



**Gwasanaeth Gwaed Cymru
Welsh Blood Service**

Research, Development & Innovation Report

March 2021



Foreword

In this report, we present how the Welsh Blood Service delivered research and development, as well as innovative practices, during the tremendous challenges we all faced in 2020.

During the next year, the WBS will establish a Product Component Laboratory to look for better use of blood products and their use to treat patients.

In Transplantation, we have focused on those whose antibody incompatibilities provide challenges for the treatment of solid organ failure.

We will focus on the scientific and technical endeavours required to be at the forefront.

Sian James
RD&I Facilitation Lead
Welsh Blood Service

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.



The FAIR Project - making blood donation more inclusive

In December 2020 The UK and Welsh governments announced the intention to change blood donor selection criteria to allow gay men to donate. This will be achieved by the introduction of individual risk assessments.



<https://youtu.be/jfZpTC2Kuuc>

The findings on these individual risk assessments are the outcome of the FAIR RD&I project. The WBS, along with the other UK blood services', contributed to this project throughout 2020.

It should be highlighted that Welsh Blood Service donors had the highest rate of participation in the donor survey of the UK's four blood services (in proportion to the sample size invited to take part in each nation).

We can attribute this high participation to excellent support from our donors and the strength of good engagement by the WBS.

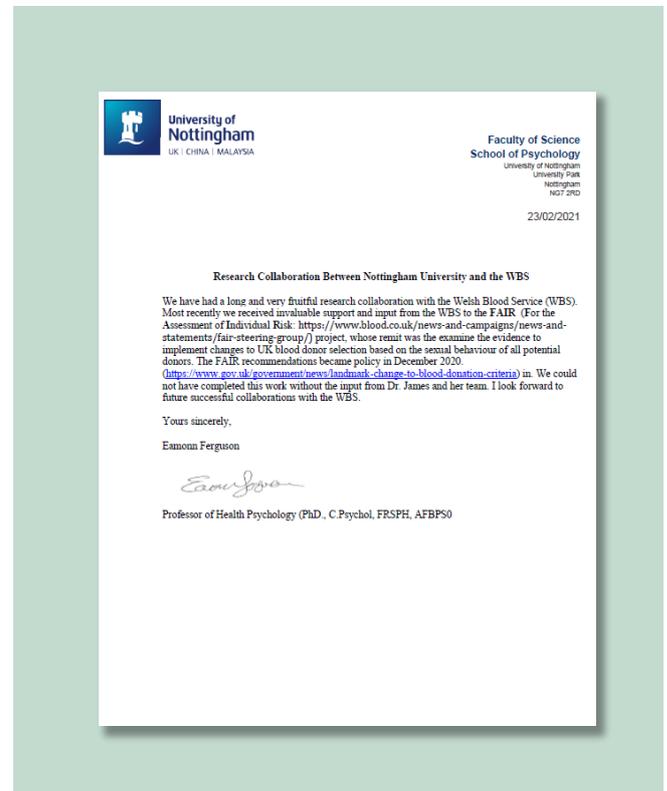
RD&I Facilitation provided engagement materials and learning events around the project that were designed to inform and enthuse our donor-facing colleagues about the FAIR project.

We smoothed entry into the survey for our donors, involving stakeholders such as Collections, IT/Digital and Clinical Services. We produced written information and a short video and promoted participation in our social media feeds.

Along with the mass survey, WBS also successfully delivered in-person focus groups with both staff and donors before the COVID-19 pandemic outbreak.

As this project moves to the implementation of the individual risk assessment we reflect on how this is an excellent example of research moving into the innovation sphere and how we have met our vision of collaboration, improvement and reputation building in RD&I

This is a testimonial from the collaborative academic group that led the project.



