

## Recent Achievements

### *Undeclared pre-exposure or post-exposure prophylaxis (PrEP/PEP) use among syphilis-positive blood donors, England, 2020 to 2021*

An individualised blood donor selection policy was implemented in the United Kingdom from summer 2021. We have investigated the impact of this policy by comparing the extent of undeclared use of HIV pre-exposure or post-exposure prophylaxis (PrEP/PEP) before and after this change. The rate of PrEP usage in syphilis-positive male blood donors has not changed since individualised donor assessment was implemented but provides continuing evidence of undisclosed PrEP use which may be associated with current or past higher-risk sexual behaviours. DOI: 10.2807/1560-7917.ES.2023.28.11.2300135.

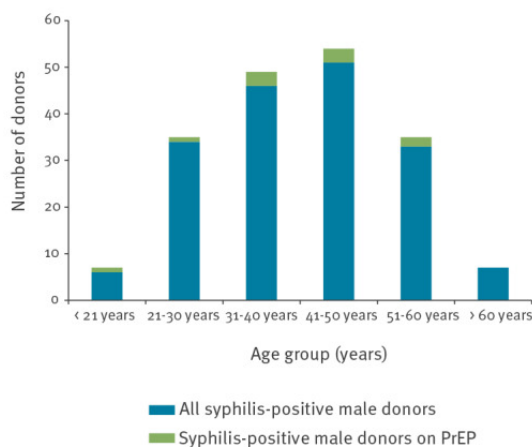
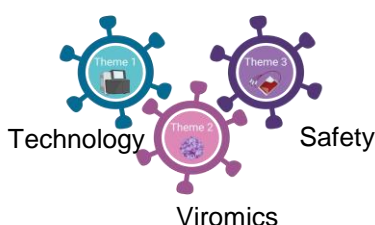


Figure A Number of syphilis-positive male blood donors with or without evidence of PrEP, England, January 2020–November 2021 (n = 177)



## Recent Events

### *1<sup>st</sup> Genomics Workshop: NHSBT & BTRU GEMS*

On 14th of March 2023, we successfully held Genomics Workshop. Over 50 researchers and representatives from NHSBT and GEMS attended the workshop. The purpose of this meeting was to bring all the researchers together to share data, practices and to encourage innovation and discussion between themes and researchers.

Jo Sell Head of Testing Development and her team gave an Introduction to NHSBT’s current donor screening programme. Andrea Harmer National Head of H&I provided an introduction to NHSBT’s Genomics Programme. Dr Martin Howell Head of Histocompatibility and Immunogenetics Service Development described the development of long read DNA sequencing using Nanopore technology and its potential as a ‘universal’ method for all HLA typing requirements. Prof Peter Simmonds (GEMS Unit Director) presented an introduction to BTRU-GEMS and its overall objectives as well as an overview of the three themes. Prof Judith Breuer (Theme 2 lead GEMS) highlighted how the pathogens that are identified are being discussed with clinicians and how the results are directly impacting patient treatment. Dr Oscar Torres (Theme 2 Postdoc) and Dr Nadya Urakova (Theme 1 Postdoc) presented on Technical possibilities and limitations. Dr Heli Harvala (Theme 3 lead) highlighted the importance of preparing for emerging infections and the value of collaboration with European colleagues, especially in optimising the use of existing protocols and techniques. The workshop was concluded on discussion on “How do we ensure that we have the capacity, skills and diagnostic tools to respond to the next infection?” The greatest achievement of the workshop was that everyone knows what everyone else is doing so we need to continue with the conversations. GEMS researchers had a chance to have a tour of Microbiology Screening laboratories and Blood processing facility.



## A Conversation With...

*What is your proudest achievement in research (or in BTRU-GEMS)?*

Our paper on the outbreak of unexplained hepatitis in children has just been published. We used metagenomics to identify a virus called AAV2 in samples from patients and employed various genomics techniques to gain a deeper understanding of the underlying mechanism of the hepatitis. As I work on metagenomics, seeing such a practical application of this technique so early in my PhD journey has been very rewarding. I'm very grateful for the opportunity to be part of such a large-scale project with an incredible team of collaborators. I'm looking forward to contributing to follow-up studies and applying the bioinformatics pipelines I have developed to analyze the data generated throughout this project.

*What do you find interesting about your current research project?*

I'm currently developing bioinformatics methods for clinical metagenomics, particularly with applications to enhancing the safety of blood transfusions. I use computational tools to better understand the microbes present in clinical samples, with a view to making accurate diagnoses and preventing infections. This intersection of genomics, data analysis, and clinical medicine holds immense promise, and I hope that we can provide improvements to patient safety and well-being. As a PhD student, this project not only allows me to expand my knowledge and technical skills but also offers invaluable lessons in conducting research.

*What is your favourite pathogen and why?*

When I was studying plant and microbial sciences during my undergraduate degree, I remember being fascinated by a pathogen called *Ophiocordyceps unilateralis*, more commonly known as zombie ant fungus. This peculiar fungus infects *Camponotini* ants and manipulates their behavior through the release of specific compounds. As a result, the infected ants display altered behavior, causing them to seek out an environment suited to fungal growth and fix themselves to a leaf using their mandibles. This fascinating, if slightly creepy, phenomenon illustrates how pathogens can evolve to influence host responses for their own benefit, which is seen across the natural world and in human health.



Sarah Buddle  
PhD student

## To Look Forward To...

**Annual Meeting:** BTRU GEMS 1<sup>st</sup> Annual Meeting on Monday/Tuesday 26<sup>th</sup>/27<sup>th</sup> June at New Hall Hotel & Spa, Sutton Coldfield, Birmingham



@BTRU\_GEMS

QR code to our website:

