BTRU-GEMS PPIE update

The first session in a new Closing the Loop training series for researchers was delivered in April. The session explored how Patient and Public Involvement and Engagement (PPIE) fits into the research process, identified and described changes made as a result of PPIE, and communicated PPI effectively in theses, publications, and job applications. Reflecting on the value of the session, postdoctoral researcher Rich Mayne commented: "This session was a perfect masterclass in how PPIE should integrate into the research process. I think we all deeply appreciated how interactive and engaging the session was. I left feeling far more confident that I could communicate the PPI aspects of my work effectively."

Integrating patient and public involvement and engagement into biomedical laboratory research: reflections, best practices and measuring impact from a Blood and Transplant Research Unit (Rich Mayne et al.)

Over the past few years, we've done so many PPIE activities that we've lost count, but we know it's at least 40! We've had many successes, but we've also had to do a lot of experimentation to find what works best for our project. When we looked at the scientific literature to see how others in similar situations have approached their PPIE work, we found that there's actually very little written about doing PPIE on laboratory-based projects. To address this gap in our collective knowledge, we've co-produced an article to share our experiences with the wider community.

In this article, we present four case studies summarising the experiences of GEMS PPIE contributors, researchers and clinicians which describe the highs, lows and learning points from the activities we've done over the past three years. These are grouped into the following categories:

1.Our regular committee-researcher meetings, including online chats and annual meetings
2.Integrating PPIE perspectives into NHS research projects, using learning points from CODONET
3.Public engagement activities
4.Incorporating PPIE feedback into research (Doctor of Philosophy) degrees

We conclude the article with a list of six recommendations for how practitioners can best integrate PPIE work into their own grants, with a specific focus on laboratory-based projects. These are, broadly, creation of regular opportunities for contributor-researcher collaboration, sharing power, making best use of available time, engaging in reflective practice, budgeting effectively, and conscientious committee recruitment. To our knowledge, co-produced articles are currently very rare, so we hope that we can start a trend!

Our article is currently under review at *BMC Research Involvement and Engagement*. Read the preprint here:

Integrating PPIE into research takes on many forms. The PPIE within BTRU-GEMS has used the diverse skills and talent of its donor and recipient membership to great effect. During 2026, the decision was taken to produce a scientific paper that was to be co-signed between the scientific team and patients. Led by Rich Mayne, a work programme was designed to look back on the successes and challenges of the PPIE input into BTRU-GEMS. This included the scientific workstreams, annual meetings, newsletters and community outreach initiatives. It was a big piece of cake to 'eat in one helping' so was subdivided into smaller groups based on interest and involvement with the tasks so far.

It is a challenge as a patient member to sit with a blank piece of paper and make a creative contribution. But I am hoping my contribution will make the paper reflect the patient perspectives. Weaving patient perspectives with science can only make it more relevant and appealing to a wider audience. Patients (both donors and recipients) have been involved in the writing and in refining the output. This will serve to showcase the work of PPIE within BTRU-GEMS and enrich the output from activities.

Good luck to Rich as he 'knocks the paper into shape'.

Steve Oliver, PPIE member, BTRU-GEMS

BTRU research into the update

Another quarter has passed and we've been hard at work to communicate our results with you and the wider scientific community. We're delighted to share with you a new article, which was produced with extensive support and feedback from our wonderful PPIE committee!

A snapshot of the UK blood donor plasma virome: a retrospective cross-sectional cohort study (Kai Kean et al.)

Kai has spent the last three years researching the community of viruses that live within the plasma of healthy people, also known as the "virome". This has involved testing thousands of healthy blood donor plasma samples using a bespoke "GEMS method" for doing next-generation sequencing, which was developed and optimised by Theme I. Sequencing this many samples produced a huge amount of data, which Kai has been analysing over the past few months using Castanet, Theme I's data processing software.

