

BLOODY



RESEARCH

Dr. Allison Waters | Research & Development Lead Facilitator

6<sup>TH</sup> OCTOBER 2021



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EXAMPLE



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# Research & Development

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- Strategy 2021 -2023
- Priorities
- Research themes
- Current projects
- What's next



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# Research & Development

Strategy 2021-2023

The outcomes of high-quality research may positively impact a broad range of health-related fields including blood science, transfusion, transplantation, public health policy, clinical interventions and epidemiology. We must provide the framework for carrying out applied research, communicating insights and to help position us as a key leader for advocacy, advice and guidance.



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# Research & Development

Strategy 2021-2023

## Vision

- Researching, developing and innovating our blood and tissue services by harnessing the expertise of our people, and through collaboration with clinical and academic partners.

## Mission

- Committed to providing the research evidence for improving and developing our blood and tissue services to patients, through collaboration with our donors, the expertise of our people and of our clinical and academic partners.

## Objectives

- Improved Donation and Donor Care
- Progressive Blood Service
- Clinical Leadership



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## Priorities

- Research pathway provision
- Community engagement
- Build on research strengths
- Technological advancements
- Academic affiliation
- Economic value
- Leadership
- Showcase
- Research culture

## Focus

- Governance and infrastructure
- Scope
- Communication
- Collaboration
- Engagement



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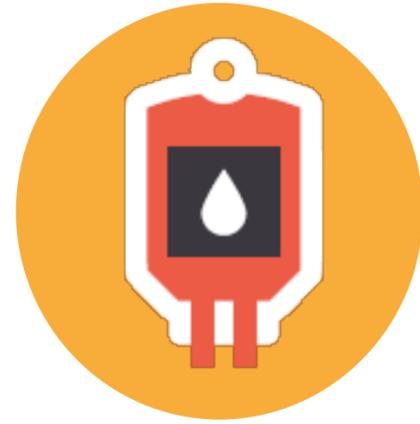
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# Research Themes

Strategy 2021-2023



Disease & Genetic  
Epidemiology



Donation and  
Deferral



Applied Diagnostics  
and Technical  
Advancement



Clinical evaluation of  
blood transfusion



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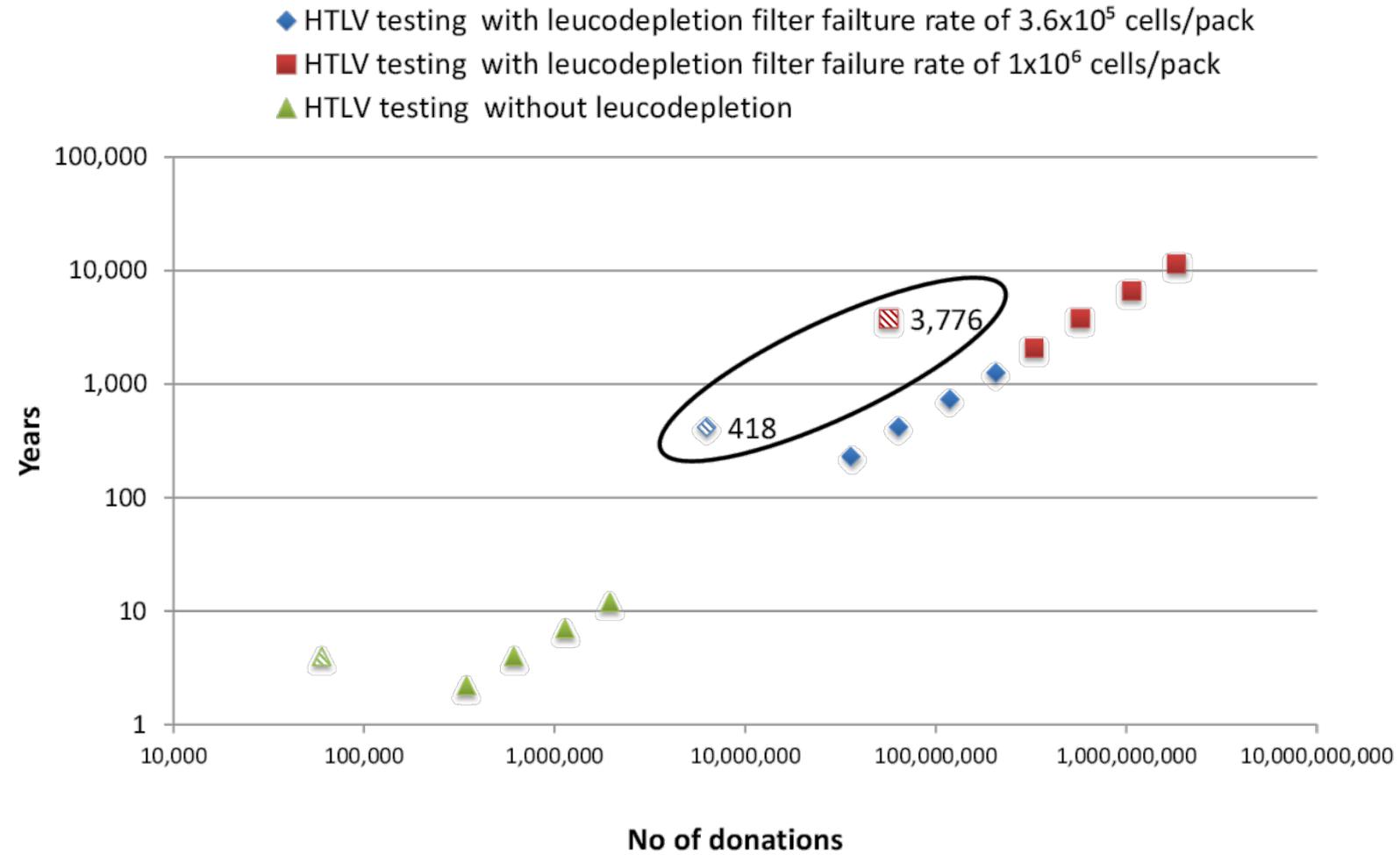
# Human T-Lymphotropic Virus Transfusion Transmitted Infection Risk: Impact On Future Testing Strategy

