on the Utility of Interval Imaging in Standard of Care Brain Tumour Management: Defining the Evidence Gap and Opportunities for Future Research." *Frontiers in oncology* 11: 620070.

Conference Abstracts

1. R. Evans, R. Burke, C. Lewis, H. Goode, S. Ellam, A. Gee, D. Mullan, R. Begum, J. Powell, J. MacLean, N. Iqbal, O. Tilsley, L. Love-Gould and K. Baker (2021). "Evaluating the impact of a joint clinical nurse specialist and allied health care professional clinic for neuro-oncology patients attending velindre cancer centre, cardiff." Neuro-Oncology 23(SUPPL 4): iv12.
2. F. Mazzaschi, S. Sivell, A. Byrne, K. Brain, J. Powell and A. Nelson (2021). "Everyday memory and processing alteration in patients with Highgrade Glioma after radiotherapy: A mixed method, public survey." Palliative Medicine 35(1 SUPPL): 76-77.

Cancer Site: Sarcoma & Lymphoma Articles

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Cancer Site: Upper Gastro-Intestinal Articles

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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. Fantì, 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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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

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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.
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SARS-CoV-2 infection: a European perspective." Therapeutic advances in medical oncology 13: 17588359211042224.

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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.
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Cancer Site: Other (Radiotherapy)

Articles

1. R. Jadon, L. Hanna, P. Parsons and J. Staffurth (2021). "Dose-Volume Predictors for Patient-reported Late Diarrhoea, Faecal Incontinence and Urgency after Pelvic Radiotherapy." Clinical Oncology (Royal College of Radiologists) 33(8): 536-545.
2. P. J. Lewis, E. J. A. Morris, C. S. K. Chan, K. Darley, D. Sebag-Montefiore and M. Evans (2021). "COVID RT - Assessing the Impact of COVID-19 on Radiotherapy in the UK. A National Cancer Research Institute Clinical and Translational Radiotherapy Research Working Group Initiative in Partnership with the Royal College of Radiologists, the Society of Radiographers and the Institute of Physics and Engineering in Medicine." Clinical oncology (Royal College of Radiologists (Great Britain)) 33(1): e69-e72.
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.
4. Piazzese, E. Evans, B. Thomas, J. Staffurth, S. Gwynne and E. Spezi (2021). "FIELDRT: an open-source platform for the assessment of target volume delineation in radiation therapy." The British journal of radiology 94((1126)): 20210356.
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 α v β 6 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. Srikantharajah, 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. Srikantharajah, 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. Filip, 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. Filip, R. Sharkey, M. Krengli, J. D. Chester, A. Sita-Lumsden, U. Mukherjee, B. Russell, A. Loizidou, J. Colomba, C. A. Cruz, A. Cabrita, 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. 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.
2. G. Herbert, A. Searle, C. England, A. Ness, M. Beasley, I Haupt-Schott, L. Moss, J. Wescott, and C. Atkinson (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.
3. 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*
4. 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.
5. C. C. Hall, R. Skipworth, H. Blackwood, D. Brown, J. Cook, K. Diernberger, E. Dixon, V. Gibson, C. Graham, P. Hall, E. Haraldsdottri, 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.
6. 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*.

7. 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*.
8. 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).
9. 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*.
10. 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.
11. 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 (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.
2. 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.
3. K. Williams. (April 2022). "The role of the AHP in AOS" to be presented at National AOS Same Day Emergency care conference.
4. H. Good and C. Lewis. (November 2021). AHA - 'All Wales' Conference: A Healthier Wales: Moving forward together.
5. 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.
6. B. Moore. (October 2021). "WE CAN." AHP & Healthcare Scientist Celebration of Research & Innovation Event.
7. Wyatt. (October 2021) "The Development of a Gynae-Oncology Advanced Practice Physiotherapy post." AHP & Healthcare Scientist Celebration of Research & Innovation Event.
8. 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.
9. T. Rees (Autumn 2021). "Improving personalised care: implementing Holistic Needs Assessment triage with Navigator support." BAUN Annual Conference 2021.
10. 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.
11. R. Roberts. (Sept 2021). All Wales Allied Health Professional and Nurse Cancer Research Network Annual Event 2021
12. S. Harding. (Sept 2021) All Wales Allied Health Professional and Nurse Cancer Research Network Annual Event 2021

13. *Therapies Team. (July 2021) Neuro-oncology AHP led clinic. British Neuro-Oncology Society (BNOS).*
14. *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.*
15. *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.

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. Liunbruno, 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. Mifflin, 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.
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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.
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TRUST RD&I SUB-COMMITTEE

nVCC Non-Clinical RD&I Group Update

DATE OF MEETING	21 st July 2022
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PUBLIC OR PRIVATE REPORT	Public
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IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report
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PREPARED BY	Hannah Moscrop, Project Manager, TCS
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PRESENTED BY	Hannah Moscrop, Project Manager, TCS
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EXECUTIVE SPONSOR APPROVED	DAVID POWELL, NVCC PROJECT DIRECTOR
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REPORT PURPOSE	FOR NOTING
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COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING

COMMITTEE OR GROUP	DATE	OUTCOME
nVCC Project Board	13 th July 2022	Noting

ACRONYMS

nVCC RD&I	New Velindre Cancer Centre Research, Development and Innovation
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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. It also notes the funding and resources for the work undertaken in this area.
- 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 JUNE 2022

- 3.1 The June meeting of the Group was postponed, as this month the Project team received the final tender submissions from the nVCC bidding consortia, and have been evaluating these. Following an action noted at the previous Trust RD&I Sub-Committee meeting, the Group will consider a new name for itself at the next meeting.
- 3.2 A delegation from the nVCC Project attended the European Healthcare Design Conference in London in mid-June, attending seminars and roundtables on a variety of topics, followed by research visits to London- and Liverpool-based hospitals. The Project intends to submit a poster and talk proposal for next year's conference.
- 3.3 Five Masters students from the Data Science Academy at Cardiff University will be undertaking their dissertations with the support of the nVCC Project and Innovation

Team. The students will be working on projects related to Community Benefits, smart biodiversity mapping of the MIM site, developing a live Green Status Tracker, and RiTA. These projects will run from early July to September.

- 3.4 Annie Bellamy of UWE has been commissioned to undertake desk research into Placemaking to support the nVCC Hospital Design work: ‘Environments of Cancer Care: Literature Review: How can meaningful approaches of placemaking contribute to the creation of contemporary quality places and spaces of cancer care?’ The outcome of this work is due to be submitted to the Project in early July.
- 3.5 The Project has met with the Future Generations Commissioner’s office to discuss the development of the nVCC Project as a case study for the implementation of the Well-being of Future Generations Act in a procurement-construction project. The Project is due to hold a workshop in the autumn to progress this work.
- 3.6 As part of the carbon sequestration considerations for the nVCC, the need for carbon offsetting has been discussed with EMB. One potential option is the development of a ‘Velindre Forest’ – fact-finding meetings have been held with NHS Wales Shared Services Head of Property, and Forestry expert Huw Denman, to scope out the potential practicalities related to this option.
- 3.7 The nVCC’s Arts Consultant and Velindre Arts MDT are meeting with Y Lab at Cardiff University to discuss potential research collaboration opportunities – to be progressed once the Arts Coordinator has been appointed.
- 3.8 The Project is in the early stages of developing a partnership with the Cardiff Capital Region ‘Infuse’ programme – looking at upskilling procurement in public services – with particular focus on ‘accelerating decarbonisation’ and ‘supportive communities’. Supporting this, and intending to carry out more in-depth research, will be the new Centre of Public Value Procurement at Cardiff University, which will launch in October 2022.
- 3.9 The Project, and internal partners, supported a number of medical students from Cardiff University in undertaking their Student Selected Component research assignments this year. The final submissions are due in July:
 - 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?

3.10 Rhiannon Freshney is planning a Masters dissertation looking at nature based social prescribing and whether there is staff motivation to implement it as complimentary therapy – which will support the Community Benefits and landscaping elements of the preferred bidder's design and development.

3.11 The Project has researched out to the Senedd Cross Party Groups on Arts and Health and on Climate, Nature and Wellbeing, with a view to attending future meetings to identify areas for joint working.

3.12 Final research pieces, areas of focus and potential opportunities will be published on the Project's webpages.

4. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outlined 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



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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.

RESEARCH, DEVELOPMENT AND INNOVATION SUB-COMMITTEE

RD&I Integrated Performance Report for Quarter 1

DATE OF MEETING	21 July 2022
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PUBLIC OR PRIVATE REPORT	Public
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IF PRIVATE PLEASE INDICATE REASON	Not Applicable - Public Report
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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
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COMMITTEE/GROUP WHO HAVE RECEIVED OR CONSIDERED THIS PAPER PRIOR TO THIS MEETING

COMMITTEE OR GROUP	DATE	OUTCOME

ACRONYMS

IMTP	Integrated Medium-Term Plan
RD&I	Research, Development & Innovation

1. SITUATION / BACKGROUND

At the RD&I Sub-Committee meeting of 07 April 2022, it was agreed that a Task & Finish Group be established to review the content of the RD&I Integrated Performance Report.

The purpose of the Task and Finish Group was to propose a new RD&I Integrated Performance Report template for consideration by the RD&I Sub-Committee at the next meeting (21 July 2022).

2. ASSESSMENT / SUMMARY OF MATTERS FOR CONSIDERATION

The Task & Finish Group met on 30 May 2022, with group consisting of the following people:

- Professor Andrew Westwell, Chair of the RD&I Sub-Committee
- Dr Jacinta Abraham, Executive Medical Director and Board Lead for RD&I
- Dr Edwin Massey, Medical Director for Welsh Blood Service
- Sarah Townsend, Head of Research & Development and Trust Sponsor Representative
- Peter Richardson, Head of Quality Assurance and Regulatory Compliance, Welsh Blood Service
- Emma Stephens, Head of Corporate Governance
- Sandra Cusack, Business Support Officer

The Task & Finish Group agreed:

- To amend the Research, Development & Innovation (RD&I) Integrated Performance Report format to reflect the RD&I strategic priorities published in the Velindre University NHS Trust Integrated Medium-Term Plan (IMTP) that has been updated for 2022 to 2025.
- To prepare a report for each financial year quarter, as a quarter report only with highlights from each quarter to be included in the RD&I Sub Committee Annual Report.
- To present the first iteration of the new format to the RD&I Sub-Committee at the Committee meeting scheduled for 21 July 2022.
- The report would include progress of work and key achievements for each quarter demonstrating activity against the strategic priority areas, the cross-cutting themes that support these areas and Trust RD&I corporate work, for example Finance.

The first iteration of the RD&I Integrated Performance Report for Quarter 1 of Financial Year 2022/23 is presented for the RD&I Sub-Committee's discussion and consideration.

The Committee is asked to consider:

- a) Does the amended RD&I Integrated Performance Report format and content reflect the expectations of the RD&I Sub-Committee?
- b) This report format proposes that progress against each Strategic Priority is tabulated. These have not been completed for this first iteration of the amended RD&I Integrated Performance Report. Would the completion of these tables address the RD&I Sub-Committee's assessment and oversight of the work undertaken in respect of these strategic priorities?
- c) The RD&I Integrated Performance Report receives section content from different contributors, that require be signed off through the appropriate governance route prior to inclusion in the report. This can take time dependent on the cycle of business of the groups that are responsible for signing off the section content.
The Committee is asked to consider the assurance of the report section content required for submission of the report to the committee and the timeline for submission of the report to the RD&I Sub-Committee.
- d) If there are any further suggestions or recommendations the Committee would propose to this amended RD&I Integrated Performance Report format and content?

3. IMPACT ASSESSMENT

QUALITY AND SAFETY IMPLICATIONS/IMPACT	There are no specific quality and safety implications related to the activity outlined in this report.
RELATED HEALTHCARE STANDARD	Governance, Leadership and Accountability
	<ul style="list-style-type: none"> • Standard 3.3 Quality Improvement, Research and Innovation • Standard 3.4 – Information Governance and Communications Technology • Standard 3.5 – Record Keeping



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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.

4. RECOMMENDATION

It is recommended that the RD&I Sub-Committee discuss the amended RD&I Integrated Performance Report format and content.



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Quarter 1
2022/23

**Research,
Development
& Innovation**

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ABBREVIATIONS

AABB	American Association of Blood Banks
ABUHB	Aneurin Bevan University Health Board
AHPs	Allied Health Professionals
AMD	Associate Medical Director
ASCO	American Society of Clinical Oncology
ATMP	Advanced Therapy Medicinal Product
BBTS	British Blood Transfusion Society
BEST	Biomedical Excellence for Safer Transfusion
BSC	Blood Supply Chain
BTOG	British Thoracic Oncology Group
BYS	By Your Side
CAA	Civil Aviation Authority
CAR-T	Chimeric Antigen Receptor T-Cell
CCFLI	Collaborative Centre for Learning and Innovation
CCRH	Cardiff Cancer Research Hub
CEO	Chief Executive Officer
CRF	Clinical Research Facility
CU	Cardiff University
CVUHB	Cardiff & Vale University Health Board
ECMC	Experimental Cancer Medicine Centres
EMB	Executive Management Board
EMRTS	Emergency Medical Retrieval and Transfer Service
EP	Early Phase Trial
EPT	Early Phase Trial
FTE	Full Time Equivalent
FY	Financial Year
HCP	Healthcare Professionals
HCRW	Health and Care Research Wales
HEIW	Health Education and Improvement Wales
HSDR	Health and Social Care Delivery Research
IISE	Institute of Industrial and Systems Engineers
IMTP	Integrated Medium-Term Plan
IP	Intellectual Property
IRS	Integrated Radiotherapy Solution
ISBT	International Society of Blood Transfusion
ISOO	International Society for Oral Oncology
JRO	Joint Research Office
KESS	Knowledge Economy Skills Scholarship
KPI	Key Performance Indicator
LIP	Local Information Pack
LPMS	Local Portfolio Management System

MASCC	Multinational Association of Supportive Care in Cancer
MDT	Multi-Disciplinary Team
MOU	Memorandum of Understanding
NHS	National Health Service
NIHR	National Institute of Health and Care Research
nVCC	new Velindre Cancer Centre
ODP	Open Data Platform
PhD	Doctor of Philosophy
PI	Principal Investigator
Q	Quarter
R&D	Research & Development
R&D	Research & Development
RAG	Red, Amber, Green
RCN	Royal College of Nursing
RD&I	Research, Development & Innovation
RfPPB	Research for Patient and Public Benefit
RICH	Regional Innovation Coordination Hubs
RIIC	Research, Innovation, Improvement, and Coordination
SACT	Systemic Anti-Cancer Treatment
SME	Subject Matter Experts
SSTs	Site Specific Teams
TLWC	This is Living With Cancer
TMZ	Transponder Mandatory Zone
UHB	University Health Board
UHW	University Hospital of Wales
UK	United Kingdom
VCC	Velindre Cancer Centre
VHCR	Velindre Healthcare Research
VUNHST	Velindre University NHS Trust
WBS	Welsh Blood Service
WCRC	Wales Cancer Research Centre

INTRODUCTION

The Research, Development & Innovation (RD&I) Integrated Performance Report format has been amended. The report now reflects the RD&I strategic priorities published in the Velindre University NHS Trust's Integrated Medium-Term Plan (IMTP) that has been updated for 2022 to 2025.