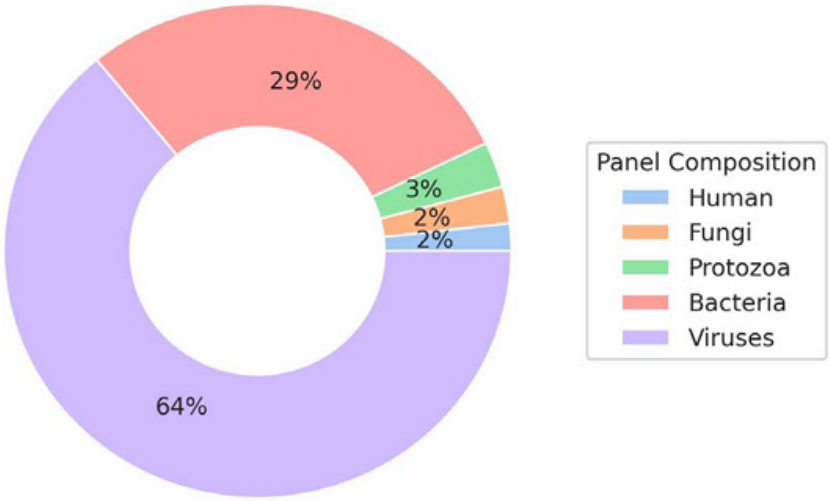

Figure 1: Panel composition by target type, from a total of 68,938 enrichment oligos.

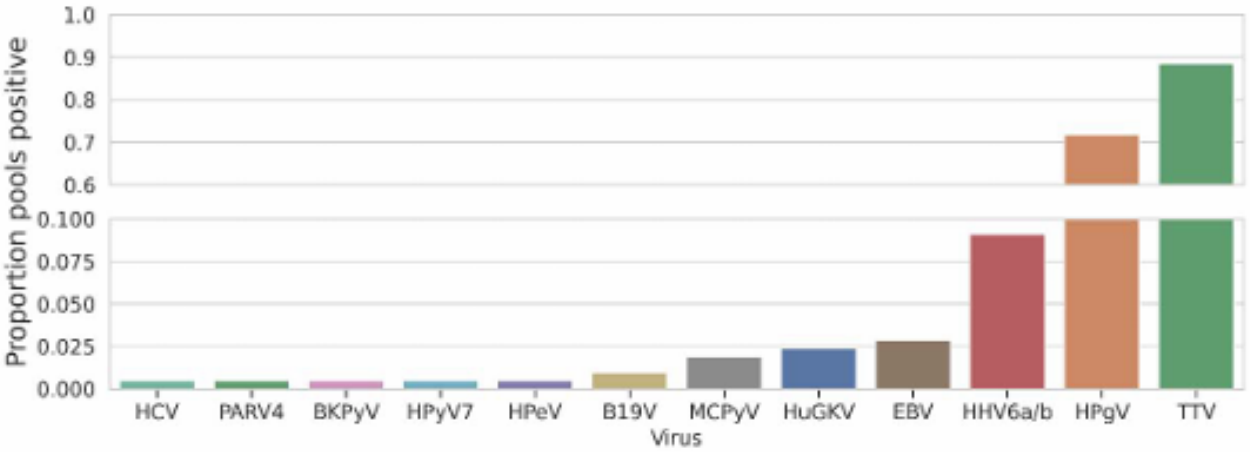

Figure 2: Per-virus summaries of the proportion of pools positive are shown (with 95% confidence intervals) in 211 plasma pools, each comprised of 24,340 individual donor samples.

In her new article, Kai describes the plasma virome from over 5,000 UK blood donors, which represents about 1% of the total donor population. Her main finding was that the samples tested were generally very safe. Only one sample was found to have a harmful virus (hepatitis C virus). N.b., we received these samples before they had been screened by NHS Blood and Transplant, so rest assured this sample was removed from the blood supply and the donor was informed! A variety of other viruses were found, but none of these are known to be harmful. These included human pegivirus (in 3.7% of donors), gemykibivirus (0.12%), and a variety of parvoviruses and polyomaviruses (all under 0.1%).

This, to our knowledge, is the only article that describes the total virus content of UK blood donors on such a large scale. We hope that our results can be used as a reference for comparing non-healthy samples to, as some researchers study how the human virome changes in response to certain diseases. Kai's future work will include comparing the UK healthy plasma virome to similar samples from other countries where blood-borne diseases are more common, including Uganda.

Kai's paper is currently under review at *Journal of Medical Virology*. Read the preprint here: https://www.medrxiv.org/content/10.64898/2026.05.20.26353651v1