Pádraig Williams<sup>1</sup>, Niamh O' Flaherty<sup>1,2</sup>, Stephen Field<sup>1,3</sup>, Allison Waters<sup>1</sup>

<sup>1</sup> Irish Blood Transfusion Service, National Blood Centre, IRELAND

<sup>2</sup> UCD National Virus Reference Laboratory, University College Dublin, IRELAND

<sup>3</sup> School of Medicine, Trinity College Dublin, IRELAND



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# SARS-CoV-2 Seroprevalence in Irish Blood Donors

Dearbhla Butler<sup>1</sup>, Dermot Coyne<sup>1</sup>, Louise Pomeroy<sup>1</sup>, Pádraig Williams<sup>1</sup>, Paul Holder<sup>4</sup>,  
John C Prostko<sup>2</sup>, Alex Carterson<sup>2</sup>, Stephen Field<sup>1,3</sup>, Allison Waters<sup>1</sup>, Niamh O'Flaherty<sup>1,4</sup>.

<sup>1</sup> Irish Blood Transfusion Service, National Blood Centre, IRELAND; <sup>2</sup> Abbott Laboratories, UNITED STATES  
<sup>3</sup> School of Medicine, Trinity college Dublin, IRELAND; <sup>4</sup> UCD National Virus Reference Laboratory, University college Dublin, IRELAND

Figure 1: SARS-CoV-2 antibody detection in donations received between February and September 2020.

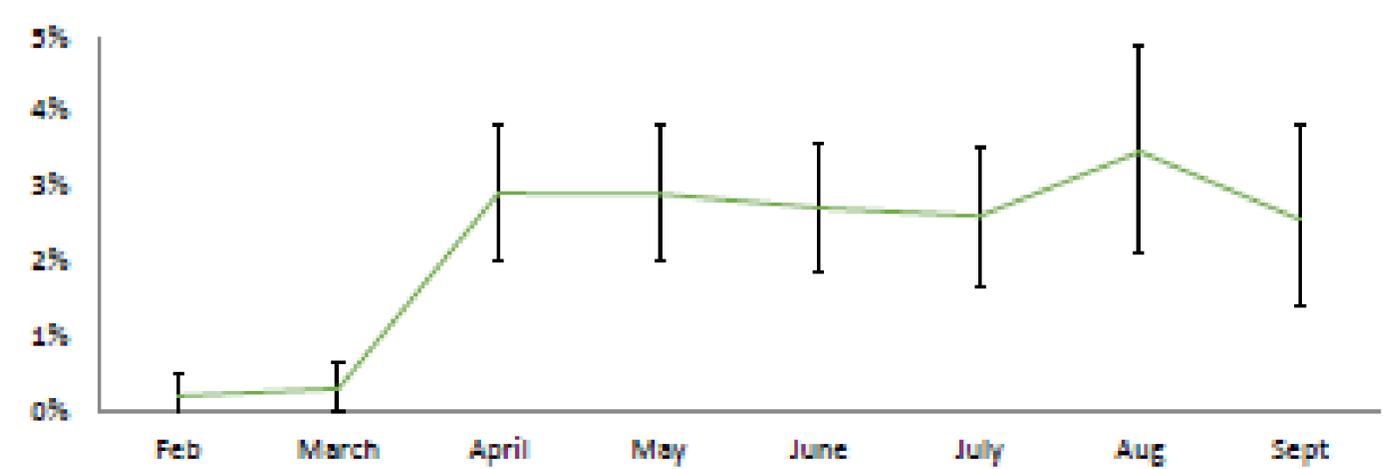
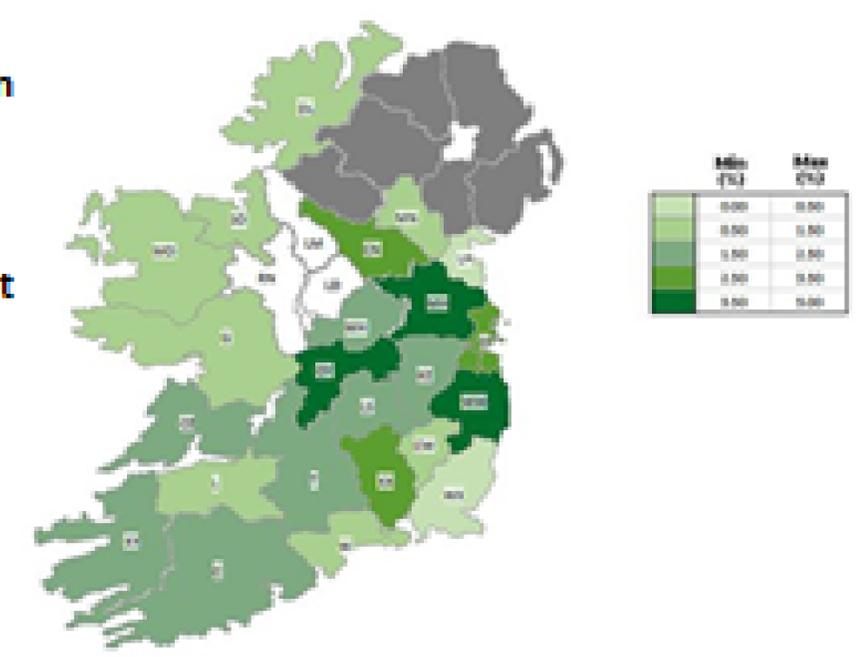