These priorities that support the Trust's strategic goal to be "A beacon for research, development and innovation" are as follows:

STRATEGIC PRIORITIES	
Priority 1	The Trust will drive forward the implementation of its Cancer Research and Development Ambitions 2021-2031.
Priority 2	The Trust will maximise the Research and Development ambitions of the Welsh Blood Service.
Priority 3	The Trust will implement the Velindre Innovation Plan.
Priority 4	The Trust will maximise collaborative opportunities locally, nationally, and internationally.

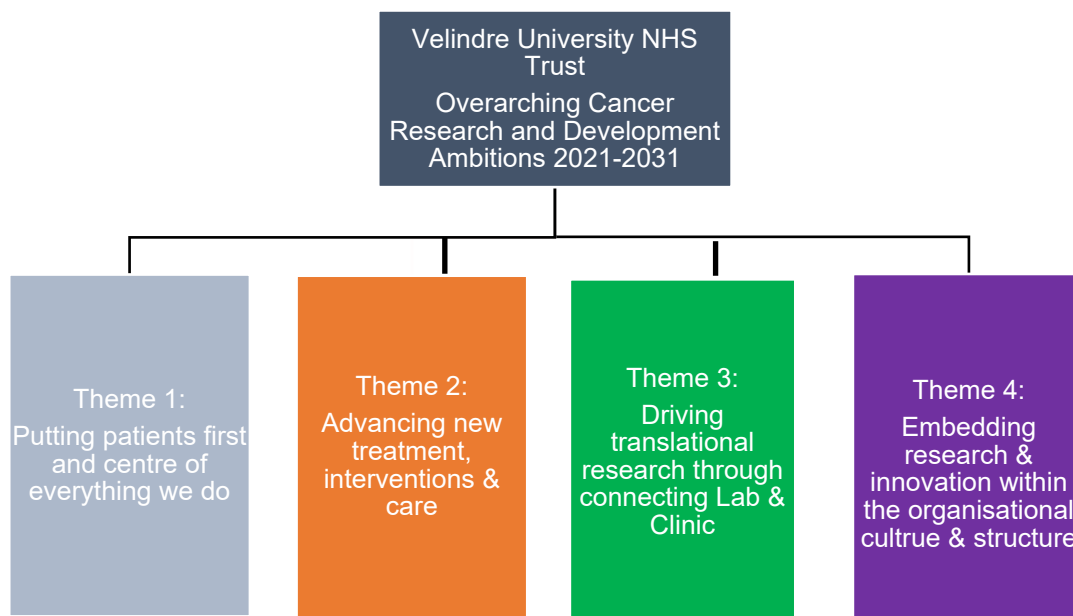
The report includes the progress of work and key achievements for Q1 of FY2022/23 demonstrating activity against these strategic priority areas, the cross-cutting themes that support these areas and Trust RD&I corporate work, for example Finance.

STRATEGIC PRIORITY 1:
The Trust will drive forward the
implementation of its Cancer
Research & Development
Ambitions

1 Strategic Priority 1: Progress

Strategic Priority 1: The Trust will drive forward the implementation of its Cancer Research and Development Ambitions													
Key Deliverables / Objectives	FY2022/23				FY2023/24				FY2024/25				Progress / Comments
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<ul style="list-style-type: none"> The implementation of immediate plan for the Cardiff Cancer Research Hub (a tri-partite development between the Trust, Cardiff & Vale UHB and Cardiff University) to use existing Cardiff & Vale UHB facilities for intermediate to high-risk research studies that cannot be delivered at Velindre Cancer Centre 													
<ul style="list-style-type: none"> The development and implementation of the intermediate term plan for the Cardiff Cancer Research Hub to provide a focal point and facility for delivering intermediate to high-risk research studies, translational research and allow opportunities for education and training 													
<ul style="list-style-type: none"> Establishment of Clinical Academic posts in cancer research to strengthen our links with Academic Partners and enable translational research 													
<ul style="list-style-type: none"> Maximise R&D&I opportunities in radiotherapy associated with the development of nVCC and the radiotherapy research bunker 													
<ul style="list-style-type: none"> Further investment in the capacity and capability to support multi-disciplinary research to ensure that the Trust can grow its capacity and capability to deliver clinical research to patients 													

2 Velindre Cancer R&D Ambitions



2.1 Overarching Theme

Key achievements for this period

Overarching Ambitions Action Plan

The team are working up an Action Plan, setting out the key deliverables from the strategy with defined owners and timelines.

2.2 Theme 1: Putting patients first and centre of everything we do

Included in this theme is Palliative and Supportive Care and Nursing and Allied Health Professional and Clinical Scientists Research

Key achievements for this period

Palliative and Supportive Care

Positive discussions held with palliative research leaders, resulting in a palliative care study being set up, supported by the research delivery workforce.

Prof Anthony Byrne (a member of VCC's R&D Strategic Leadership Group) is the lead applicant for renewal for the Marie Curie Palliative Care Research Centre which has recently been submitted to Marie Curie.

Nursing and Allied Health Professional and Clinical Scientist's Research

RD&I Database under development, to capture all research and innovation conducted by Nurses AHPs and Clinical Scientists.

Aimed at Nurses, AHPs and Clinical Scientists a RD&I staff survey is in development with the aim of ascertaining a baseline of the research and innovation projects that

Key achievements for this period

are being conducted across VUNHST, identifying RD&I understanding and educational needs.

2.3 Theme 2: Advancing new treatments, interventions and care**Highlights**

The first solid tumour ATMP trial, SOTIO trial (B1030-101, A First-in-Human, Phase 1/2, Dose Escalation Study of BOXR1030, T cells in Subjects With Advanced GPC3-Positive Solid Tumors) is in set up and will be delivered on UHW site.

The Integrated Radiotherapy Solution (IRS) identifies a footprint for radiotherapy research bunker as well as research opportunities with the provider. Initial discussions are beginning around strategic opportunities with key leaders.

Key achievements for this period**ATMP trials**

To gain more clinical and research delivery knowledge on delivery and patient management of CAR-T trial therapies, we have pursued opportunities with the Christie NHS Foundation Trust, Guy's Hospital and Newcastle upon Tyne Hospital about potential CAR-T placements. Initial discussions identify that all sites are open for Velindre staff (such as a registrar/junior consultant, senior research nurse) to spend time in their teams to learn from them. In addition to this, we will learn from the CAR-T trial, SOTIO, delivered by the Haematology team in UHW. Next steps will be to consider the job-shadowing/fellowship opportunities, identify key personnel, and formalise the request to appropriate sites.

IRS Radiotherapy Bunker

The R&D team have linked in with the procurement team for the IRS, ensuring a R&D engagement in the procurement process regarding opportunities for radiotherapy research bunker.

Radiotherapy Research

There are capacity issues in the core Radiotherapy service that is impacting on radiotherapy research in terms of the types of research studies that can be conducted and numbers of patients that can be recruited, including staff capacity for research. A task and finish group is set up to identify the issues and findings which will be fed into the RD&I Operational management meeting which will also feed into the RD&I Strategic Leadership Group and will be reported into RD&I Subcommittee.

2.4 Theme 3: Driving translational research through connecting the Lab & Clinic

Highlights

Cardiff Cancer Research Hub

- All three organisations have agreed the service specification in principle for the immediate phase and the next steps will be focusing on the delivery and clarifying pace and assumptions.

Key achievements for this period

Cardiff Cancer Research Hub

- The CVUHB, CU and VUNSHST partnership board agreed for the need for an investment strategy for the CCRH. A successful business case was made to VCF and £25k funding will be made available to commission an external agency to carry out this piece of work. There have been meetings with The Christie NHS Foundation Trust and Deloitte MCS Limited to define the scope of the investment strategy.
- Promoting the Hub: jointly presented by Prof Mererid Evans and Prof Awen Gallimore (Cancer Lead at Cardiff University) as a case study to the University Health Board and Trust Designation Showcase Event Cardiff on 30th June which was well received.
- Leads from VUNHST, CU and CVUHB are writing a proposal to set out the research priorities of the Hub that will enable the Hub to strategically submit applications, applying for initiatives as a collective. These priorities will be presented into the CCRH Project Board that meets every 4-6 weekly.
- Funding for 0.5FTE Clinical Academic post (an Early Phase Trialist) was recently approved at the Velindre Charitable Funds committee and the plan will be to secure match funding by Cardiff University. The business case is current going through Cardiff University processes.
- The EPT portfolio that will be delivered on UHW is gathering pace: 3 trials are being set up that are led by VCC and an interventional drug is to be delivered at the Clinical Research Facility (CRF) on UHW Site.
- The Head of R&D and her team continue to work closely with the Joint Research Office (JRO) to ensure process is in place to efficiently and effectively deliver collaborative research studies that will be delivered through the Cardiff Cancer Research Hub. Areas of focus will be managing activity coming into the JRO that will be delivered through the hub. The Early project review process, which has been established to manage projects from CU and CV UHB, to undertake an early assessment of their projects by the JRO team to iron out any potential issues in setting up projects continues with VUNHST now contributing to the process development to ensure alignment. The intention is to ensure synergy in a streamlined process to speed up the set up process and expand capacity to deliver contracts more quickly. The Research Governance Groups will move to a joint Research Governance Group within the JRO with Velindre included as required, bringing organisational governance together. This work also includes the development and execution of a Heads of Terms agreement which will be at a high level as well as the inclusion of Velindre in a Memorandum of Understanding (MOU) between the

Key achievements for this period

three organisations. The JRO memorandum of understanding is currently still in draft and between C&VUHB and CU only. Work on this agreement has been on hold pending the appointment of the JRO's new Partnership and Business Development Manager who is expected to join the JRO soon. The Head of R&D and the Senior Research Contracts manager will work with the JRO to ensure that the further development of the MoU will include the Trust's requirements. Work on the Heads of Terms agreement has commenced and it was requested by the Cardiff Cancer Research Hub Project Board at their meeting of 6 July 2022 that this document should be finalised for their next meeting in October 2022.

- There are a number posts going through recruitment and selection; these include a Band 8a Senior Nurse (12 months secondment), a Band 6 nurse and a Clinical Research Fellow).
- A Senior Operational Team is being set up, which will include nurses, medics and pharmacy staff and R&D and will look at the shared operational delivery of the high and intermediate EP and ATMP trials at UHW.
- A scoping exercise with other UK centres that conduct EPT and ATMP is being worked up. The Senior Nurse once in post will lead this work.
- ECMC, Cardiff's 5 year renewal bid to CRUK (2023-2028) was submitted on the 30th June. If successful, the ECMC bid includes some research nurse capacity that will support the research delivery within the Hub.
- WCRC's bid was submitted to HCRW for the next 2 years (2023-2025). Included in the bid were Clinical Research Fellows that would support the Hub as well as undertake postgraduate training. Also included were other opportunities to build further collaboration with Cardiff University and VUNHST. WCRC is awaiting initial feedback from HCRW.
- An approach has been made to HCRW regarding the additional 3.6 WTE posts. Both VUNHST and CVUHB are supplying further information with regard to this request.

2.5 Theme 4: Embedding research innovation within the organisational culture and structure

Key achievements for this period**Velindre @Aneurin Bevan**

Ongoing dialogue continues with research team @ Aneurin Bevan UHB. Meeting held on the 23rd June that identified numbers of patients referred from ABUHB into Velindre that entered trials. Opportunities regarding the SACT trials were discussed in terms of SACT research chair space in Neville Hall that allows for more patients to be treated via research studies. Increasing patient access to research (be it in ABUHB, nVCC or Cardiff Cancer Research Hub) will be key to shared success.

Building Capacity and Capability –**Nurse and Allied Health Professional**

A positive meeting was held with Sue Tranka, Chief Nursing Officer for Wales and Prof Jane Hopkinson on 16th May in terms of promoting the need of getting research

Key achievements for this period

and innovation on the nursing agenda. Next steps will be to meet with *Ruth Crowder*, Chief Allied Health Professions Advise for Welsh Government, Monica Busse from Health and Care Research Wales Faculty, Gill Knight (Lead for Nurse Education within CNO) and a representative from HEIW who leads on nurse research and clinical academic careers.

Training and Education

Over the summer there will be an educational programme provided by HCRW training team which will include introductions to HCRW, accessing their training programme, the role of HCRW's communication team, training on Good Clinical Practice (in research) Ethics and R&D permissions.

Strategic Leadership Group

The RD&I Strategic Leadership Group have started to identify and opportunities between Collaborative Centre for Learning and Innovation (CCFLI) and the Cardiff Cancer Research Hub (CCRH).

