



## News and Updates from the Public Health Laboratory Birmingham

To find out more information about the tests and services offered at the Public Health England Public Health Laboratory Birmingham please visit [www.heftpathology.com](http://www.heftpathology.com)

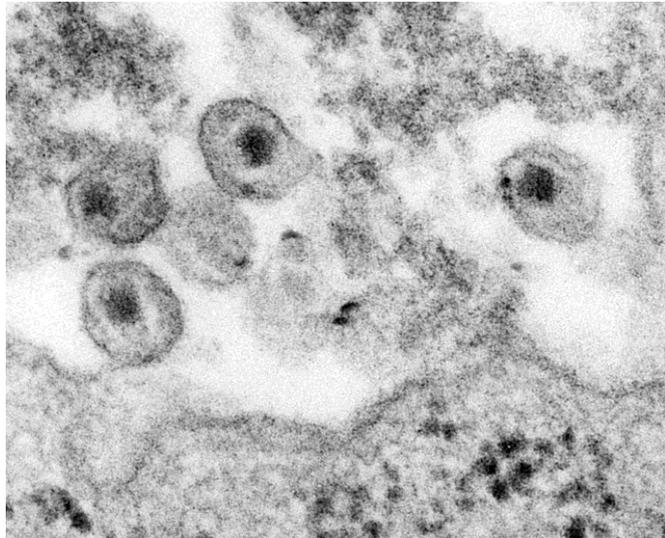
### Pilot project: implementation of HIV whole genome sequencing into patient care pathway

This September the Public Health Laboratory Birmingham started this exciting project in collaboration with Cambridge and Colindale.

#### Project objectives:

- produce a robust and reliable HIV antiviral resistance assay using whole genome sequencing (WGS) which can be rolled out to all PHE laboratories that perform HIV resistance testing
- to validate the WGS assay for diagnostic HIV resistance testing which will also be able to provide additional WGS data for national databases

The Birmingham laboratory has extensive experience of developing HIV resistance tests and it currently uses in-house assays to test around 250 samples per month, from across the country, for antiviral resistance mutations. Our experience and next generation sequencing infrastructure will enable us to be at the forefront of applying this exciting new technology to HIV. It is envisaged that we will be able to offer training and assistance to other laboratories once the tests have been validated.



*HIV Viruses*

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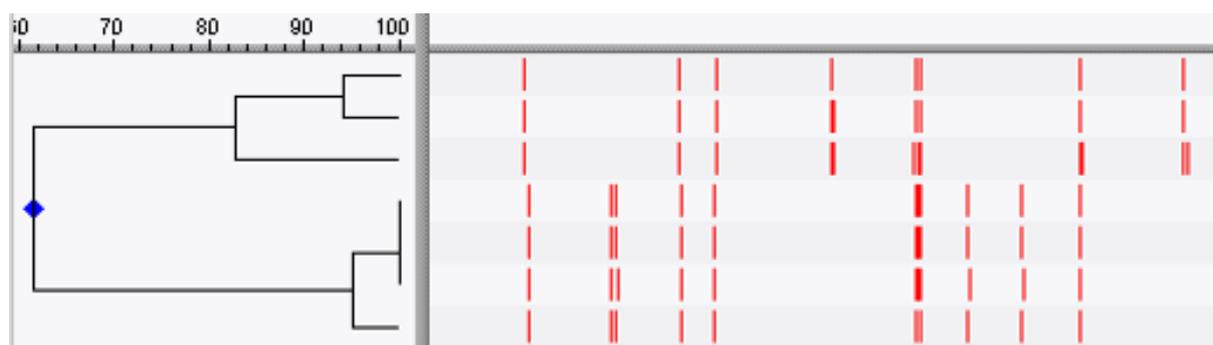
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## Improved *Clostridium difficile* PCR ribotyping service

The Public Health Laboratory Birmingham has been providing a PCR-ribotyping service for *Clostridium difficile* since the establishment of the national typing network (the CDRN) in 2008. This busy service tested over 1600 samples from the East and West Midlands last year (2013-2014) with the most common ribotypes found being 015,002,078,014 and 005.

Our aim has always been to get typing results back to our users in a timely way, so after six years of service the time had come to upgrade the technology we use to ensure we continue to meet your needs. Traditionally the “bar code” profile of DNA fragments generated from each type of *C. difficile* have been visualised by running agarose gels and photographing them. We have now switched to capillary gel electrophoresis which significantly speeds up the process and makes it more accurate.

Because we are still building a library of known type profiles based on the new technology, in the short term you may notice that you receive slightly more results that state the ribotype as “not one of the common UK ribotypes”. Rest assured that you will not miss out on epidemiological links because of this. While we work with the reference laboratory to expand our database of known types, we will always compare new “uncommon” bar codes with those that came from the same hospital previously. Any *C. difficile* isolates that give the same pattern as a previous isolate from the same hospital will be identified on the report, even when we cannot assign a ribotype number.



Comparison of unknown PCR ribotyping profiles

### Accessing the *C. difficile* PCR-ribotyping service

Access to the service is unchanged. Please send samples for *C. difficile* PCR-ribotyping and book them in via the CDRN website: <https://cdrn.nhs.uk/> as normal. Samples received which have not been booked into the website will not be processed.

For further details on when and how to send samples for *C. difficile* PCR-Ribotyping please visit: <https://www.gov.uk/government/collections/clostridium-difficile-ribotyping-network-cdrn-service>

***C. difficile* MLVA service**

Should you have a cluster of indistinguishable ribotypes, the Public Health Laboratory Birmingham also offers a *C. difficile* multi-locus variable number tandem repeat analysis (MLVA) service which can distinguish between isolates of the same ribotype. Please phone the laboratory for more details and to access this service.