Figure 2: Comparison of SARS-CoV-2 antibody detection in donations received from different geographical locations throughout Ireland.



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# The impact of donor biological variation on the quality and function of cold stored platelets

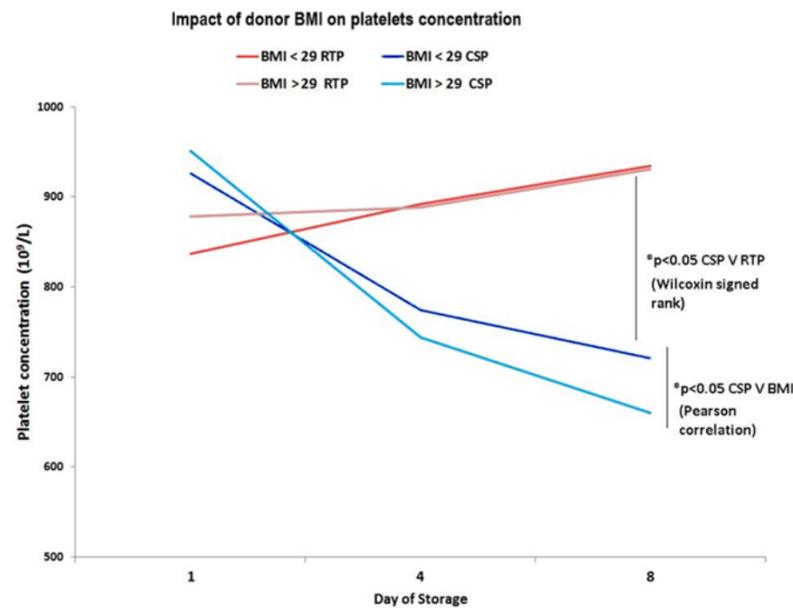
Alice Lorusso<sup>1,2</sup>, Harry Croxon<sup>1</sup>, Sarah Faherty-O'Donnell<sup>1</sup>, Áine Fitzpatrick<sup>1</sup>, Aileen Farrelly<sup>1</sup>, Stephen Field<sup>1,3</sup>, Allison Waters<sup>1</sup>

<sup>1</sup> Irish Blood Transfusion Service, National Blood Centre, IRELAND

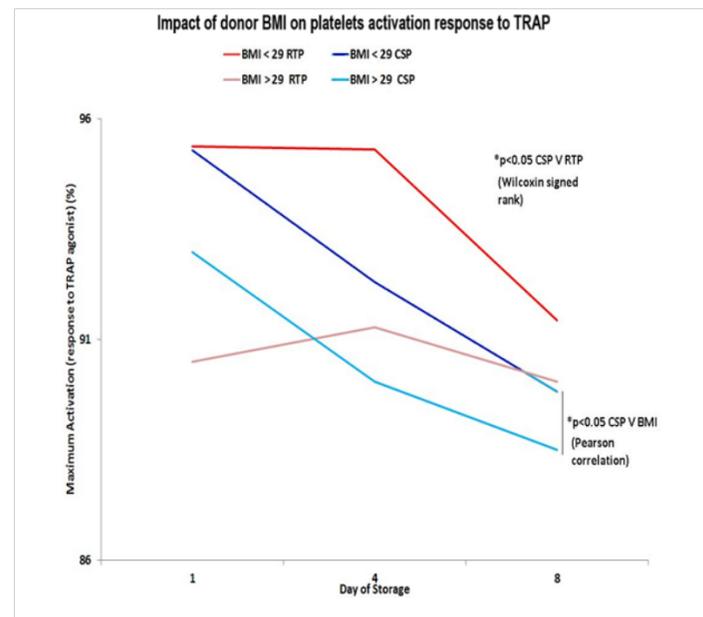
<sup>2</sup> Biomedical Sciences Research Institute, University of Ulster, NORTHERN IRELAND.