RD&I Communications

Given the emerging programmes of work associated with RD&I (internal and external) there remains an urgent need for additional capacity and skill sets related to communications.

Discussions have occurred with Medical Executive Director, VUNHST's Chief Operating Officer, Director of WBS and Assistant Director of Communications who support a business case to Velindre Charitable Funds for a new post, a Communications Coordinator, who will be part of the corporate communications team.

3 Nursing & Interdisciplinary Research

3.1 Progress

Progress to date**Velindre Healthcare Research (VHCR) support team**

A support team of the following people has been set-up to support Velindre Healthcare Research

- Jane Darmanin, Head of Velindre Healthcare Research
- Jodie Sherburn, Research Nurse
- Lenira Semedo, Research Associate
- Ross McLeish, Innovation Project Manager
- Michael Morgan, Research & Development Facilitator
- Gwyneth Cole, Administrator

Education and training to build healthcare research capacity

Jane Darmanin is leading on the development of resources and coordinating one-to-one support for healthcare research.

The Velindre Healthcare Research support team are planning to conduct a research education needs survey with healthcare professionals

Progress to date

Small grants scheme for healthcare research

Funding has been secured to recruit a research assistant to support delivery of small grants. The post is currently being advertised

New projects

- SACT education. Velindre Charity. Lenira Semedo, Rosie Roberts
- Chemotherapy contamination risk. Pharmacy improvement project. Ruth Hul, Lenira Semedo
- Prehabilitation systemic review protocol. Cardiff University. AHP Cancer Cymru. Kate Baker, Judit Csontos, Jane Hopkinson.
- Management of cancer and dementia in the community. RfPPB. Jane Hopkinson and Leeds Beckett University

Funding bids

- Roberts R, Hopkinson J, Harding S, Pengelly M, Seddon K, Ali A, Semedo L, Darmanin J. Safe oral cancer treatment at home: A mixed-methods investigation of adherence in patients comparing different levels of family carer support to inform coproduction of an innovation in supportive care. Research for Patient and Public Benefit (RfPPB), HCRW. Bid for £229,806. Decision pending.
- Hopkinson J, Evans R, et al. Inclusive prehabilitation (I-Prehab) for equity in cancer outcomes: mixed-methods evaluation research to enhance access, acceptance and adherence. NIHR HSDR Programme £1,200,000. Submitted May 2022.

Conference presentations

- Edwards A, Mickleburgh B, Hopkinson J (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
- Semedo L (September 2022) A systematic review and narrative synthesis investigating the contribution of the family carer in cancer treatment adherence in ambulatory (outpatient) settings. RCN International Nursing Research Conference 2022
- Hopkinson J (June 2022) Education needs and disparities in cancer cachexia care. MASCC/ISOO 2022 Annual Meeting. Toronto, Canada.

3.2 In planning

At planning stage

Velindre healthcare research fellowships

Discussion in progress with the innovation, R&D, and HCARE research support teams.

Clinical-academic career pathway for nurses and therapists across Wales

Chief Nursing Office Wales supports the idea of establishing a clinical-academic career pathway and research competencies and standards for clinical nurses in

At planning stage

Wales. Gillian Knight, Welsh Office Nursing Officer (education) is leading on setup of a meeting between HEIW and HCRW to discuss.

Cardiff University PhD Studentships

Healthcare sciences, Cardiff University, is to offer two clinical studentships.

4 Performance Indicators

4.1 Summary of performance indicators

The following is a summary of the indicators used by Health and Care Research Wales as part of their delivery framework for performance management.

METRIC	Health & Care Research Wales Data ¹		Velindre University NHS Trust Data ²	
	Non-Commercial	Commercial	Non-commercial	Commercial
Key Indicator Metrics				
C3/C4 Open: % of Open Studies Recruiting to Time & Target	26%	16%	*	*
C3/C4 Closed: % of Closed Studies Recruiting to Target	100%	(Blank)	*	*
Non Key Indicator Metrics				
Median No of days to first recruited participant	(Blank)	(Blank)	772	394
% of Non-Recruiting Studies	0%	(Blank)	0%	(Blank)
Number of Open and Recruiting Studies	14	7	39	22
Number of Participants Recruited	35	9	40	13

Notes:

¹	=	Health and Care Research Wales Data only includes those research studies that are part of the Health and Care Research Wales portfolio.
²	=	Velindre University NHS Trust Data includes all research studies that are part of the Trust's study portfolio
*	=	The Trust is working on the calculation of this data for presentation in the RD&I Integrated Performance Report
(Blank)	=	There is no data to report in the period covered by the RD&I Integrated Performance Report

4.2 Indicators

4.2.1 C3 OPEN: Percentage of Health and Care Research Wales non-commercial Portfolio studies recruiting to target

Metric:	C3 OPEN: Percentage of Health and Care Research Wales Portfolio studies recruiting to time and to target at NHS organisations in Wales.				Target/Measure:	100%		HCRW Performance Indicator:	YES		
How is metric measured:		<p>Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform (ODP) to measure against this key indicator.</p> <p>Open studies are measured using a RAG rating system as follows:</p> <ul style="list-style-type: none">RED: % recruitment is 30% behind the % time elapsed (e.g., RAG Rating = -30% or less)AMBER: % recruitment is up to and including 30% behind % time elapsed (e.g., RAG Rating = < -1% ≥ -29%)GREEN: % recruitment is equal to or is greater than % time elapsed (e.g., RAG Rating = ≥ 0%) <p>Calculation RAG rating = % recruitment – % time elapsed</p> <p><i>Where:</i> % recruitment = $\frac{\text{total recruitment (at organisation)}}{\text{site recruitment target}}$ % time elapsed = $\frac{\text{Number of days open (at organisation)}}{\text{Number of days planned open}}$</p>									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Red	63%		Red	61%	Red		Red		Red	
	Amber	14%		Amber	10%	Amber		Amber		Amber	
	Green	23%		Green	29%	Green		Green		Green	
Previously Identified Issues				Previous Action Plan(s) to Improve						Target Date	Status
Discussion of Issues				Action Plan(s) to Improve Performance						Target Date	
The Health and Care Research Wales 2021/22 dataset included 35 studies (R = 22 studies, A = 5studies, G = 8 studies).				VUHNST to meet with Health and Care Research Wales to:						Quarter 2	
The Health and Care Research Wales performance dashboard does not allow the data to be filtered by cancer research studies only. This means that the data presented in the Health and Care Research Wales Performance Dashboard does not allow a direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.				<ul style="list-style-type: none">- To discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.- Discuss the dataset for this metric to ensure that the dataset is correct.- Discuss how the narrative entered into the Local Portfolio Management Svstem that gives context and							

The studies hosted by VUNHST are usually small number recruitment targets of long time periods. It is possible for a VUNHST hosted study to be RAG rated red for a number of years or fluctuate in its RAG rating. See examples below:

EXAMPLE: Study expected to recruit 5 patients over 5 years

Year	Total recruitment (at organisation)	% recruitment	% time elapsed	RAG result	RAG rating
1	0	0.00	0.20	-0.20	AMBER
2	0	0.00	0.40	-0.40	RED
3	1	0.20	0.60	-0.40	RED
4	2	0.40	0.80	-0.40	RED
5	5	1.00	1.00	0.00	GREEN

EXAMPLE: Study expected to recruit 3 patients over 5 years

Year	Total recruitment (at organisation)	% recruitment	% time elapsed	RAG result	RAG rating
1	0	0	0.20	-0.20	AMBER
2	0	0	0.40	-0.40	RED
3	1	0.33	0.60	-0.27	AMBER
4	1	0.33	0.80	-0.47	RED
5	3	1.00	1.00	0.00	GREEN

reasons as to why a study is underperforming can be better utilised when presenting this metric.

- Challenge the measurement of this metric, given for research studies where recruitment targets are small, and the study has long recruitment periods that the study could be RAG rated red for a number of years or fluctuate in its RAG rating.

VUNHST R&D Office:

- To interrogate the Trust's study portfolio, working with site specific teams (SSTs) to review the portfolio to determine if to continue to support studies and identify potential barriers to study delivery and develop mitigation strategies to overcome these barriers.
- To work with SSTs and Associate Medical Director (AMD) for R&D to identify studies that are non-recruiting or under-performing with a possible view to closing these research studies.
- To review the recruitment targets of active studies and request reductions in recruitment targets from the Sponsor, where appropriate.

4.2.2 C4 OPEN: Percentage of Health and Care Research Wales Portfolio commercially sponsored studies recruiting to target

Metric:	C4 OPEN: Percentage of Commercially sponsored studies recruiting to time and to target at NHS organisations in Wales.			Target/Measure:	100%		HCRW Performance Indicator:	YES			
How is metric measured:		<p>Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform (ODP) to measure against this key indicator.</p> <p>Open studies are measured using a RAG rating system as follows:</p> <ul style="list-style-type: none">RED: % recruitment is 30% behind the % time elapsed (e.g., RAG Rating = -30% or less)AMBER: % recruitment is up to and including 30% behind % time elapsed (e.g., RAG Rating = < -1% ≥ -29%)GREEN: % recruitment is equal to or is greater than % time elapsed (e.g., RAG Rating = ≥ 0%) <p>Calculation RAG rating = % recruitment – % time elapsed</p> <p><i>Where:</i> % recruitment = $\frac{\text{total recruitment (at organisation)}}{\text{site recruitment target}}$ % time elapsed = $\frac{\text{Number of days open (at organisation)}}{\text{Number of days planned open}}$</p>									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Red	79%		Red	77%	Red		Red		Red	
	Amber	-		Amber	6%	Amber		Amber		Amber	
	Green	21%		Green	16%	Green		Green		Green	
Previously Identified Issues				Previous Action Plan(s) to Improve					Target Date	Status	
Discussion of Issues				Action Plan(s) to Improve Performance					Target Date		
<p>The Health and Care Research Wales 2021/22 dataset included 29 studies (R = 23 studies, A = No Value; G = 6 studies).</p> <p>The Health and Care Research Wales performance dashboard does not allow the data to be filtered by cancer research studies only. This means that the data presented in the Health and Care Research Wales Performance Dashboard does not allow a direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.</p> <p>Again, the studies hosted by VUNHST are usually small number recruitment targets of long time periods. It is possible for a VUNHST hosted study to be RAG</p>				<p>VUHNST to meet with Health and Care Research Wales to:</p> <ul style="list-style-type: none">Discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.Discuss the dataset for this metric to ensure that the dataset is correct.Discuss how the narrative entered into the Local Portfolio Management System that gives context and reasons as to why a study is underperforming can be better utilised when presenting this metric.					Quarter 2		

rated red for a number of years or fluctuate in its RAG rating. See examples below:

EXAMPLE: Study expected to recruit 5 patients over 5 years

Year	Total recruitment (at organisation)	% recruitment	% time elapsed	RAG result	RAG rating
1	0	0.00	0.20	-0.20	AMBER
2	0	0.00	0.40	-0.40	RED
3	1	0.20	0.60	-0.40	RED
4	2	0.40	0.80	-0.40	RED
5	5	1.00	1.00	0.00	GREEN

EXAMPLE: Study expected to recruit 3 patients over 5 years

Year	Total recruitment (at organisation)	% recruitment	% time elapsed	RAG result	RAG rating
1	0	0	0.20	-0.20	AMBER
2	0	0	0.40	-0.40	RED
3	1	0.33	0.60	-0.27	AMBER
4	1	0.33	0.80	-0.47	RED
5	3	1.00	1.00	0.00	GREEN

- Challenge the measurement of this metric, given for research studies where recruitment targets are small, and the study has long recruitment periods that the study could be RAG rated red for a number of years or fluctuate in its RAG rating.

VUNHST R&D Office:

- To interrogate the Trust's study portfolio, working with site specific teams (SSTs) to review the portfolio to determine if to continue to support studies and identify potential barriers to study delivery and develop mitigation strategies to overcome these barriers.
- To work with SSTs and Associate Medical Director (AMD) for R&D to identify studies that are non-recruiting or under-performing with a possible view to closing these research studies.
- To review the recruitment targets of active studies and request reductions in recruitment targets from the Sponsor, where appropriate.

