

Blood Donors Studies Newsletter

Welcome to the Winter 2022 edition of the Blood Donors Studies Newsletter, which provides updates and news about our studies.

Update on STRIDES study

If you donated blood sometime in the past three years, then you may have seen information about our STRIDES study (STRategies to Improve Donor Experiences). The focus of the [STRIDES study](#) is to research the experiences of donors during the blood donation process and to determine ways in which the experience can be improved. The study has two main aims: (1) to help NHS Blood and Transplant (NHSBT) decide the best strategies to improve blood donation experiences and (2) to establish a panel, or BioResource (part of the [NIHR BioResource](#)), of thousands of healthy volunteers who are willing to be contacted and asked if they wish to participate in medical and health-related studies.



The STRIDES study has recruited over 1.3 million blood donors, and over 82,000 have been recruited to the NIHR BioResource.

The study ended on 3 November 2022. Our researchers are excited to start analysing the vast amounts of data and to work with NHSBT to ensure that research findings inform blood service practice. The STRIDES study paper will be publicly available soon.

Update on CARRIAGE study

The aim of the [CARRIAGE study](#) is to investigate why some people carry the bacterium *Staphylococcus aureus* (*S. aureus*) in their nose while others never do. *S. aureus* is a common bacterium with about one person in every three carrying it in their nose or elsewhere on the skin. For most people, carriage of *S. aureus* is harmless. However, a small number of people are susceptible to *S. aureus* infections due to a weakened immune system and, in some cases, these infections may be serious and resistant to antibiotic treatment. Understanding why only some people are carriers while others aren't will help design new ways to prevent and treat such infections.

Donors who previously participated in the INTERVAL and COMPARE studies have been invited to join the CARRIAGE



study, and we are now inviting donors who joined the STRIDES study. This is because we have already collected some essential data from these study participants (e.g., blood sample measurements, genetic results, lifestyle factors, etc.) which may be important in determining *S. aureus* carriage.

Those who join the CARRIAGE study will be asked to complete a health and lifestyle questionnaire, as well as provide three weekly nasal swabs. The CARRIAGE study has recruited over 20,000 people so far and has received a full set of nasal swabs from just over 13,600 participants. The aim is to receive a full set of samples from 20,000 people.

INTERVAL study news

The [INTERVAL study](#) showed that shorter inter-donation intervals could safely increase the frequency of whole-blood donation. A recent project considered the relative cost-effectiveness of reduced inter-donation intervals.



Watch the INTERVAL study animation
<https://tinyurl.com/3fv9kybr>

This new work has added to the limited literature on the cost-effectiveness of alternative donation interval strategies for blood collection. It found that it is safe to collect blood more frequently than the current standard and that this is also a cost-effective strategy—over two years, reducing the donation interval could provide additional units of blood at a small additional cost.

For more details about the Cost-Effectiveness Analysis, please [read the paper here](#).

Colleagues at the University of Bristol and the Wellcome Sanger Institute have used INTERVAL study data to research whether proteins in the blood could reveal how obesity causes disease.

Higher body mass index (BMI) has been linked to a variety of diseases, including blood clots and some cancers. However, the mechanisms that lead from higher BMI to disease are not well understood. It is possible that higher BMI may change patterns of circulating proteins, thus increasing risk of disease. As many drugs act on protein targets, identifying proteins linked to both BMI and disease could lead to new treatments for obesity-related diseases.

The research suggested that higher BMI is likely to alter some proteins in the blood and that these changes likely contribute to obesity-related cardiovascular disease.

You can read [the full paper here](#).

Linkage to electronic health records

To help understand the health of participants in the INTERVAL and COMPARE studies, and to track how this changes over time, we use medical and other health-related records. We currently receive data about: (1) Hospital treatment and (2) Deaths and Cancer diagnoses. We are also receiving the following information for on-going COVID-19 research: (1) COVID Testing data, (2)

COVID-19 Vaccination records, (3) Antibody Testing data, (4) General Practice (GP) records and (5) Stroke Audit data.

Data about genes and proteins, as well as hospital record data, from INTERVAL participants was used in a recent research study about cardiometabolic diseases (e.g., cardiovascular disease, stroke and diabetes). This research used Polygenic Risk Scores (PRS), which is a way of using the information in DNA to predict future health outcomes. In this study, our researchers used PRS to investigate the causes of cardiometabolic diseases and identified nearly 50 proteins in the body associated with the risk of developing a cardiometabolic disease. The results from this study can be used to develop new treatments for these diseases.

You can read [the full paper here](#).

Watch our short videos about Polygenic Risk Scores (PRS)

What are PRS and how can they be used in healthcare?

<https://tinyurl.com/3ctkywcv>

Current and future uses of genomics in the National Health Service (NHS):

<https://tinyurl.com/5edpidya>

Blood and Transplant Research Unit (BTRU) in Donor Health and Behaviour

Our Blood Donors Studies—INTERVAL, COMPARE, STRIDES, CARRIAGE and TRACK-COVID—fit under the umbrella of the BTRU in Donor Health and Behaviour. Led by Emanuele Di Angelantonio, Professor of Donor Health, the Unit aims to: (1) address major questions about the health of blood donors, (2) produce strategies to improve blood donor safety and (3) ensure a steady supply of blood to the NHS.

The BTRU works closely with England’s blood service, [NHSBT](#), to ensure that our studies and research are relevant to blood service operations and acceptable to blood donors. **NHSBT has recently published documents** about its [new strategic priorities](#) and its five-year [Blood Service Strategy](#). We encourage you to look over this information.

- Find out more [about the BTRU](#) and its studies/research
- Interested in working with us as a [Public Contributor](#)? Email: donorhealth@medschl.cam.ac.uk
- View [videos and animations](#) about blood donor health research
- Follow us on Twitter: [@DonorHealthBTRU](#)

We are organising virtual and in-person events—for the public—about Polygenic Risk Scores, an inside look into NHSBT and Sickle Cell Disease during the [Cambridge Festival](#) (17 March to 2 April 2023). Information will be available on [our Events page](#) from January. Join us!

As a study participant, we will continue to update you. Published papers will be posted [on the INTERVAL website](#) and [on the COMPARE website](#) and we’ll let you know, by email, when they are available. To make sure you receive our emails, please let us know, by emailing: donorhealth@medschl.cam.ac.uk, if you change your contact details.