

# Case Study

## Enabling Easier EQA: Manchester Royal Infirmary and UK NEQAS

The main purpose of this case study is to:

- Know how NPEx can be used to improve EQA testing
- Understand the implementation process of NPEx for EQA testing
- Present the changes offered by NPEx
- Envision the next steps for NPEx and EQA

## 01 Introducing NPEx and EQA

One of the National Pathology Exchange's (NPEx) foremost aims and benefits is the increased efficiency and turnaround times of lab to lab testing. These improvements, however, are not only limited to the exchange of work between labs. NPEx now offers its solution to the transfer of samples and results for External Quality Assurance (EQA) testing.

We have been working in collaboration with the Birmingham Quality branch of UK NEQAS, operated by University Hospitals Birmingham NHS Foundation Trust and Manchester University NHS Foundation Trust (MFT) to establish the paperless requesting and reporting of EQA tests.

The solution is now live at 11 sites across NHS England. Manchester Royal Infirmary (MRI), who are part of MFT, have been incremental in the roll-out of this service. MRI (MFT) are also assisting the establishment of UK NEQAS schemes at other hospitals within MFT, ensuring that labs are achieving the UKAS accreditation they deserve along with other practical benefits.

The successful establishment of this service was made possible by the on-the-ground enthusiasm and perseverance of the staff in the Biochemistry Laboratory at the Division of Laboratory Medicine at MRI (MFT). The hospital is operating a specialist testing facility and their large-scale implementation of EQA through NPEx has been a success that continues to gain momentum.

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It's vitally important that we are able to return our results to external quality assessment bodies. What NPEx has done, in partnership with UK NEQAS, is ensure that our results are always being returned in a timely manner. We can no longer fail for administrative reasons meaning our EQA is always accredited because we consistently operate good testing practice.

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- Adam Tonge

IT Coordinator in the  
Department of Biochemistry at  
Manchester Royal Infirmary



## 02 MRI's EQA Process Using NPEx



MRI (MFT) receives EQA test samples accompanied by an NPEx barcode sheet from UK NEQAS.



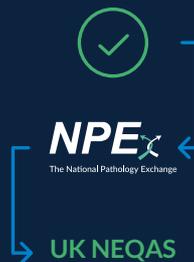
The long barcode is scanned, which confirms the shipment delivery and will automatically input the shipment details.



Each sample barcode is scanned which matches UK NEQAS's sample IDs with MRI (MFT)'s. A member of staff will press 'accept' which sends the information to the LIMS.



The samples are sent to an analyser to perform the required tests and the results are sent to APEx.



A member of staff presses 'authorise' and the results are electronically sent back to NPEx and automatically forwarded to UK NEQAS.

**The NPEx EQA process at MRI (MFT) is simple, fast and effective. While the steps might vary from site to site, NPEx will always update and streamline EQA practice.**

## 03 Implementing EQA

Here at NPEx we understand that time in the lab is precious; in a hectic environment where turnaround times are crucial, it may seem like setting up new schemes is not a valuable use of time. However, the hard work of Adam Tonge, IT Coordinator in the Department of Biochemistry at MRI (MFT), and his colleagues in piloting the EQA programme has offered us the opportunity to streamline the implementation process. As the adoption of EQA via NPEx across our sites widens, we hope that deployment challenges will become fewer, making for the time-efficient and capacity-improving solution needed by our users.

### Challenges

Different test mappings between labs and Birmingham Quality



When profiles were requested, some labs request individual tests whereas others are profile-based



MRI (MFT) report some patient tests to one decimal place but report their UK NEQAS tests to two decimal places



When UK NEQAS request one test, they expect to be paired with one code but, as a large facility, MRI (MFT) have multiple types of one test



### Solutions

Birmingham Quality have enabled their tests to accommodate multiple mappings through NPEx

All profiles are now requested by individual test

MRI (MFT) created new test codes, changed rules within their LIMS and built new calculations to accommodate as many EQA schemes as possible

UK NEQAS started requesting each code and variation of the same test

“We initially faced challenges with our LIMS configuration during the testing and deployment phases but found solutions to overcome these. After we were able to get our first EQA scheme results out it, was a case of applying these configuration fixes to our other schemes and since then things have been going smoothly for us and should for future users.”

– **Adam Tonge**, IT Coordinator for the Biochemistry Laboratory at MRI

## 04 MRI: Leading the Way on EQA

UK NEQAS offer a variety of EQA schemes designed to meet the needs of different labs. They cover Clinical Chemistry (through Birmingham Quality); Immunology and Allergy; Cellular Pathology; Haematology; Transfusion and Transplantation; Clinical Biochemistry; and Virology.

MRI (MFT) have been successful in piloting and establishing EQA schemes for:

- Clinical Chemistry
- Glomerular Filtration Rate Estimations (eGFR)
- Glycated Haemoglobins
- Haematinics
- Immunosuppressants
- Lipid Investigations
- Adult Bilirubin
- Paediatric Bilirubin
- Serum Indices (HIL)
- Specific Proteins
- Steroid Hormones
- Thyroid Hormones
- Toxicology and TDM
- Urine Chemistries
- Vitamin Assays
- Vitamin D



MRI (MFT) began by piloting the complex and challenging General Chemistry scheme, which Adam explained: “is a 75 test request across three samples, repeated four times for each line. This jump in the deep end meant that once we got it working, our staff saw the process and that they were achieving the same lengthy task at the click of a button and they became huge supporters of using NPEx for EQA. Since then, staff have been asking to learn how to use the system and if we can set up more schemes across the lab. We couldn’t set it up quick enough!”

# 05 Benefits of EQA through NPEX



Increased staff job satisfaction



Patient safety improved



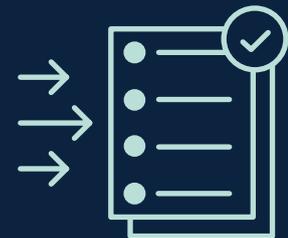
Zero human errors that compromise achieving accreditation



Standardised information format makes for cleaner data



Better reporting practice makes for better data quality



Immediate transfer of results and reduced failure for lateness



Faster EQA turnaround times



No need for result checks



EQA 100% return rate

## 06 Next Steps for NPEX

Currently UK NEQAS Birmingham Quality is the only EQA testing body that reports through NPEX. The NPEX team encourages other EQA providers to take this opportunity to improve their reporting process; encourage more labs to sign onto their schemes and uphold high standards of quality through accreditation. For providers and labs, the process of setting up EQA reporting through NPEX is easier than ever.

If you are an NPEX customer and would like to take part in the digital reporting of UK NEQAS schemes, then please email: [npex@x-labsystems.co.uk](mailto:npex@x-labsystems.co.uk)



**- Adam Tonge**  
IT Coordinator in  
the Department  
of Biochemistry at  
Manchester Royal  
Infirmary

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Since implementing NPEX on our select EQA schemes it has vastly improved laboratory processing to the point where we have had zero requesting errors, transcription errors and failed returns.

The number of staff needed to perform EQA has been reduced and staff have actually said that they feel less stressed by the new process and retaining our great EQA scores.

Following the success of our work with Birmingham Quality, we are looking at the other EQA providers and other branches of UK NEQAS to get onboard with the programme. Here at MRI (MFT), and I think that anyone from any other hospital would say the same, we believe this simplified, effective and stress-free process should be introduced for all EQA.

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**Thank you to Adam Tonge and the team at MRI (MFT) whose hard work has made EQA through NPEX possible. With their time and co-operation, we have been able to produce this case study in celebration of this success.**