4.2.3 C3 CLOSED: Percentage of Health and Care Research Wales non-commercial Portfolio studies recruiting to target

Metric:	C3 CLOSED Percentage of Health and Care Research Wales Portfolio studies recruiting to target at NHS organisations in Wales.			Target/Measure:	100%		HCRW Performance Indicator:	YES			
How is metric measured:		<p>Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform (ODP) to measure against this key indicator.</p> <p>Closed studies are measures using a RAG rating system as follows:</p> <ul style="list-style-type: none">RED: % recruitment is < 100%GREEN: % recruitment ≥ 100% <p>Calculation RAG rating = % recruitment</p> <p>Where: % recruitment = $\frac{\text{total recruitment}}{\text{target recruitment}}$</p>									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Red	77%		Red	-	Red		Red		Red	
	Green	23%		Green	100%	Green		Green		Green	
Previously Identified Issues				Previous Action Plan(s) to Improve					Target Date	Status	
Discussion of Issues				Action Plan(s) to Improve Performance					Target Date		
<p>The Health and Care Research Wales 2021/22 dataset included 13 studies (R = 10 studies, G = 3 studies)</p> <p>The Health and Care Research Wales performance dashboard does not allow the data to be filtered by cancer research studies only. This means that the data presented in the Health and Care Research Wales Performance Dashboard does not allow a direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.</p> <p>A review of those studies that were RAG rated red has shown that the following reasons are why those studies did not recruit to target:</p> <ul style="list-style-type: none">- 2 studies were more difficult to recruit to than expected and there was a lack of staff member research participants- 2 studies had issues with recruitment due to COVID19				<p>VUHNST to meet with Health and Care Research Wales to:</p> <ul style="list-style-type: none">- Discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.- Discuss how the narrative entered into the Local Portfolio Management System that gives context and reasons as to why a study had underperformed can be better utilised when presenting this metric.- Discuss if studies where recruitment is outside the control of VUHNST (i.e., sponsor puts recruitment on hold during first COVID19 lockdown and recruitment was never reopened) should be included in this metric.					Quarter 2		

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<ul style="list-style-type: none">- 1 study had recruitment delays due to the additional nursing support required. The Nurse was not employed until 3 months after the study opened.- 1 study had recruitment affected by one radiotherapy machine failing and non-research radiotherapy team staffing capacity issues affecting recruitment- 4 studies the sponsor put recruitment on hold during the first COVID19 lockdown and recruitment was never reopened. For one of these studies the student research also left VUHNST before commencing the study.	VUNHST is not going to ever be able to achieve the recruitment target if the study has been stopped early by the Sponsor.	
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4.2.4 C4 CLOSED: Percentage of Health and Care Research Wales Portfolio commercially sponsored studies recruiting to target

Metric:	C3 CLOSED Percentage of Commercially sponsored studies recruiting to target at NHS organisations in Wales.			Target/Measure:	100%		HCRW Performance Indicator:	YES			
How is metric measured:		Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform ODP to measure against this key indicator.									
		Closed studies are measures using a RAG rating system as follows: <ul style="list-style-type: none">RED: % recruitment is < 100%GREEN: % recruitment ≥ 100%									
		Calculation RAG rating = % recruitment									
		<i>Where:</i> % recruitment = $\frac{\text{total recruitment}}{\text{target recruitment}}$									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Red	83%		Red	-	Red		Red		Red	
	Green	17%		Green	-	Green		Green		Green	
Previously Identified Issues				Previous Action Plan(s) to Improve				Target Date	Status		
Discussion of Issues				Action Plan(s) to Improve Performance				Target Date			
<p>The Health and Care Research Wales 2021/22 dataset included 12 studies (R = 10 studies, G = 2 studies)</p> <p>The Health and Care Research Wales performance dashboard does not allow the data to be filtered by cancer research studies only. This means that the data presented in the Health and Care Research Wales Performance Dashboard does not allow a direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.</p> <p>A review of those studies that were RAG rated red has shown that the following reasons are why those studies did not recruit to target:</p> <ul style="list-style-type: none">- 3 studies were for rare cancer and recruitment was more difficult than expected- 1 study had issues with recruitment due to COVID19				<p>VUHNST to meet with Health and Care Research Wales to:</p> <ul style="list-style-type: none">- Discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations.- Discuss how the narrative entered into the Local Portfolio Management System that gives context and reasons as to why a study has underperformed can be better utilised when presenting this metric.- Discuss if studies where recruitment is outside the control of VUHNST (i.e., Sponsor does not ‘greenlight’ the study or Sponsor closes the study early) should be included in this metric. VUNHST is not going to ever be							

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<ul style="list-style-type: none">- 2 studies were not given 'greenlight' by the Sponsor due to safety concerns with the investigational medicinal product.- 4 studies were closed early by the Sponsor.	able to achieve the recruitment target if the study has not been started or been stopped early by the Sponsor.	
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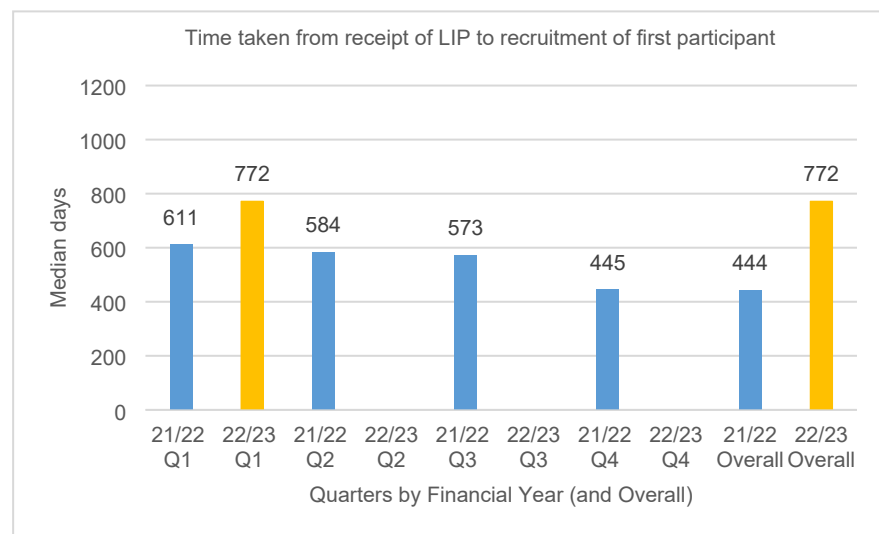
4.2.5 C1: Time taken from receipt of Local Information Pack (LIP) to recruitment of first participant into Health and Care Research Wales non-commercial Portfolio studies

Metric:	C1: Time taken from receipt of Local Information Pack (LIP) to recruitment of first patients into Health and Care Research Wales Portfolio studies				Target/Measure:	Median No of days		HCRW Performance Indicator:	NO		
How is metric measured:		Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform ODP to measure against this key indicator.									
		Calendar days have been adopted to measure this time period consistently across the UK.									
		The start date of this measure is the date the Local Information Pack (LIP) is shared with the NHS organisation by the Sponsor. The end date for this measure is the date the first participant was recruited to the study at the NHS organisation.									
		Note: Any study that is planning to recruit less than one participant per month is not counted within this measure.									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Median days	203		Median days	Blank	Median days		Median days		Median days	
Previously Identified Issues				Previous Action Plan(s) to Improve				Target Date	Status		
Discussion of Issues				Action Plan(s) to Improve Performance				Target Date			
<p>The Health and Care Research Wales 2021/22 dataset included 3 studies (Range =193 to 243 days; Median = 203 days).</p> <p>This dataset only includes studies where the planned recruitment target is more than one participant per month.</p> <p>The 'Blank' presented by Health and Care Research Wales Performance Dashboard for Quarter 1 of 2022/23 indicates that VUNHST did not have any studies that fit the criteria for inclusion in the Health and Care Research Wales dataset for quarter 1 of the financial year 2022/23.</p>				<p>VUNHST R&D Office to:</p> <ul style="list-style-type: none">- Review research study set-up and delivery process to determine where barriers / bottle necks are occurring in the process.- Identify the internal and external support departments where delays may be occurring and work with those departments to improve the timeline for review.- Work with Site Specific Teams (SSTs) and study Principal Investigators to review barriers / bottle necks that potentially delay the recruitment of studies' first participants after the Trust has issued Confirmation of Capacity and Capability.- Identify potential mitigation strategies to reduce and improve the number of median days from receipt of Local Information Pack to:				Quarter 2 and 3			

The following data is taken from the VUNHST study portfolio for non-commercial studies in quarter 1 of financial year 2022/23.

The data for time taken from receipt of Local Information Pack to recruitment of first participants (median days) for all non-commercial studies is as follows:

FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	611	584	573	445	444	104 to 1231
2022/23	772				772	346 to 1197



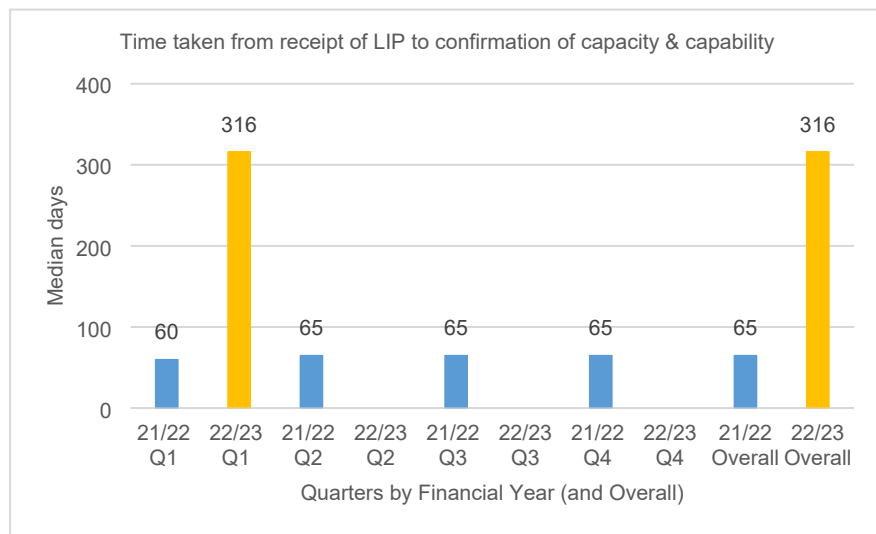
- Recruitment of first participant
- Confirmation of Capacity and Capability
- Implement the agreed mitigation strategies that aim to reduce and improve the number of median days from receipt of Local Information Pack to:
 - Recruitment of first participant
 - Confirmation of Capacity and Capability

VUHNST to meet with Health and Care Research Wales to:

- To discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations for number of median days from receipt of Local Information Pack to:
 - Recruitment of first participant
 - Confirmation of Capacity and Capability

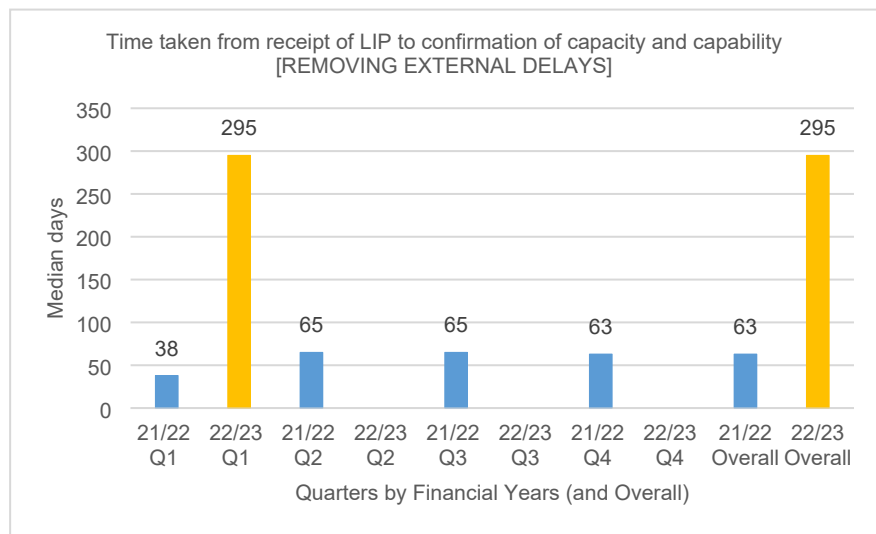
The data for time taken from receipt of Local Information Pack to Confirmation of Capacity and Capability (median days) for all non-commercial studies is as follows:

FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	60	65	65	65	65	0 to 427
2022/23	316				316	305 to 327



The data for time taken from receipt of Local Information Pack to Confirmation of Capacity and Capability (median days) **[Removing external delays]** for all non-commercial studies is as follows:

FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	38	65	65	63	63	1 to 300
2022/23	295				295	295



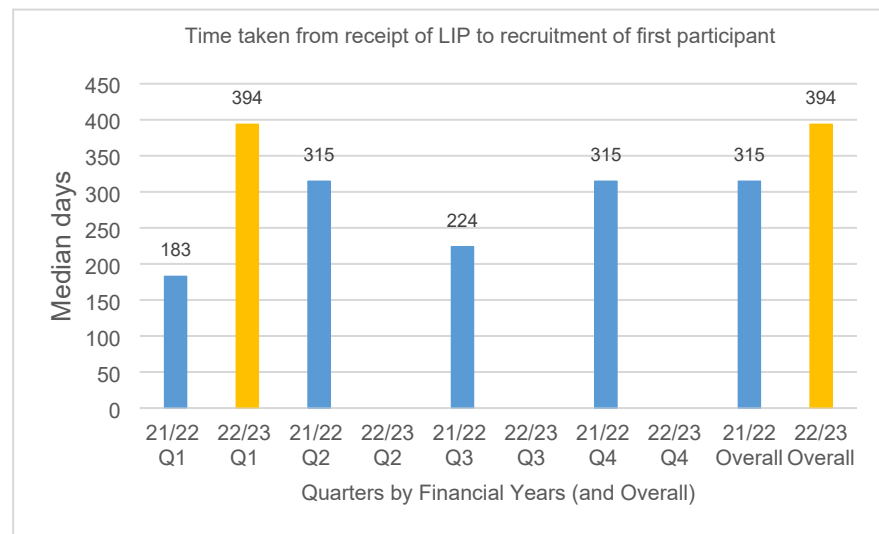
4.2.6 C2: Time taken from receipt of Local Information Pack (LIP) to recruitment of first participant into Health and Care Research Wales Portfolio commercially sponsored studies

Metric:	C2: Time taken from receipt of Local Information Pack (LIP) to recruitment of first patients into Commercially sponsored studies				Target/Measure:	Median № of days		HCRW Performance Indicator:	NO		
How is metric measured:			Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform ODP to measure against this key indicator.								
			Calendar days have been adopted to measure this time period consistently across the UK.								
			The start date of this measure is the date the Local Information Pack (LIP) is shared with the NHS organisation by the Sponsor. The end date for this measure is the date the first participant was recruited to the study at the NHS organisation.								
			Note: Any study that is planning to recruit less than one participant per month is not counted within this measure.								
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Median days	Blank		Median days	Blank	Median days		Median days		Median days	
Previously Identified Issues				Previous Action Plan(s) to Improve					Target Date	Status	
Discussion of Issues				Action Plan(s) to Improve Performance					Target Date		
The Health and Care Research Wales 2021/22 dataset was 'Blank' due to VUNHST not having any studies that fit the criteria for inclusion in the Health and Care Research Wales dataset for financial year 2021/22. This dataset only includes studies where the planned recruitment target is more than one participant per month. The 'Blank' presented by Health and Care Research Wales Performance Dashboard for Quarter 1 of 2022/23 indicates that VUNHST did not have any studies that fit the criteria for inclusion in the Health and Care Research data set for quarter 1 of the financial year 2022/23.				VUNHST R&D Office to: <ul style="list-style-type: none">- Review research study set-up and delivery process to determine where barriers / bottle necks are occurring in the process.- Identify the internal and external support departments where delays may be occurring and work with those departments to improve the timeline for review.- Work with Site Specific Teams (SSTs) and study Principal Investigators to review barriers / bottle necks that potentially delay the recruitment of studies' first participants after the Trust has issued Confirmation of Capacity and Capability.- Identify potential mitigation strategies to reduce and improve the number of median days from receipt of Local Information Pack to:					Quarter 2 and 3		

The following data is taken from the VUNHST study portfolio for commercial studies in quarter 1 of financial year 2022/23.