<sup>3</sup> School of Medicine, Trinity College Dublin, IRELAND

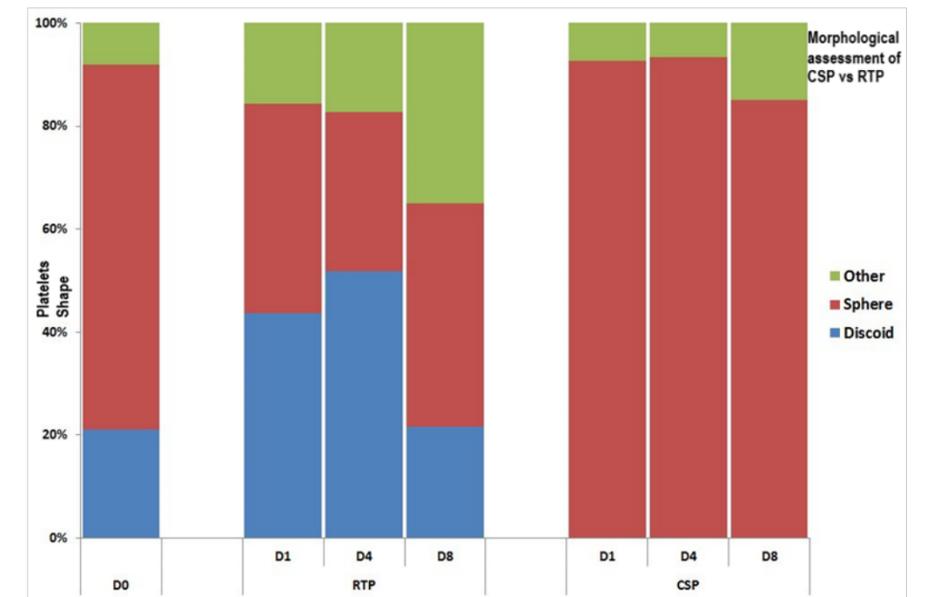
**Figure 1: Impact of donor BMI on the platelet concentration over 8 days of either room temperature or cold storage.**



**Figure 2: Impact of donor BMI on the platelet's activation response to TRAP over 8 days of either room temperature or cold storage**



