



**Gwasanaeth Gwaed Cymru  
Welsh Blood Service**

# **Research, Development & Innovation Report**

June 2021



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## About this document

This document has an up-to-date summary of all planned, ongoing, or completed research development and innovation activity within the Welsh Blood Service.

This version of the document has been specially adapted so the donors, patients and the public can see the Research, Development and Innovation activity that they support through the gift of blood, stem cell and organ donation.



# Foreword

In the spring, Velindre University NHS Trust successfully renewed its university status. The submission to Welsh Government demonstrated the role of education, research and innovation in our modern NHS organisation.

In the application, the Welsh Blood Service could link activity from all areas of the service. Our efforts formed a significant part of the application.

Now, there is a chance to reflect on what this status inspires and consider how we embed research into NHS professions. We must ensure that colleagues have the required time and support to carry out high-quality research. We can do this by eliminating elements that aren't relevant or are distracting to them. If we don't do this, we run the risk of colleagues being unable to make good use of their knowledge and continuing the training loop without penetrating the research environment.

In the autumn we will be launching the Component Development and Research Laboratory. This brand-new facility will be dedicated to advancing Welsh Blood Service's Products RD&I theme as well as delivering service improvements in blood product production. The facility will be led by Chloe



George and Dr Christine Saunders. RD&I Facilitation will be an integral part of this facility, supporting planning, performance, and governance aspects. WBS's investment in this facility is a demonstration of our commitment to our colleague's path to 'researcher'

In the meantime, we can continue to use and be proud of our university designation and move forward under this direction. May we find new horizons together.

**Sian James**  
RD&I Facilitation Lead  
Welsh Blood Service



# Improving Transplant Opportunities for Patients

Amy De'ath was the lead Clinical Scientist for this clinical study into new treatments for improving the rates of transplantation in Highly Sensitised Patients (HSP).



*Amy De'ath speaking at WBS RD&I Showcase*

HSPs are individuals who have developed a highly sensitised immune system after previous exposure to foreign tissue, usually a prior transplant, blood transfusion or pregnancy.

Kidney transplantation is the preferred method of treatment for kidney failure. However, HSPs are more likely to experience organ rejection and, therefore, rates of transplantation are low in HSPs. These individuals are often treated with long-term dialysis while awaiting a potential donor transplant.

Without the potential for transplantation, these HSP patients remain on dialysis and die at a faster rate than patients who have received treatment to reduce their sensitivity.

**ITOPS** is a clinical trial which aims to establish a new treatment that produces a clinically relevant reduction in a patient's level of sensitivity. This is predicted to improve rates of transplantation for these HSPs and, therefore, reduce the need for long-term dialysis.

Amy De'ath was involved in setting up the trial, including developing new laboratory testing protocols and guiding the testing and management of trial participants samples. Amy also guided the selection of patients during recruitment and created a data management system that is being utilised across three study sites. Our Welsh Transplantation and Immunogenetics Laboratory team offered expert advice and worked with the clinical team to achieve the best possible outcomes for patients with complex immunological issues. Dr Tracey Rees, our Chief Scientific Officer, also contributed to the development of the **ITOPS** protocol.

The WBS Research Facilitation service worked alongside Amy to oversee the necessary governance aspects in the approval process and assisted in contact negotiations.

The trial finished early due to the COVID-19 pandemic pressures on the NHS. Analysis of the data collected from all centres is currently underway, with a written report to follow.



# Importance of Dissemination

Good dissemination results in the findings of research reaching individuals who can learn and benefit the most from it, thus maximising the impact of the research.

There are many motivations as to why individuals share research findings, including raising awareness, influencing policy and/or practice, building organisational profiles and attracting future funding.

Here at WBS, we aim to produce high-quality research that allows us to build our reputation and continue to deliver a service using evidence-based practices.

We utilise many platforms to disseminate our research. Within the last two years, there have been 13 journal publications with WBS staff authorship and 16 conference presentations delivered by staff/project collaboration colleagues.

WBS authorship articles have been published in journals such as:

- ♥ Transplantation Reviews (IF: 3.262)
- ♥ Transplant International (IF: 3.177)
- ♥ Transfusion (IF: 2.8)
- ♥ Human Immunology (IF: 2.412)
- ♥ Vox Sanguinis (IF: 2.347)
- ♥ Transfusion Medicine (IF: 2.159)



Publishing in journals builds WBS' organisational profile and is an effective way of raising awareness of our findings on a global scale.

Our staff have presented at numerous conferences recently including:

- ♥ British Blood Transfusion Society
- ♥ British Society for Histocompatibility and Immunogenetics
- ♥ European Immunogenetics and Histocompatibility Conference
- ♥ Public Health England's Public Health Research and Science Conference 2021



Conferences provide great opportunities for staff to continue their professional development, building self-confidence, communication, and a professional reputation in the scientific community. The organisation can also benefit from the extensive networks that can be established at conferences as this can lead to collaboration opportunities where a shared research interest is found amongst other researchers/organisations.

# RD&I Project Portfolio





# We have 9 open projects

**2**

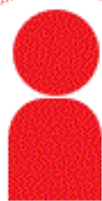
in  
Transplantation



Includes solid organ and stem cell transplantation, histocompatibility, immunogenetics and donor registries

**2**

in Donor Care &  
Public Health



Includes donor recruitment and retention, eligibility and care and public health surveillance

**5**

in Products



Includes blood components, which include immunohematology, testing, component and product manufacturing, quality management, and the evaluation of equipment and materials

**0**

in Therapies



Includes topics surrounding cellular and other blood therapies

**31**

## Staff Involved in Research

Staff undertake WBS research, provide service support of other's research and may perform research as part of a qualification. We also collaborate with other organisations on a global scale, working with universities and international blood services in shared areas of interest.



**13**

## Publications\* including conference presentations and journal articles

WBS publishes in journals and presents at conferences to share our findings and build our reputation within the research community. Producing publications also provides our staff with opportunities to develop their skills and build professional reputations.

*\*in the last rolling 12 months*

# Publications

Impactful publications from the Welsh Blood Service colleagues and our collaborators in the previous **6** months

## Frequency of rare, serious donor reactions: International perspective

**Nicholas O'Sullivan** *in the journal* Transfusion

**Full citation:** Young, P., et al., 2021. Frequency of rare, serious donor reactions: International perspective. Transfusion, 61(6), pp.1780-1788.

## An international comparison of HIV prevalence and incidence in blood donors and general population: a BEST Collaborative study

**Ann Jones** *in the journal* Vox Sanguinis

**Full citation:** Germain, M., et al., 2021. An international comparison of HIV prevalence and incidence in blood donors and general population: a BEST Collaborative study. Vox Sanguinis,.

## High-resolution HLA allele and haplotype frequencies in several unrelated populations determined by next generation sequencing: 17th International HLA and Immunogenetics Workshop joint report

**Jennifer Pepperall** *in the journal* Transfusion Medicine

**Full citation:** Creary, L., et al., 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), pp.505-522.

## Conference Proceedings

## Sero-surveillance of SARS-CoV-2 Antibody in Welsh Blood Donors

**PHW presented** *at the conference* PHE: Public Health Research and Science Conference 2021

This report is prepared by



Sian James and Courtney Morris





We thank the blood, platelet and transplant donors who make possible everything we do



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