The data for time taken from receipt of Local Information Pack to recruitment of first participants (median days) for all commercial studies is as follows:

FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	183	315	224	315	315	81 to 748
2022/23	394				394	353 to 516



- Recruitment of first participant
- Confirmation of Capacity and Capability
- Implement the agreed mitigation strategies that aim to reduce and improve the number of median days from receipt of Local Information Pack to:
 - Recruitment of first participant
 - Confirmation of Capacity and Capability

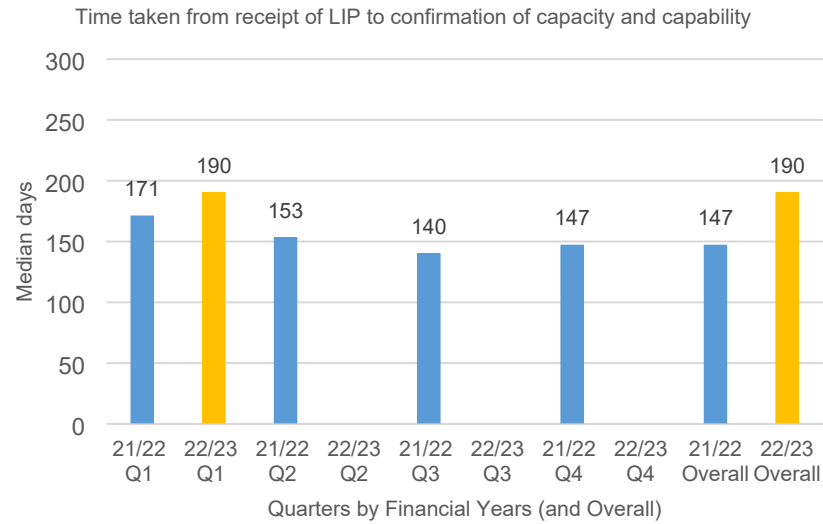
VUNHST to meet with Health and Care Research Wales to:

- To discuss improvements to the newly developed Wales Cancer Dashboard, that will allow direct comparison of cancer research studies between VUNHST and other NHS Wales Organisations for number of median days from receipt of Local Information Pack to:
 - Recruitment of first participant
 - Confirmation of Capacity and Capability

RD&I - Integrated Performance Report

The data for time taken from receipt of Local Information Pack to Confirmation of Capacity and Capability (median days) for all commercial studies is as follows:

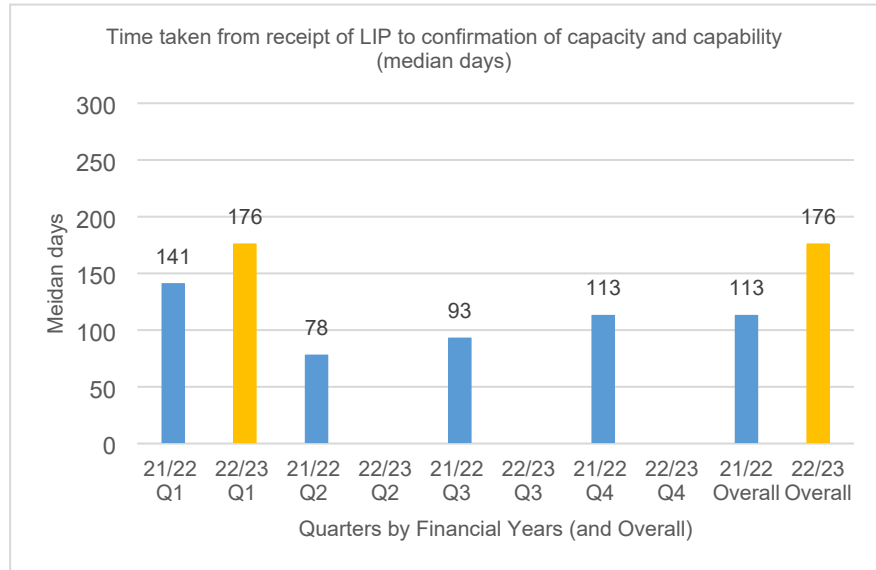
FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	171	153	140	147	147	56 to 469
2022/23	190				190	176 to 243



RD&I - Integrated Performance Report

The data for time taken from receipt of Local Information Pack to Confirmation of Capacity and Capability (median days) **[Removing external delays]** for all commercial studies is as follows:

FY	Q1	Q2	Q3	Q4	Overall	Range
2021/22	141	78	93	113	113	13 to 284
2022/23	176				176	176



4.2.7 C5: Percentage of non-recruiting Health and Care Research Wales non-commercial Portfolio studies within NHS organisations

Metric:	C5: Percentage of non-recruiting Health and Care Research Wales Portfolio studies within NHS organisations in Wales				Target/Measure:	0%		HCRW Performance Indicator:	NO		
How is metric measured:			Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform ODP to measure against this key indicator. This key indicator measures all Health and Care Research Wales non-commercial Portfolio studies that have been open to recruitment but have closed to recruitment during the reporting period and have not recruited a participant throughout the duration of the study recruitment period.								
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	%	8%		%	0%	%		%		%	
Previously Identified Issues				Previous Action Plan(s) to Improve					Target Date	Status	
Discussion of Issues				Action Plan(s) to Improve Performance					Target Date		
The Health and Care Research Wales 2021/22 dataset included 13 studies. An 8% Non-recruiting Health and Care Research Wales Portfolio studies represents 1 study. The reason for this one study to have closed having not recruited a participant is as follows: “Student researcher departed VUNHST before starting the project. The Sponsor put recruitment on hold during first COVID19 lockdown. Recruitment never reopened.”				VUHNST to meet with Health and Care Research Wales to: - Discuss if studies where recruitment is outside the control of VUHNST (i.e., sponsor puts recruitment on hold during first COVID19 lockdown and recruitment was never reopened) should be included in this metric. VUNHST is not going to ever be able to achieve the recruitment target if the study has been stopped early by the Sponsor.							

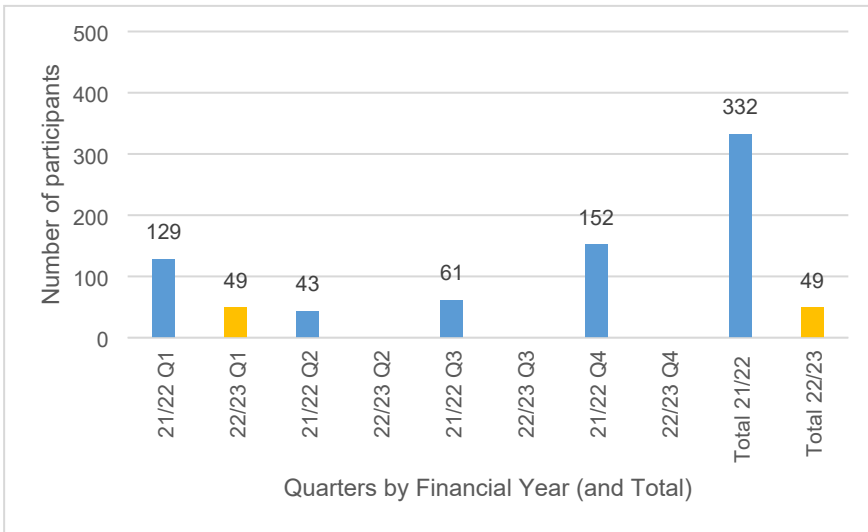
4.2.8 C6: Percentage of non-recruiting Health and Care Research Wales Portfolio commercially sponsored studies within NHS organisations

Metric:	C6: Percentage of non-recruiting Commercially sponsored studies within NHS organisations in Wales				Target/Measure:	Median № of days		HCRW Performance Indicator:	NO		
How is metric measured:		Health and Care Research Wales use data from the Local Portfolio Management System (LPMS) and the Open Data Platform ODP to measure against this key indicator. This key indicator measures all Commercially sponsored studies that have been open to recruitment but have closed to recruitment during the reporting period and have not recruited a participant throughout the duration of the study recruitment period.									
Previous Financial Year	Overall		Current Financial Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	%	50%		%	Blank	%		%		%	
Previously Identified Issues				Previous Action Plan(s) to Improve				Target Date	Status		
Discussion of Issues				Action Plan(s) to Improve Performance				Target Date			
<p>The Health and Care Research Wales 2021/22 dataset included 12 studies.</p> <p>An 50% Non-recruiting Commercial sponsored studies represents 6 studies.</p> <p>The reasons these 6 studies have closed having not recruited a participant is as follows:</p> <ul style="list-style-type: none">- 1 study was for rare cancer and recruitment was more difficult than expected- 1 study had issues with recruitment due to COVID19- 2 studies were not given ‘greenlight’ by the Sponsor due to safety concerns with the investigational medicinal product.- 2 studies were closed early by the Sponsor. <p>However, two of the 6 studies classified as ‘non-recruiting’ by Health and Care Research Wales did recruit participants. This data discrepancy needs to be addressed with Health and Care Research Wales.</p>				<p>VUHNST to meet with Health and Care Research Wales to:</p> <ul style="list-style-type: none">- Address the data discrepancy that two of the 6 studies have been classified as “Non-Recruiting” incorrectly.- Discuss if studies where recruitment is outside the control of VUHNST (i.e., Sponsor does not ‘greenlight’ the study or Sponsor closes the study early) should be included in this metric. VUNHST is not going to ever be able to achieve the recruitment target if the study has not been started or been stopped early by the Sponsor							

4.2.9 Number of studies opened

Metric:	Number of studies opened in Velindre University NHS Trust		Target/Measure:	Not Applicable		HCRW Performance Indicator:	NO																																	
How is metric measured:		Velindre University NHS Trust use data from the Local Portfolio Management System (LPMS) to measure against this indicator. This indicator measures the number of research studies opened in Velindre University NHS Trust.																																						
Previous Financial Year	Total	Current Financial Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year to date																																	
	33		5																																					
Graph			Discussion																																					
<div><table><caption>Quarters by Financial Year (and Total)</caption><thead><tr><th>Quarter</th><th>2021/22</th><th>2022/23</th></tr></thead><tbody><tr><td>21/22 Q1</td><td>9</td><td></td></tr><tr><td>22/23 Q1</td><td></td><td>5</td></tr><tr><td>21/22 Q2</td><td>16</td><td></td></tr><tr><td>22/23 Q2</td><td></td><td></td></tr><tr><td>21/22 Q3</td><td>8</td><td></td></tr><tr><td>22/23 Q3</td><td></td><td></td></tr><tr><td>21/22 Q4</td><td>7</td><td></td></tr><tr><td>22/23 Q4</td><td></td><td></td></tr><tr><td>Total 21/22</td><td>33</td><td></td></tr><tr><td>Total 22/23</td><td></td><td>5</td></tr></tbody></table></div>			Quarter	2021/22	2022/23	21/22 Q1	9		22/23 Q1		5	21/22 Q2	16		22/23 Q2			21/22 Q3	8		22/23 Q3			21/22 Q4	7		22/23 Q4			Total 21/22	33		Total 22/23		5	<p>In the graph the blue bars represent the number of studies opened in Velindre University NHS Trust quarter by quarter (and cumulative total) for financial year 2021/22. The yellow bars represent the number of studies opened in Velindre University NHS Trust quarter by quarter (and cumulative total) for financial year 2022/23.</p> <p>The data shows that for quarter 1 of 2022/23 Velindre University NHS Trust opened 5 research studies, this is down 4 compared to the 9 opened research studies in quarter 1 of the previous financial year 2021/22.</p>				
Quarter	2021/22	2022/23																																						
21/22 Q1	9																																							
22/23 Q1		5																																						
21/22 Q2	16																																							
22/23 Q2																																								
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22/23 Q3																																								
21/22 Q4	7																																							
22/23 Q4																																								
Total 21/22	33																																							
Total 22/23		5																																						

4.2.10 Number of participants recruited into studies

Metric:	Number of participants recruited to studies open in Velindre University NHS Trust		Target/Measure:	Not Applicable		HCRW Performance Indicator:	NO	
How is metric measured:		Velindre University NHS Trust use data from the Local Portfolio Management System (LPMS) to measure against this indicator. This indicator measures the number of participants recruited into research studies int Velindre University NHS Trust.						
Previous Financial Yea	Total	Current Financial Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year to date	
	332		49					49
Graph			Discussion					
			<p>In the graph the blue bars represent the number of participants recruited to studies in Velindre University NHS Trust quarter by quarter (and cumulative total) for financial year 2021/22 The yellow bars represent the number of number of participants recruited to studies in Velindre University NHS Trust quarter by quarter (and cumulative total) for financial year 2022/23.</p> <p>The data shows that for quarter 1 of 2022/23 Velindre University NHS Trust recruited 49 participants into research studies, this is down 80 compared to the 129 participants recruited to research studies in quarter 1 of the previous financial year 2021/22.</p>					

5 Velindre Cancer Centre hosted research – key achievements

5.1 FAKTION

Study Title: 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.



Prof Rob Jones

Patients with incurable breast cancer could potentially benefit from new Welsh-led research, latest evidence suggests.

The research, carried out by Velindre University NHS Trust, in partnership with AstraZeneca and Cardiff University over 10 years was presented at the world renowned American Society of Clinical Oncology conference on 04 June 2022 in Chicago and published simultaneously in the prestigious Lancet Oncology journal.