**Figure 3: Morphology assessment of platelets over 8 days of either room temperature or cold storage.**



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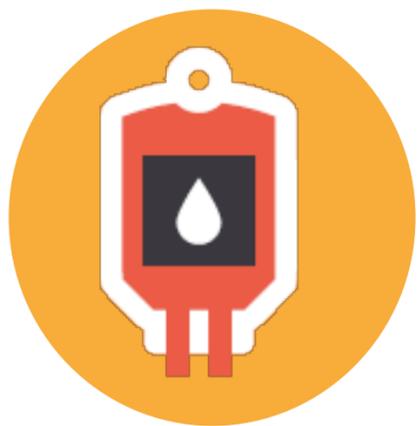
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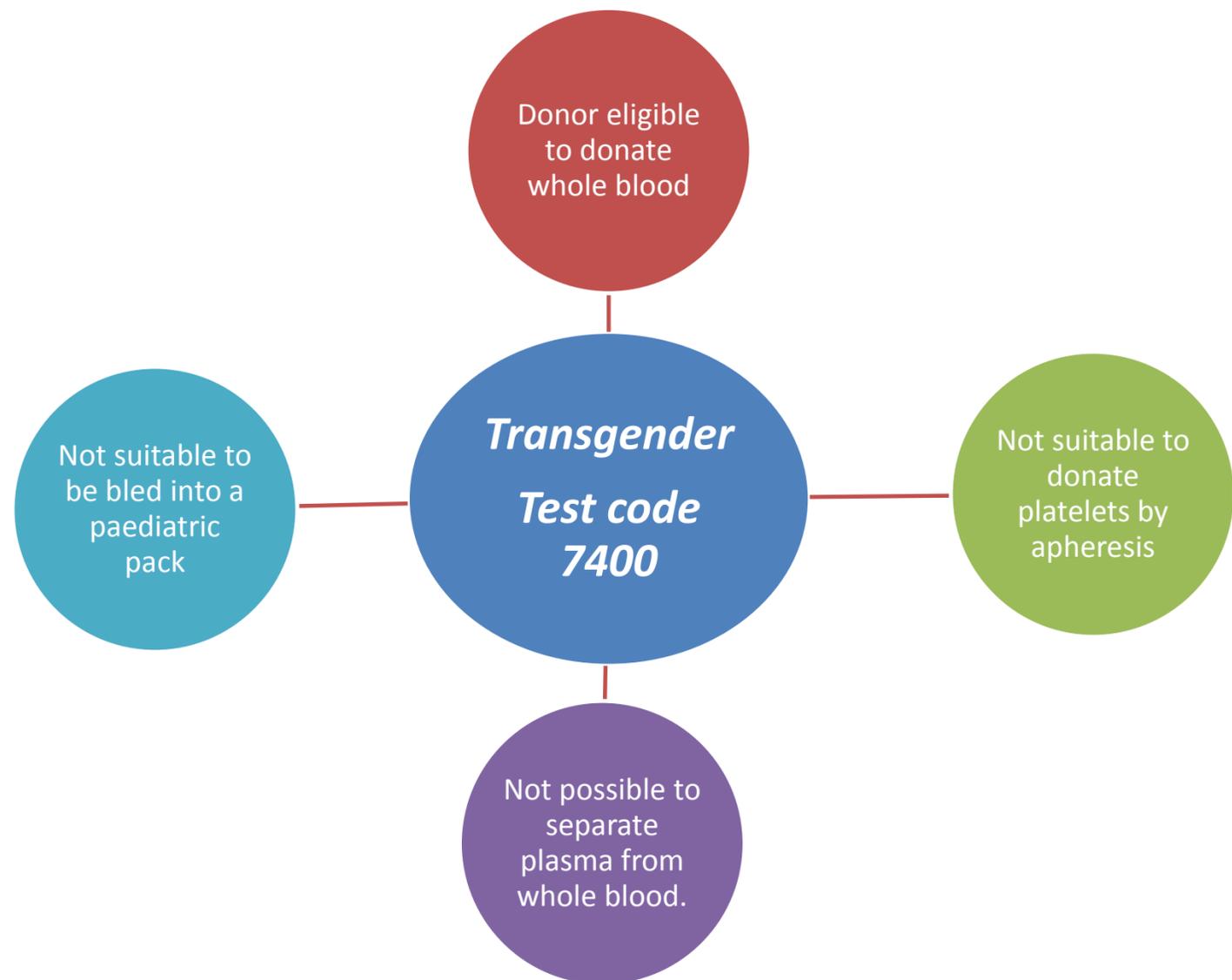
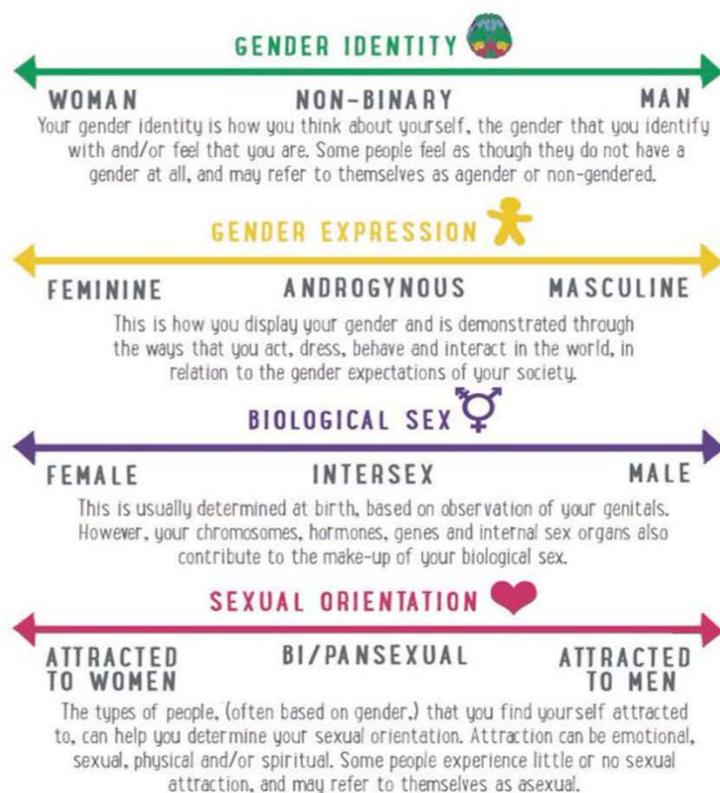
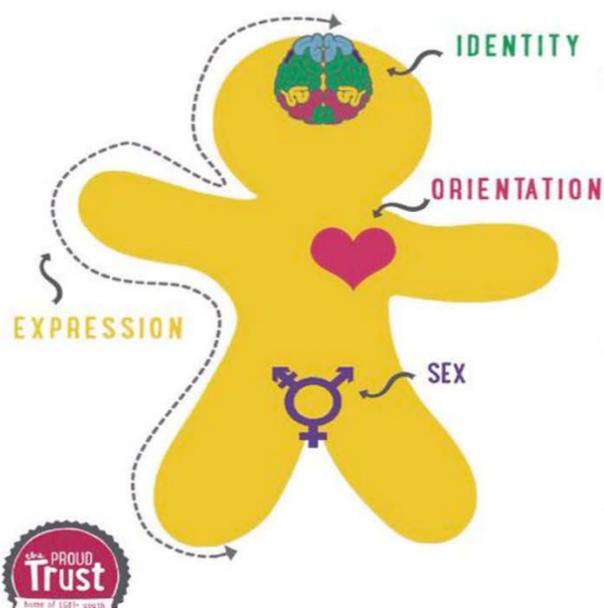


# Transgender Donors and Blood Donation in the Irish Blood Transfusion Service.

Ms. Jennifer Harkin (she/her), Ms. Shonagh Ward (she/her),  
Dr Louise Pomeroy (she/her), Dr Ellen McSweeney (she/her).  
Irish Blood Transfusion Service.