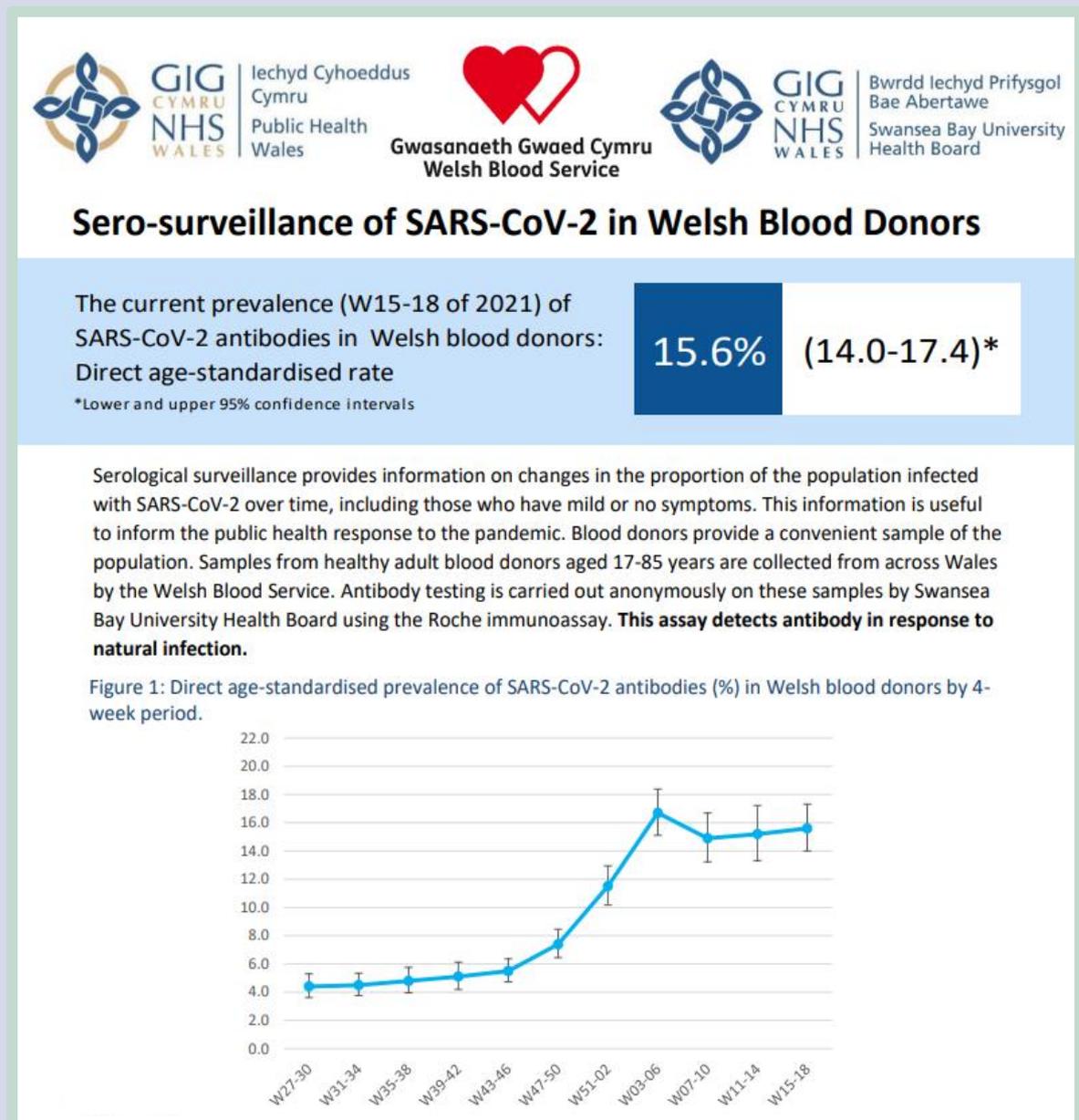
COVID and Sero-surveillance

The Welsh Blood Service continues its support of Public Health Wales' Sero-surveillance for COVID prevalence. To date we have provided more than 15,000 donor samples for the survey and will continue to do so throughout 2021.

The project measures the immune response in this surrogate for the general population. It is important to note that this project does not measure the immune response that occurs after receiving the COVID-19 vaccination and only measures the immune response that was created from being infected with COVID-19.

The illustration below is the snapshot of the latest finding. A rise in antibody prevalence in blood donors occurred during the winter 2020 period, with prevalence remaining high throughout the first quarter of 2021.

This project will continue to feed into the Welsh Government's assessment of the pandemic in Wales.



RD&I Project Portfolio



The Wales Millennium Centre
lit up in red for
World Blood Donor Day 2019

We have 8 open projects

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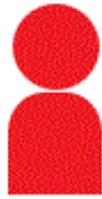
in
Transplantation



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

4

in Products



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

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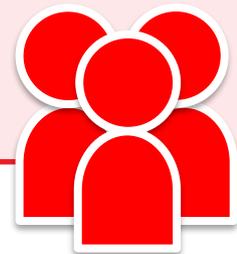
in Therapies



Includes topics surrounding cellular and other blood therapies

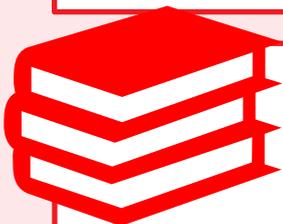
25 Staff Involved in Research

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.



16 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.



Our Publications

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

Understanding immunological response to desensitisation strategies in highly sensitised potential kidney transplant patients

Felicity May *in the journal* Transplantation Reviews

Full citation: May, F., Rees, M., Griffin, S. and Fildes, J., 2021. Understanding immunological response to desensitisation strategies in highly sensitised potential kidney transplant patients. Transplantation Reviews, 15;35(2):100596.

Patient and public perspectives on cell and gene therapies: a systematic review

Mark Briggs *in the journal* Nature Communications

Full citation: Aiyegbusi, O.L., Macpherson, K., Elston, L. et al. 2020 Patient and public perspectives on cell and gene therapies: a systematic review. Nat Commun 11, 6265.

Development of a High Throughput SARS-CoV-2 Antibody Testing Pathway Using Dried Blood Spot Specimens

Chloe George *in the journal* Annals of Clinical Biochemistry

Full citation: Moat, S., et al., 2020. Development of a high-throughput SARS-CoV-2 antibody testing pathway using dried blood spot specimens. Annals of Clinical Biochemistry: International Journal of Laboratory Medicine, p.000456322098110.

Improving blood-prescribing decisions: Evaluating the efficacy of a blood guidelines app

Janet Birchall *in the journal* Transfusion Medicine

Full citation: Watson, P., Watson, D., Dhese, A., New, H., Davidson, A., Armstrong, R. and Birchall, J., 2020. Improving blood-prescribing decisions: Evaluating the efficacy of a blood guidelines app. Transfusion Medicine, 30(6), pp.485-491.

Conference Proceedings

Listing of unacceptable HLA-DP antibodies for Decreased Donor Transplantation

Catherine Cormack *at the conference* EFI Online 2021

Variation in HLA antibodies detection and specification results between kit manufacturers in external quality assessment schemes

Deborah Pritchard *at the conference* BSHI / EFI Online 2021

Differences in UK and acceptable HLA antigen list in donor kidney transplantation

Deborah Pritchard *at the conference* BSHI / EFI Online 2021



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



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