The latest research builds on the 2019 FAKTION trial based on the use of capivasertib, an investigational breast cancer drug developed by AstraZeneca that blocks the activity of a protein called AKT that has been shown to contribute to resistance to hormone therapy. The 2019 research found that, by combining capivasertib with a standard hormonal treatment, in this instance fulvestrant, patients may expect their cancer to be controlled for more than 10 months rather than under five months with the current standard care.

New evidence from the FAKTION trial looks primarily at how long patients can expect to live for and if the genetic makeup of their cancer influences this.

Over half of patients in the trial were identified as having a specific mutation in their cancer specimen which activated the AKT pathway. Patients in this group who were treated with the combination of capivasertib and fulvestrant lived for around 39 months compared to 20 months if given fulvestrant and a placebo.

Professor Rob Jones, the Assistant Medical Director for Research at Velindre and Professor of Medical Oncology at Cardiff University, said: “***These new data are very exciting. Not only have we shown that capivasertib has the potential to give patients a very significant extension in their life-span but we may also be able to select out those patients who are most likely to benefit from the treatment by carrying out genetic tests on their cancer tissue. We are now very keen to***

see if this is confirmed in a larger Phase 3 trial which has already completed recruitment.”

Professor Kieran Walshe, Director of Health and Care Research Wales, said: *“It’s encouraging to see these further results from the FAKTION study, which build on the previous findings and offer potential hope for millions of breast cancer patients. This partnership is a great example of the collaborative research taking place in Wales, which is aiming to make a real difference to people’s lives.”*

The preliminary data from FAKTION which was reported three years ago triggered a larger Phase 3 trial called CAPItello 291 which aims to evaluate the potential benefit of capivasertib in combination with fulvestrant to prolong survival in ER+/HER2– advanced breast cancer patients.

5.2 SYMPLIFY

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



L-R: Jason Mohammad, Christopher Cotterill-Jones, Chris Norman, Sarah Townsend and Judi Rees

The SYMPLIFY study team collected the award for ***Innovation in early detection and diagnosis*** in the Pioneering Innovation category at the Moondance Cancer Awards 2022 on 16 June 2022.

Judi Rhys, CEO of Tenovus Cancer Care presented the award and said ***“This***

was a world class shortlist, with 6 fantastic nominations for us to consider but the panel did feel like one stood out ...”

Sarah Townsend, Health of Research & Development and Christopher Cotterill-Jones, Research Delivery Manager, along with a colleague from Health and Care Research Wales, accepted the award on behalf of all who took part in the SYMPLIFY study.

Dr Nicola Williams, Director of Support and Delivery at Health and Care Research Wales said: ***"Congratulations to all the research staff in all health boards across Wales rolling out this study on an enormous scale, using the One Site Wales approach. SYMPLIFY is a brilliant example of how we can work together contributing to life-saving cancer research."***

Sarah also took part in a MediWales Connects 2022 parallel session on 29 June 2022 discussing the Trust's experience in using and adapting the "One Site Wales" approach for delivery of the SYMPLIFY study.

The session looked at how a One Wales approach to research delivery that has allowed sponsors, researchers, NHS staff and patients to collaborate to achieve research excellence with tangible patient benefit throughout the COVID-19 pandemic. The delivery model has since been adapted and applied beyond the pandemic context, for example in cancer diagnostics and it continues to provide an ambitious blueprint for research delivery that meets the UK vision and reaches patients and participants throughout Wales, with each panel member gave feedback on their experiences of using the One Wales approach.

5.3 CHARIOT

Study Title: 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

The Sponsor, University of Oxford nominated Dr Paul Shaw and his team for a special OCTO award. Awards are based on their organisation's core values of respect, integrity, collaboration, equality and excellence.

The Sponsor provided the following reason for the nomination ***"we have been so impressed with the team's dedication to the study. It's always a treat to work with a team that is so diligent and that has been evident throughout the trial."***

The data team got a particular mention because you consistently had the lowest number of outstanding CRFs and data queries, and you have always been the most responsive of the sites we had on board."

Your (Dr Shaw's) contribution to the CHARIOT trial has been noted as both a site PI and engaged member of the Trial Management Group. Your leadership has encouraged the site team to be highly engaged throughout and with everyone (clinical, research, pharmacy and data teams) being responsive and communicative."

The trial team here at OCTO are delighted to be working with such a dedicated and hardworking team of individuals and we thank them for making running CHARIOT that much easier."

STRATEGIC PRIORITY 2:

**The Trust will maximise the
Research & Development
ambitions of the Welsh Blood
Service**

6 Strategic Priority 2: Progress

Strategic Priority 2: The Trust will maximise the RD&I ambitions of the Welsh Blood Service.													
Key Deliverables / Objectives	FY2022/23				FY2023/24				FY2024/25				Progress / Comments
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<ul style="list-style-type: none">WBS will continue to grow the RD&I opportunities and partnerships to realise the significant potential of the Component Development and Research Laboratory													

7 Recent highlights from Research, Development & Innovation in the Welsh Blood Service

We begin our planning year in our strongest position yet. The first WBS Research Theme Delivery plan for 2022-23 has been compiled with our theme leads having a dedicated 12 months. Our program includes adding new researchers that will advance our portfolio size. I thank them for their continued support in taking this proactive approach.

In this update, we look back on some of the longest-running projects we have. In the coming months, we will celebrate the completion of two PhD studentships that were part of our portfolio for several years. It has been against a challenging backdrop that the students conducted their research with us. We will be celebrating the achievements of Dr Williams and Dr Nash.

Foreword Sian James, RD&I Facilitation Lead, Welsh Blood Service

8 Success in our Academic Partnerships

This spring two academic partnerships completed their findings. We catch up on the Projects and the students that conducted the research.

8.1 Using Advanced Mathematics to Plan Clinics

Nobody likes to queue so the Welsh Blood Service set out to understand if our clinical planning could be helped by assistance from Cardiff University.

This project was conducted in partnership with Professor Paul Harper and Professor Daniel Gartner. Professor Harper has been a named investigator on £12.9m of funded research grants and has received a Times Higher Education award for 'Outstanding Contribution to Innovation'. Professor Gartner has also been awarded several prizes at international conferences such as INFORMS healthcare and Operational Research Applied to Health Services conference. Both their respective research endeavours have led to sustained impact and significant benefits to the NHS previously.



Dr Emily Williams

The research project used mathematical modelling to propose optimised clinic plans and resource utilisation to maximise flow and efficiency whilst maintaining excellent standards of donor service and ensuring equity of donation opportunities for donors.

Emily Williams has been awarded her doctorate for her healthcare modelling research into the supply and demand

of blood products with the aim of developing an automated decision support tool that optimises blood collection clinic selection.

Emily was a doctorate student through a joint Knowledge Economy Skills Scholarship between the Welsh Blood Service and Cardiff Metropolitan University. Her research has been part of our Donor RD&I theme since 2017 and was supervised by our interim BSC lead, Jayne Davey.

Emily's research aimed to improve alignment of blood product supply to demand, thus reducing waste and ensuring sufficient amounts of the right blood products are available for patient needs.

The current process for selecting available and productive whole blood donation clinics for the collection plan is entirely manual and is labour intensive. Emily's work uses algorithms to evaluate historical clinic data and produce automated clinic planning options.

Speaking of Emily's healthcare modelling research Jayne Davey said '*I am thrilled Emily has been awarded her doctorate for the research she has carried out at the Welsh Blood Service. Clinic planning in a community setting is complex and has multiple constraints. Emily's logical, curious and innovative approach has allowed her to prove how automation can work in a live setting. It has been a pleasure to work with Emily and her success is well deserved.*'

Emily's literature review for this research was published in the journal IJSE Transactions on Healthcare Systems Engineering in 2020. Emily also received the 'Best Presentation by an Early Career Researcher' award at the Operational Research Applied to Health Services conference in 2019.

8.2 New Ways to Store Platelets

Another KESS 2 studentship was conducted with Cardiff Metropolitan University with Professor Philip James. Professor James has authored 141 research publications to date and has successfully gained a total research income of over £3.2m. The scientific aims of his research are driven by clinical impact.

Jamie Nash has conducted the studentship as a mainstay of the Welsh Blood Service's RD&I Products theme, with Jaime's supervisor at WBS being Dr Christine Saunders.

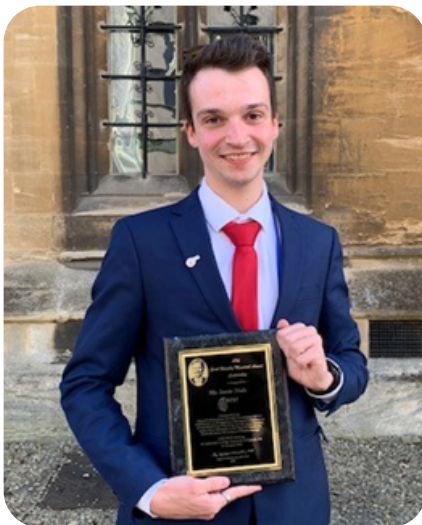
When discussing the successful studentship, Dr. Christine Saunders said '***The collaboration between WBS and Cardiff Metropolitan University initiated by the KESS2 programme has been extremely positive. Jamie's work has produced some very interesting results that challenge the established***



Dr Jamie Nash

practices of platelet storage. The questions generated have led to the appointment of a second PhD studentship, and the department is looking forward to continuing our partnership with the University.'

The research project investigated a range of new approaches to assess the viability and functionality of platelets in different storage conditions. A particular aspect of Jamie's work looked at extracellular vesicles in platelet components. These small particles shed by platelets may play an important role in transfused platelet units' ability to stop bleeding.



Jaime at the BEST Collaborative Spring 2022 meeting, after winning the Scott Murphy lecture

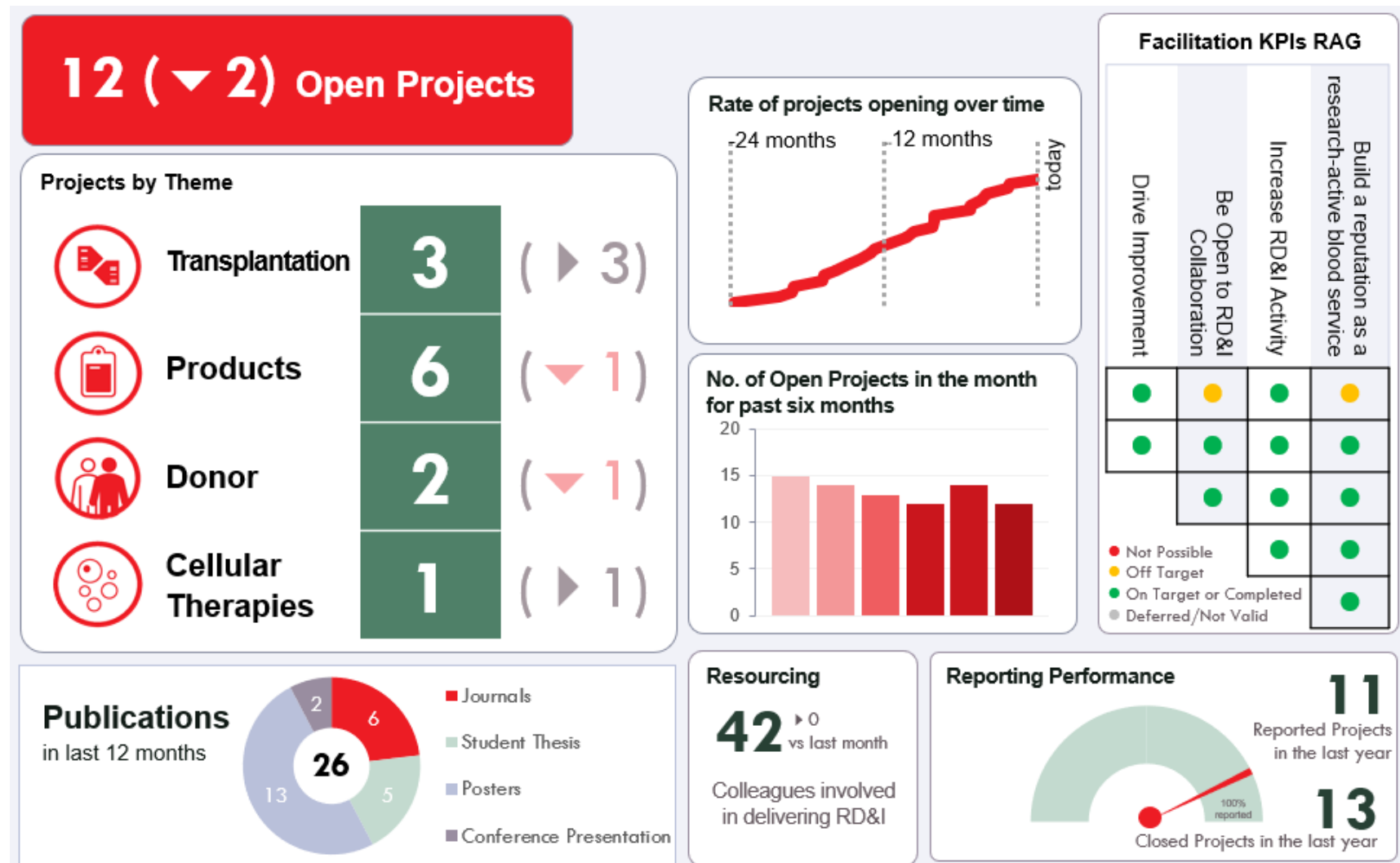
Finding alternatives to our current standard-of-care room temperature storage has the potential to benefit patients requiring transfusion. Cold-stored platelets may have improved haemostasis and less risk of

bacterial contamination, resulting in a safer and more effective transfusion for patients in trauma settings.

Various elements of Jamie's research have been publicised at conferences and in external publications. Jamie has presented at the BBTS Annual General Meeting in 2019 and most recently at ***the BEST Collaborative Spring 2022 Meeting, after winning their prestigious Scott Murphy award.*** Jamie has also contributed to the Methods in Molecular Biology book series, co-authoring a section on extracellular vesicles in atherosclerosis research.