## THE GENDERBREAD PERSON

Original concept by  
[itspronouncedmetrosexual.com](http://itspronouncedmetrosexual.com)



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# A snapshot of ABO, RhD, Rh phenotype and Kidd profile in modern Ireland

A Browne<sup>1</sup>, A Kinsella<sup>2</sup>, M Keogh<sup>1</sup>, K Morris<sup>1</sup>, S Field<sup>1</sup>

<sup>1</sup>Irish Blood Transfusion Service, National Blood Centre, Dublin 8. <sup>2</sup>Molecular and Cellular Therapeutics, Royal College of Surgeons Ireland, Dublin 2.

Figure 1: ABO BGS distribution for Ireland (n=3427)

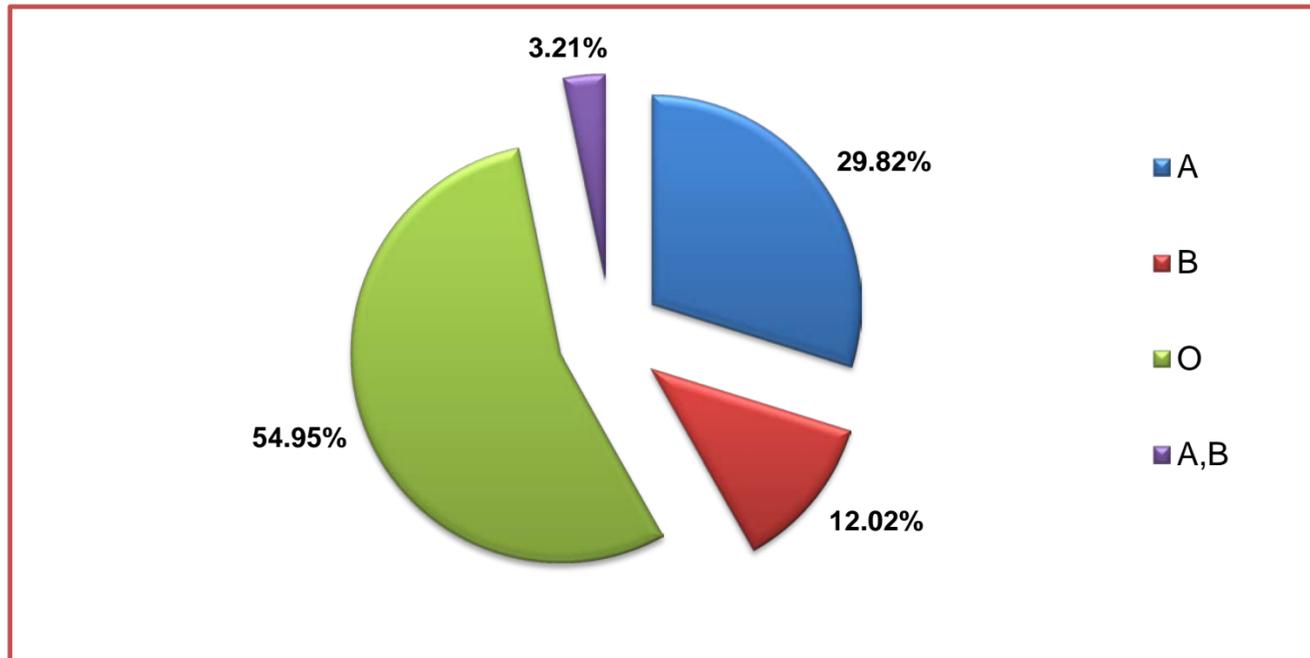
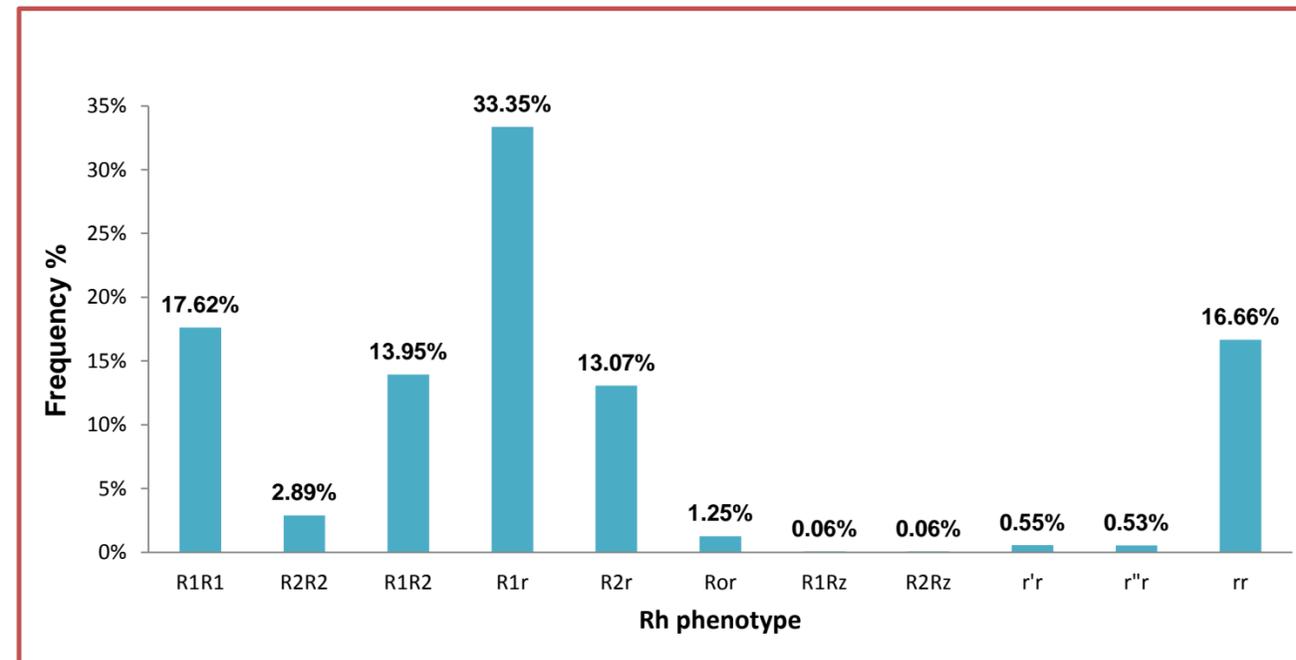