This research will be continued through another joint doctorate studentship between WBS and Cardiff Metropolitan University. The ultimate goal of this research is to conduct a clinical trial on cold stored platelets and eventually become the standard of practice for storing platelets across the UK and international blood services.

9 Welsh Blood Service RD&I Dashboard



10 Open Projects Portfolio

Our open projects as of 01 July 2022

Project Name	WBS Project ID	WBS Research Theme	WBS Staff Lead	Involvement
Bioenergetic Profiles of Platelets in Storage as an Indicator of Platelet Viability & Function	162	Products	Chloe George	WBS led RD&I
The effect of cold and frozen storage on the stability of blood group antigens	161	Products	Gareth Nottage	WBS led RD&I
BEST- C 157 Project: We Keep Getting Aggregates in Platelets. Let's GET AGGRIP on Aggregates	159	Products	Nicola Pearce	BEST-C
The incidence of Pseudohyperkalaemia in neonatal red cells	158	Products	Nicola Pearce	WBS led RD&I
Dielectric Properties of Red Cell Components over the Course of Storage	156	Products	Chloe George	WBS led RD&I
BEST-C 142 Project: A comparison of anti-D titres using gel and tube technologies	157	Products	Chloe George	BEST-C
Service Support of Intervention development to encourage young adults in Wales to donate whole blood	154	Donor	Sian James	Service Support of others
Sero-surveillance for SARS-CoV-2 infection in blood donors in Wales	127	Donor	Sian James	WBS led RD&I
Involvement in 18th International Workshop Project: Testing the clinical utility of commercial Non-HLA antibody kits	153	Transplantation	Deborah Pritchard	Service Support of others
Effect of Different Sensitisation Events on HLA Antibody Stability in Kidney Transplant Candidates	145	Transplantation	Maria Burton	WBS led RD&I
Development of a predictive biomarker profile to stratify the response of potential kidney recipients to antibody reduction and immune modulation	138	Transplantation	Felicity May	NHS Research
Investigating the role of the bone marrow microenvironment in the pathogenesis of Acute Myeloid Leukaemia (AML)	96	Cellular Therapies	Emma Cook	NHS Research

11 Key Performance Indicators of Welsh Blood Service RD&I Strategy

Objective	Activity	Indicator or KPI	Facilitation Target	Co-dependant on	Target	Month by Month Status											
Drive Improvement						A	M	J	J	A	S	O	N	D	J	F	M
Ensure our research efforts are of the highest quality	Applications for NHS Research approval will adhere to NHS Permissions Performance metrics	Velindre NHS Trust to national KPI for NHS Permissions	✓	Velindre Trust R&D	100% Compliance	✓	✓	✓									
Obtaining sustainability for RD&I activities	The utilisation of the RD&I funding	WBS RD&I spend per fiscal year		WBS Finance		✓	✓	✓									
Be Open to RD&I Collaboration																	
Embed a positive culture around RD&I activity / Actively seek collaborative partners to develop appropriate RD&I projects	Maintain an active media presence for RD&I to highlight our achievements	Deliverables described in Communicati ng Achievement s	✓	WBS Donor Engage ment Communi cation	100% delive ry	✓	✓	✓									
Actively seek collaborative partners to develop appropriate RD&I projects	Participation in all applicable BEST-Collaborative projects, as invited	Project invitations as received by our BEST-C members and actioned appropriately		BEST C Member Rep	100%	✓	✓	✓									

RD&I - Integrated Performance Report

Actively seek collaborative partners to develop appropriate RD&I projects	An inviting RD&I presence on WBS Internet Webpage	All website content must be bilingual. Minimally the RD&I Strategy, contact details will be added to the webpage.	✓		Refre shed annua l	✓	⚠	⚠										
Increase RD&I Activity																		
Ensure our research efforts are of the highest quality / Embed an RD&I positive culture in WBS	Provision of the Learning Zone, ensuring that it is in line with the RD&I strategy and current and future needs of the Service.	A service provision for users of the Learning Zone, adapting and meeting needs.	✓			✓	✓	✓										
Organise and co-ordinate our research activity / Obtaining sustainability for RD&I activities	A pipeline of planned RD&I activity across the organisation.	A planned, continuous programme of RD&I projects in each of the four RD&I themes.			Achie ved in this docu ment	✓	✓	✓										

RD&I - Integrated Performance Report

Developing our workforce capability/ Embed an RD&I positive culture in WBS	Maintain and promote membership of ISBT, AABB and the BEST-Collaborative	Ongoing membership; Signposting to membership resources, funding opportunities, and learning events.	✓		At least ten	✓	✓	✓										
Organise and co-ordinate our research activity	Adequate planning and resourcing of RD&I Projects before commencement and correct modification to resourcing of RD&I projects.	Projects reporting to green project status (ongoing as planned).			Green status for 70% of projects and 70% of the project with a Time Index of 1	✓	✓	✓										
Build a reputation as a research-active blood service																		
Build a reputation as a research-active blood service	Our RD&I findings will be disseminated to the healthcare field through publication and publicity. (Related activity RD&I to fund delegations (which can occur including our external collaborators) to a conference, with an encouragement to contribute to conference proceedings)	A suitable dissemination activity (e.g., conference proceedings/publication) for every completed WBS-led RD&I project			100% of WBS-led projects need to demonstrate how they have achieved this dissemination activity.	✓	⚠	⚠										

RD&I - Integrated Performance Report

Measuring and defining Progress and Success	WBS's publication output needs to be of high scholarly level as a marker of the work's high quality. When appropriate, the PI of the RD&I project will be asked to seek a peer-reviewed publication to disseminate its findings	# of peer-reviewed publication outputs			80% of completed RD&I projects achieve a peer-reviewed publication	✓	⚠	✓										
Build a reputation as a research-active blood service	An RD&I Event with WBS showcasing our work.	Half-day or evening event, possible co-produced with another organisation. Showcasing RD&I	✓		Event due late 2022	✓	✓	✓										
Measuring and defining Progress and Success	We will disseminate our RD&I findings to others.	Number of scholarly publications* (scholarly is a peer-reviewed publication and is to include the publication of conference proceedings)			Maintain current output	✓	✓	✓										

RD&I - Integrated Performance Report

Measuring and defining Progress and Success	A quarterly report is produced and published to promote the achievement of the previous three months and present the current status of the WBS RD&I portfolio	a quarterly report delivered to WBS RD&I Group and elsewhere	✓		Every three months	✓	✓	✓									
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STRATEGIC PRIORITY 3:

The Trust will implement the Velindre Innovation Plan

12 Strategic Priority 3: Progress

Strategic Priority 3: The Trust will implement the Velindre Innovation Plan.

Key Deliverables / Objectives	FY2022/23				FY2023/24				FY2024/25				Progress / Comments
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
• Velindre Innovation Plan will be implemented													

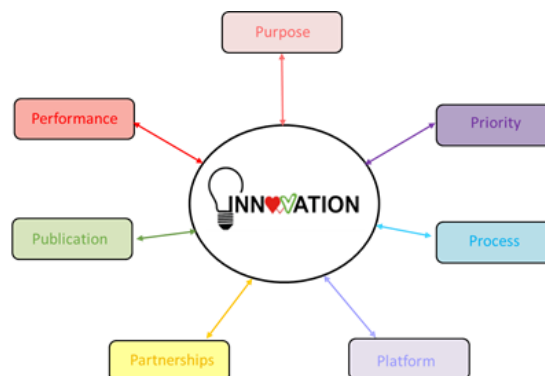
12.1 Q1 Objective – New RIIC Guidelines Implemented

New guidelines for the Research, Innovation, Improvement and Coordination (RIIC) hubs were published in March by the Welsh Government. The team at Welsh Government, after wide consultation changed the very broad focus of the RIIC hubs to clearly supporting innovation infrastructures. Also moving away from networking to delivering collaborative innovation projects with significant outcomes for patients. The new hubs would be Regional Innovation Coordination Hubs (RICH). The Q1 IMTP objective was to implement the new RICH guidelines. This has been completed after discussion across key areas of the service and within the RD&I team. This resulted in the submission of the RICH plan and funding of £75k for 2022/23, to the Innovation Team in the Welsh Government.

13 Innovation

13.1 Purpose

The Minister for Health and Social Services has announced the creation of a new, cross department innovation strategy and aligned to this a consolidated innovation delivery programme for health and social care that has brought together existing innovation activity that has been successfully delivering over the last two challenging years.



The timing of the new programme, to commence from 1st April 2022, is welcomed and also includes a single focus on an innovation infrastructure and a stronger emphasis on delivering higher impact projects, both within Velindre and through the foundation of the strong collaboration developed through the Welsh RIIC hubs, across the three Welsh Trusts.

Moreover, the Trust Innovation Leads working within the consolidated Health Innovation Programme (IP) (along with the UHB leads) will play a key role in the forthcoming Integrated Innovation Strategy for Wales by accelerating industry partnering and coordination. This again builds on the trusted network developed through the RIIC scheme.

Year 4 of the RIIC/RICH programme will therefore focus on realigning the emphasis on innovation and Velindre will continue to develop and implement their aligned innovation plan. The goal of the Velindre Innovation Plan is to deliver a step change improvement in the quality and quantity of multi-disciplinary and multi-partner innovation to support Trust's ten-year Strategy.

13.2 Priorities

The national and Velindre Innovation priorities have become clearer through Q1. These include:

- Developing a strong collaborative network with the other Trusts through fortnightly meetings. Developing key themes to launch collaborative projects.
- Contributing to the All-Wales RIIC now RICH Network and NHS Wales Innovation Team.
- Supporting the Velindre Cancer Service and Futures Programme
 - Primary Care
 - Patient Engagement
 - Organisational Design – workforce innovation
 - Bevan Planned Care Innovation Scheme – Palliative Radiotherapy
 - Palliative Care

- Supporting the Welsh Blood Service
 - The Welsh NHS Drone Partnerships
 - Component Development Lab
- Supporting developments across the corporate functions
 - New Cancer Hospital including the combined learning and Innovation centre – supporting the ambition to develop the smartest and greenest hospital in the country. This is part of an ambitious Regional Cancer Transformation Programme
 - The Arts MDT
 - University Status – designing our Velindre University
 - Emerging Technology
 - Point of Care Diagnostics
 - Operational Services Innovation

13.3 Innovation Process

The reduction in Covid restrictions had enabled the innovation team to conduct their first face to face workshop in the Tec-Marina, Penarth. A key action from the workshop was the development of the Velindre Innovation MDT, to be chaired monthly by Peter Barrett-Lee. A draft paper has been produced and recruitment to the MDT has begun. The plan is for the MDT to be fully operational in Q3.

13.4 Innovation Platform

- **Financial** – As at month 2 the Innovation team was £14k overspent against a breakeven target of £170k for total Innovation Trust income. The stretched target for the innovation income is £250k. Although currently overspent, income is projected to breakeven by the year end.
- **Staffing** – The innovation project manager post has been approved by scrutiny and job descriptions have now been translated to Welsh. The post, which is supported for two years by the charity, is expected to be filled by the end of Q2. With respect to staff development, Ross McLeish and Hannah Moscrop were supported and successful in their sponsored application to undertake their masters in the Innovation Learning Academy, based in the Business School at Swansea University.
- **Innovation Tools Kit** – An All-Wales project has been launched by the innovation leads to review and recommend consistent IP policies. Ayoa, a collaborative AI-based mind-mapping software has been gifted to the team for one year with 20 licenses, by Cardiff based company Opengenius. Adapting and adopting the Welsh Ambulance Ideas platform was also proposed in Q1 as one of the RICH collaborative objectives.

- **Innovation Space** – There is no progress on the development of the Velindre academic centre lab space, to be converted from a large storage space into an innovation space in partnership with the Charity.

13.5 Partnerships

- A new partnership has developed with Bayer UK, to potentially explore innovative developments in prostate Cancer – clinical and emerging technology.
- The team also organised a RICH Trust collaboration workshop in Q1, including PHW, WAST, the Welsh Government health innovation team and facilitated by the Life Science Hub. Two areas that were to be developed in the coming year included lung cancer and the adoption of the Welsh Ambulance ideas platform.
- The Pfizer relationship also continued to develop through the By-Your-Side project, described below.

13.6 Publication and Promotion

The team continue to promote innovation, as part of RD&I, externally with a number of successful events in Q1:

- Moondance Awards – 16th June – the RD&I team supported 9 applications. The Innovation team led 2 applications for the workforce innovation category – Mick Button, was shortlisted and the Acute Oncology Nursing Team were winners.
- MediWales Connects – 29th June – Session on Cancer and Patient Engagement - In partnership with Pfizer – Including Cath OBrien and Non Gwilym, Ross McLeish, and Steve Cartwright (Pfizer)
- The University Status Showcase – 30th June – supported Lauren Fear, the Director of Governance - the Trust was well represented and included two presentations - Chloe George, WBS Component Dev Lab, and Dr Mererid Evans – Cardiff Cancer Research Hub.

13.7 Performance and Projects

13.7.1 Welsh Health Drone Partnership – Supported by the Welsh Government Health Innovation Team

The vision for this project is to create a partnership to establish a Trans-Wales Drone Service for health and emergency services. On the road to this vision, we are developing an innovative drone delivery feasibility project for a service between the Welsh Blood Service in South Wales and Wrexham Maelor in North Wales. This will also

support and potentially replace the current carbon-based transport. This service would also provide the foundation for augmenting emergency ambulance and routine health



delivery services throughout Wales where the mountainous geography means most road journeys are relatively slow. A comparable coastal network could also support similar challenges.

The purpose of the initial foundation project is to establish the context for drone-based delivery services to support the Welsh NHS and test the basic premise with the Civil Aviation Authority (CAA) and identify the roadmap and critical tasks that will allow us to realise the longer-term vision.

At the end of Q1, the team met with the CAA Innovation Hub at Gatwick. Attendees were Jeremy Howitt and Nigel Breyley from Snowdonia Aerospace, Gareth McAveety and Jo Nieman from SLiNK-Tech and Anirudh Vyas and Rory Hedman from the CAA. The discussions were positive and focused on the regular blood transfer requirements of WBS and EMRTS, along with the unique factors of Welsh geography that make the potential for drone transfer attractive. Also discussed were the case studies and concept of operations that the partnership would like to pursue along with the strawman Welsh NHS drone network that had been developed at a project workshop at Celtic Manor in March. Also discussed were the airspace constructs that might be appropriate for such a network; what regulations the CAA would apply; the means of compliance against those regulations and what an early demonstration activity might look like that would allow all parties to increase the level of understanding and reduce the risk to the point that regular and routine operations might be able to commence.

The CAA confirmed that a Transponder Mandatory Zone (TMZ) is the preferred airspace construct that they are looking at for safe integration of drones into UK airspace outside of Danger Areas and that they will be issuing a guidance paper later this year to outline their proposed approach. The CAA is also supportive of conducting a TMZ airspace trial over Powys to explore all the issues that the team raised and indicated that they would be prepared to adopt such a project as a “Sandbox” activity – i.e. they would provide resources for the CAA to work alongside the project team to assist mutual learning.

To provide an element of focus and reduce cost and risk, the first leg of operations was discussed from Wrexham to Welshpool for a TMZ airspace trial. This has the attraction of (i) addressing suburban operation from a dedicated vertiport in Wrexham, (ii) a 30-mile cross-country transit, and (iii) co-located operation with the air ambulance at Mid Wales Airport. The scenario will also address the requirements of both the Welsh Blood Service (as a precursor to further southerly extension to Talbot Green) and EMRTS. The CAA suggested a reasonable timeframe would be to submit a Sandbox application this autumn with a view to conducting initial flight test risk reduction within the Llanbedr Danger Area in 2023 and then migrate the concept to Wrexham/Welshpool in 2024. The site survey at WBS Llantrisant and Wrexham will also have been completed in Q2 by Slink-Tech to inform this trial.

Project management meetings continue every other week, and a Welsh Government contract update meeting was held on the 27th June. A final workshop to prepare the project report has been scheduled for the 28th July 2022.

13.7.2 RITA Virtual Assistant Project

RITA is ready to be deployed on the trust website with a soft launch, allowing us to continue to engage with our patients and obtain feedback for the ongoing direction and development of the virtual assistant. This will also allow us to identify any areas where there are glitches or incorrect intent identification and provide



access to evaluation and analytical tools. These tools will provide data on how many users are engaging with RITA, along with useful insights as to the most common questions our services users are asking. We will then use this data to build upon on the work already done and make sure we are continuing to develop RITA with a patient-centric approach. Since we last presented RITA to the EMB we have worked on the concerns raised – namely a Welsh language version and an on-going support plan.

Welsh language translator

The EMB expressed the need for a Welsh language version of RITA in order to comply with the Welsh Language Act. This now has been addressed through working in conjunction with IBM developers to install a direct translation service. This means that RITA will translate Welsh text into English, search its repository for an answer based on the intent or area of questioning it identifies and then translate this back into Welsh. We have tested this with Welsh language colleagues and third-party Welsh speakers, and the feedback has been very positive.

This can be accessed here:

<https://velindre.nhs.wales/about-us/research-development-and-innovation/innovation/rita/rita-cymraeg/>

RITA Cymraeg can also be implemented on the Welsh language version of the website once editing access has been granted.

Deployment support

David Mason-Hawes from the Digital Services department has confirmed they will take on the ongoing maintenance and support of RITA once the soft launched on the Trust website has been established. The innovation project manager will provide training and credentials to Digital Services in order to enable a smooth transition.

13.7.3 By-Your-Side – Localising Pfizer’s Global Cancer App

The Patient Solutions Team at Pfizer was looking to improve their cancer ‘By Your Side’ website and mobile app. This is a digital solution that supports patients with cancer in managing their health, wellness and everyday life. They understand a cancer diagnosis and living with cancer can be overwhelming for patients and navigating through a plethora of websites and apps to find answers and support might be daunting. Pfizer have therefore worked on a new concept to bring more personalization to the users (patients and care givers) through the ‘By Your Side’ platform. Content and connection to local specialists could in the future be based on the preference and interests of each individual user.

‘This is Living With Cancer (TLWC)’ known as By Your Side (BYS) in the UK is an existing application available for all cancer patients to help their general well-being and daily tasks. TLWC/BYS aims to be a one-stop repository of support for cancer patients, but in order to be more effective, it could better tailor its content to patient need. The challenge is to localise web and app content to be most useful for each patient using the app. The longer-term aim could be to offer a simple and personalized connector solution to empower cancer patients to live the best lives they can.

The combined Velindre and Pfizer team had a sprint project that they delivered in three months (by July 2022). The project aimed to have piloted a new localisation concept for BYS and evaluate it for consideration of larger programme scaling to geographical areas with other partners. Pfizer’s objective with the new concept is to offer a simple personal experience to patients looking for day-to-day support utilising a digital platform for their health management and ability to connect easily to local specialised support when expert follow-up is needed.

Velindre was the first project in the UK selected by Pfizer and the project was delivered to budget and time. The project was supported by input from healthcare professionals and cancer patients and included:

- A new tailored and fit for purpose contract – led by Rachel Granger
- An agree Project Methodology
- Defined functional requirements
- Four design workshops including patients, carers and Subject Matter Experts (SMEs)
- Incorporated user metrics
- Delivery of Patient and HCP insights and recommendations for scalability

STRATEGIC PRIORITY 4:

**The Trust will maximise
collaborative opportunities
locally, nationally &
internationally**

14 Strategic Priority 4: Progress

Strategic Priority 4: The Trust will maximise collaborative opportunities locally, nationally, and internationally.

Key Deliverables / Objectives	FY2022/23				FY2023/24				FY2024/25				Progress / Comments
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<ul style="list-style-type: none"> Formalise the Cardiff Cancer Research Hub partnership 													
<ul style="list-style-type: none"> Maximise R&D opportunities at the Velindre satellite unit at Nevill Hall Hospital 													
<ul style="list-style-type: none"> The development and implementation of "Velindre@" Programme, with research facilities at Aneurin Bevan UHB, Cwm Taf Morgannwg UHB, as well as within the Cardiff Cancer Research Hub at CV UHB, forming a South-East Wales research network increasing opportunities for donors/patients to access research studies across the region 													

15 Trust Sponsored Research

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 Quarter 1 of Financial Year 2022/23, the Trust sponsored research portfolio is as follows:

Metric Description	Year to date
Number of new sponsored research studies (Total)	0
<ul style="list-style-type: none"> Number of sponsored research studies that are Trust-wide 	N/A
<ul style="list-style-type: none"> Number of sponsored research studies that are UK-wide 	N/A
<ul style="list-style-type: none"> Number of sponsored research studies that are Europe-wide 	N/A
<ul style="list-style-type: none"> Number of sponsored research studies that are World-wide 	N/A
Number of research sites opened for sponsored research studies	1

Metric Description	Year to date
Number of publications from sponsored research studies	2
<ul style="list-style-type: none"> Journal article 	0
<ul style="list-style-type: none"> Abstracts 	2
Number of participants recruited to sponsored research studies	37

16 Welsh Blood Service

The mainstay of the Welsh Blood Services research vision is that we collaborate with others to maximise the quality, outcome and reach of our research efforts.

Being open to collaboration and delivering these collaboratives is achieved through dedicated key performance indicators that we can celebrate here.

The Welsh Blood Service strongly supports the international and UK industry through our collaborative partnerships. Current industrial partnerships include working with the local SME HeamAir, who with the Component Development and Research Laboratory are investigating a novel device around blood safety testing. We work alongside to support several incubation businesses they have spent up from academia.

The WBS's links with academia are extensive, as described in our opening chapter alongside the two recently completed studentships; we continue this with our research collaboration with Cardiff Metropolitan University and the investigation of platelet storage conditions.

We work alongside NHS organisations' clinical delivery and enjoy ongoing support with haematology services in Cardiff and Vale University Health board and the Royal Navy. Our work supports the provision of renal transplant research through our strong links with the nephrology service at Cardiff and Vale University Health board. We currently have ongoing and proposed long-term collaborative projects looking at the frontiers of tissue and organ transplantation.

We continue with international blood services through our membership in various international research consortiums, including the BEST Collaborative, European Blood Alliance Special Interest Groups, Blood transfusion Genomics Consortium and the International HLA Workshop.

Ultimately our collaborations are activity reflected in the WBS RD&I portfolio activity and our vital publication records, which are recorded in the previous chapter and our quarterly update, which is published on the WBS website.

CROSS CUTTING THEMES:
across Strategic Priorities 1 to 4

17 Cross-cutting themes: progress

Cross-cutting themes across Strategic Priorities 1 to 4.

Key Deliverables / Objectives	FY2022/23				FY2023/24				FY2024/25				Progress / Comments
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<ul style="list-style-type: none"> The implementation of programmes, complementing existing training opportunities that enable and support Trust staff to develop, deliver and manage research portfolios 													
<ul style="list-style-type: none"> Further investment in the research delivery and governance teams to make sure that studies are optimised to facilitate effective and timely recruitment and delivery 													
<ul style="list-style-type: none"> The development and implementation of clinical information systems to identify donors/patients eligible to take part in research studies 													

CORPORATE

18 RD&I Finances

18.1 Background / context

The RD&I Division operates a distinct financial ledger comprising all directly managed budgets. This comprises a large majority of the Trust's Research and Innovation income and expenditure, and is the subject of this finance report. In addition, some activities managed outside the RD&I Division, e.g. pharmacy and radiotherapy research staff, are reported as part of the relevant Divisional reports.

For 2022/23 the RD&I Divisional Financial Plan has been set at very similar levels to the previous year. In summary this is to:

- Secure income of **£3,107k** from multiple sources, most significantly:
 - Health & Care Research Wales (£1,085k)
 - Reimbursements from commercial clinical trials (£733k)
 - Support from the Velindre charity (£846k)
- Spend **£2,742k**, of which £2,578k (£94%) is salary costs, including:
 - Management, trial support, data and administrative staff (£1,187k)
 - Nursing staff (£1,002k)
 - Medical staff (£380k)
- Manage a further **c. £500k**, held in grant funding from external bodies, such as Cancer Research UK, for specific research trials led by VUNHST.

18.2 Summary of Performance against Key Financial Targets: Quarter 1

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

		£000			
		PAY	NON PAY	INCOME	TOTAL
<div>Quarter 1</div>	Budget	608	22	-403	227
	Actual	564	32	-369	227
	Variance	-44	10	34	0
<div>Forecast Outturn</div>	Annual Budget	2,578	164	-3,107	-365
	Forecast Outturn	2,478	164	-3,007	-365
	Variance	-100	-0	100	0

Performance in Quarter 1 was in line with the Budget Plan with £0 overall variance.

18.2.2 Key Financial Target 2: to pay at least 95% of invoices within 30 days

	Current Month*	Year to Date	Forecast Outturn
% Compliance	87.5%	82.9%	>95%

* data available to Month 2

Performance in Months 1 & 2 fell below target with 6 out of 35 invoices missing the target. This was due to a temporary processing issue that has now been resolved with the Procurement Team and performance is expected to return to target in the remaining quarters.

18.2.3 Analysis of Performance to Date and Forecast Outturn

Performance through the first quarter has been in line with the Budget Plan, with a £0 overall variance being recorded. Within that total figure:

- higher than expected vacancies due to staff turnover has created a £44k underspend;
- in turn, this has allowed the Division to reduce the expectation of funding support from sources such as Innovation and Velindre Charitable Funds.

The forecast outturn for the Division is to achieve the Budget Plan with £0 variance. The primary risks to achieving this outturn are:

- Securing income from participating in commercial and other fee-paying trials. Quarter 1 was slightly ahead of target, however the timing and value of future income from across the portfolio of trial is difficult to predict with certainty and therefore remains a risk;
- Attracting income streams to support Innovation. A “self-funding” target was instigated for 2022/23 to secure income to cover Innovation Team costs. Staff turnover in the Head of Innovation role will make this target challenging to achieve.

18.2.4 Pay Analysis by Staff Group

PAY GROUP	Cumulative Q1		
	£44k less than budget		
	YTD	YTD	YTD
	Budget (£'000)	Actual (£'000)	Variance (£'000)
Professional Scientific & Technical	0	0	0
Additional Clinical Services	20	16	-4
Administrative & Clerical	297	259	-38
Allied Health Professionals	13	13	0
Healthcare Scientists	13	13	0
Medical	95	87	-8

Nursing	235	176	-59
Vacancy Factor	-65	0	65
Total	608	564	-44

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.

18.2.5 Non Pay Analysis by Category

NON PAY CATEGORY	Cumulative Q1		
	£10k more than budget		
	YTD	YTD	YTD
	Budget (£'000)	Actual (£'000)	Variance (£'000)
Clinical/General Services/Supplies	22	19	-3
Maintenance & Repairs	0	0	0
Transport	0	0	0
Printing / Stationary / Postage	0	2	2
Travel & Subsistence	0	1	1
Education & Development	0	5	5
Equipment & Consumables	0	4	4
Computer Maintenance & Supplies	0	0	1
Total	22	32	10

A modest non-pay overspend is due to budget timing and does not reflect an underlying trend. This is expected to move to a breakeven position in Q2.

18.2.6 Income Analysis by Category

INCOME CATEGORY	Cumulative Q1		
	£34k less than budget		
	YTD	YTD	YTD
	Budget (£'000)	Actual (£'000)	Variance (£'000)
Trial Reimbursements	-183	-187	-4
Charitable Income - Infrastructure	-102	-90	12
Innovation Income	-28	-0	28
Other Income	-90	-92	-2
Total	-403	-369	34

Income recovery has proceeded well in Quarter 1 with a small reduction in expectation of income to match the positive variance on vacancies.