Figure 3: Irish Rh phenotype Distribution (n=3427)



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## COVID-19 Convalescent Plasma Production in Ireland

Allison Waters<sup>1</sup>, Mark Coyne<sup>2</sup>, Niamh O'Flaherty<sup>1,3</sup>, Ellen McSweeney<sup>1</sup>, Pádraig Williams<sup>1</sup>, Barry Doyle<sup>1</sup>, Sophie O'Reilly<sup>5</sup>, Virginie Gautier<sup>5</sup>, Paddy Mallon<sup>2,5</sup>, Dearbhla Butler<sup>1</sup>, Dermot Coyne<sup>1</sup>, Stephen Field<sup>1,4</sup>

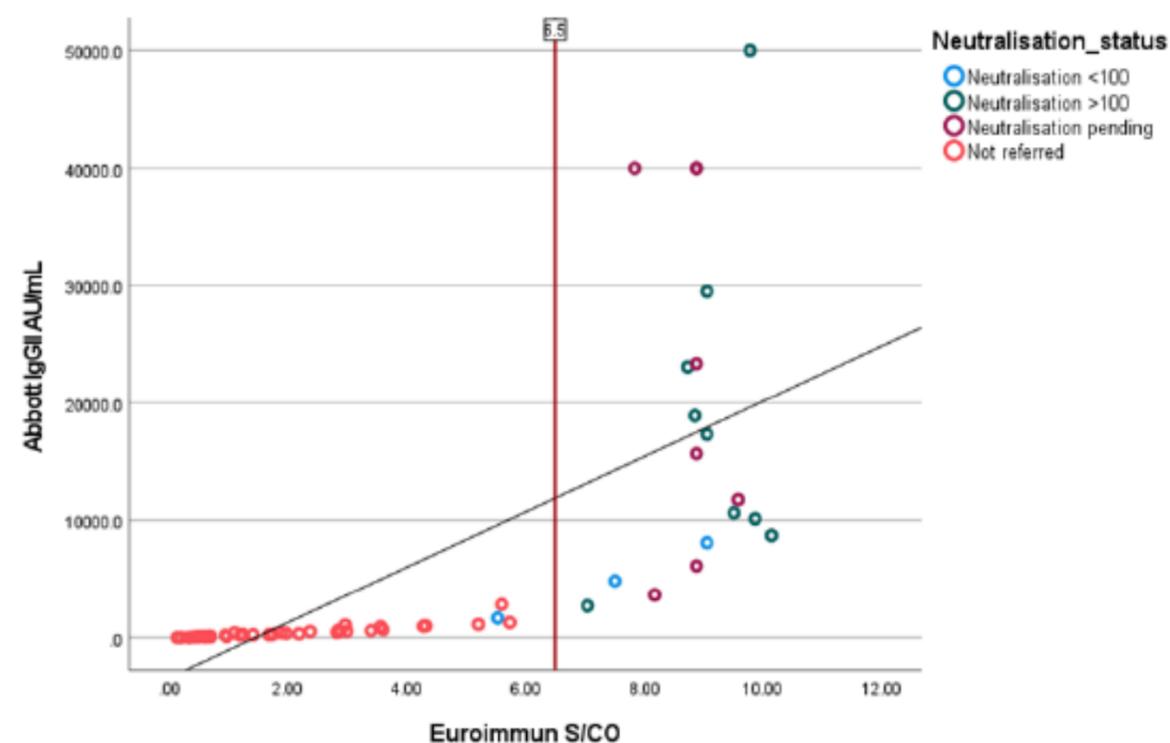
<sup>1</sup> Irish Blood Transfusion Service, IRELAND, <sup>2</sup> St. Vincent's University Hospital, Dublin 4, IRELAND;

<sup>3</sup> UCD National Virus Reference Laboratory, University College Dublin, IRELAND; <sup>4</sup> School of Medicine, Trinity College Dublin, IRELAND

<sup>5</sup> UCD Centre for Experimental Pathogen Host Research (CEPHR), School of Medicine, University College Dublin, IRELAND

- All aims were achieved (table 1)
- A total of 9/12 samples tested had neutralisation titres (IC50) >100. The Abbott SARS-CoV-2 IgGII Quant assay also shows a strong positive correlation with neutralisation (n=12) ( $r=0.82$ ,  $P < 0.05$ ).
- 12 CCP products from 6 qualified donors have been produced

*Figure 1: correlation of antibody screening titre and neutralisation results*



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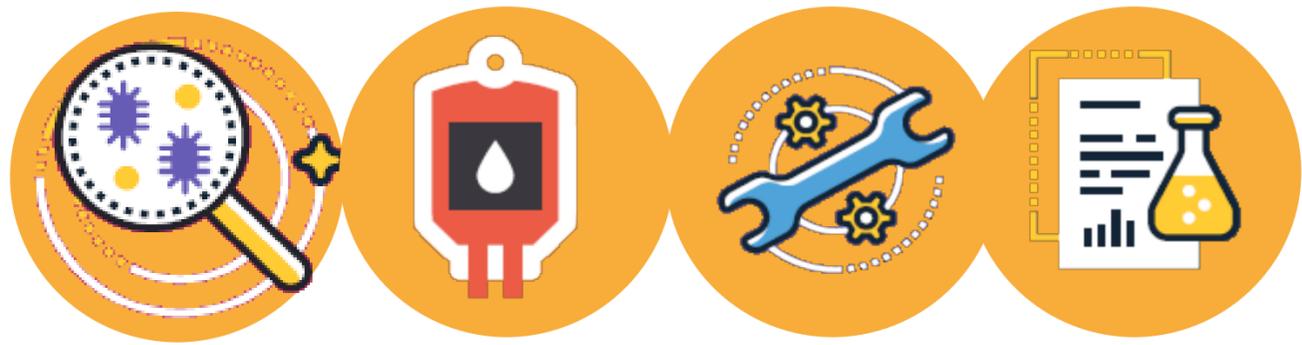
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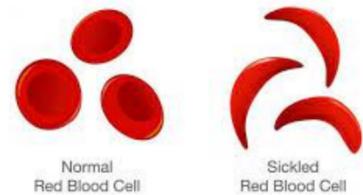


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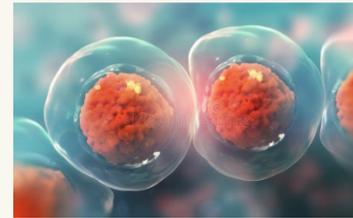


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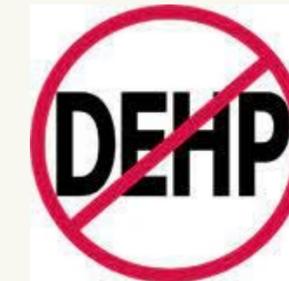
# What's Next



**Sickle-cell disease**  
What we know & Current challenges



**Cellular Therapy**  
PhD | Immunological profile in patients undergoing cellular therapy



**DEHP-free**  
Production and validation of DEHP-free materials



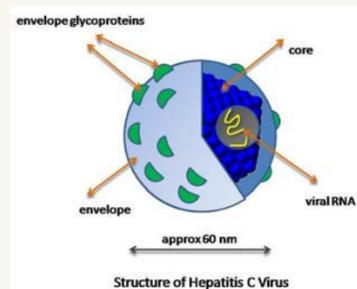
**Iron & donor health**  
Donor Ferritin & Haemoglobin



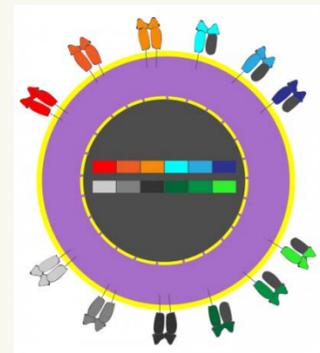
**Platelet-derived extracellular vesicles**  
PhD | Characterisation of PEV in blood components



**SARS-CoV-2**  
On-going studies on SARS-CoV-2 seroepidemiology



**Disease epidemiology**  
Incidence of Hepatitis E virus in donors



**Human Leukocyte Antigen**  
HLA typing and correlation with disease



**African Ancestry Donors**  
How best to recruit donors in order to maximise our service to patients



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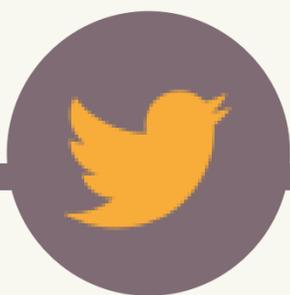


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## Connect with Us



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@Giveblood\_ie

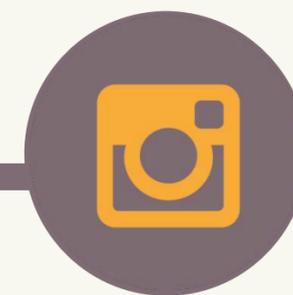
@DrAllisonWaters



LINKED IN

Irish Blood  
Transfusion  
Service

<https://www.linkedin.com/in/allison-waters-20550939/>



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