Editorial

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Are the benefits of External Quality Assessment (EQA) recognized beyond the echo chamber?

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The five articles in the "Behind the Scenes of EQA" published in this issue of *Clinical Chemistry and Laboratory Medicine* series attempt to break down the functions and component parts of External Quality Assessment (EQA) to act as a historical record of some of the achievements [1], some of the practicalities of operating Programmes/Schemes [2, 3] and many of the benefits to both the end user Participant [4] and the wider Heath Care milieu [5].

The authors have comprehensively described the ethos and the mechanics of design [2] and delivery, including specimen production, of EQA across the whole range of Laboratory Medicine [3]. Having more than two dozen authors spanning countries across the globe, the challenge of knowing what to include and what to leave off the cutting room floor must have been daunting.

For an activity that in some countries literally hits the Specimen Reception Desk and the inbox of Scientists, Laboratory Technicians and Quality Managers on a very regular basis, there does unfortunately seem to be a lack of understanding of its role and benefits across Laboratory Medicine. Given the full range of implications that constantly affect worldwide healthcare, the dearth of understanding in the wider medical world displays an even more lack of knowledge.

I believe there is a tendency in science, and for many EQA programmes, to be on the defensive rather than being evangelistic. Good scientists do need to know the failings and inadequacies of their data, but the general public wants to be reassured that their results are correct and don't have time to handle the nuances. The good news is that many EQA providers do work together, and this international cooperation is to be applauded and encouraged. The Working Groups of EQALM (an umbrella organization for European EQA organizers in laboratory medicine) is an excellent example of what can be done.

EQA is not just Mail Order Internal Quality Control (IQC), it is so much more. There is a certain mystique surrounding EQA and often the discourse of the subject is carried out in an echo chamber of experts while I feel – and I believe the authors may also feel – the true value and true impact of EQA needs to be promoted and promulgated outside, in the real world, as it were.

I'm sure one of the driving forces behind this series of papers was to try to reach a wider audience and to educate and enlighten a wide range of readership. I hope that this succeeds. There is a danger if it doesn't then EQA might become just a self-serving activity by purists for purists. Its relevance will wither, and its benefits will be lost.

These are papers for everyone involved in the production of laboratory results and their interpretations [4].

Why are there so many differences in the way EQA is carried out? As scientists we are striving for truth and excellence. As citizens we have to conform to national laws and these impact on how medicine and healthcare are delivered. The career pathways, qualifications and staff mix vary perhaps much more than you might expect. We have to deal with the world as we find it rather than how we would like it to be.

No two programmes operate in exactly the same way. The requirement across disciplines varies enormously, despite a common set of core values shared by the providers and their advisors. I think we need to embrace the differences and not try to try to put square pegs in to round holes. Nevertheless, it is surely ironic that a discipline whose whole *raison d'être* is to harmonize and standardize has so many different ways to try to reach that common endpoint.

It cannot be underestimated how different the healthcare systems are in different jurisdictions that EQA operates. What is taken for granted as the 'norm'; in country X will often be a complete surprise and a mystery to Laboratories in country Y. EQA services should not be thought of as something that you can just buy off the shelf from Amazon® (and so you have no skin in the game). For EQA services to function properly, there needs to be cooperation between provider and user, notwithstanding any boundaries set by accreditation bodies and governments.

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Though EQA is by its very nature retrospective, there is still a role for EQA to be much more pro-active and prospective in ideas.

Digital microscopy has made enormous progress over recent years, and this is a perfect example of exploiting new technology [3]. Point of Care, Personalised medicine and Genomics seem to be the future of healthcare [4] and the role of EQA supporting these areas must be tackled. Over the counter testing both in terms of phlebotomy and handheld devices are happening. Is there anyone out there guaranteeing the right result or at least not causing harm?

Commutability with Reference Materials and Methods [3] will make the art of EQA more accurate and traceable. But that is really only the start; the real challenge is to use these tools to underpin the good programme design and to probe methods and clinical pathways, not just undertake them for their own sake as an end in themselves.

There sometimes can be a disconnect between what the purists want – and they are not wrong – and what is actually happening out there at the coal face.

This is really a 'Call to Arms' to all who work in Laboratories. Work with your Programme providers. Assist in the acquisition of clinical samples. Assist in carrying out commutability studies. Assist in finding the gaps/deficiencies that you have in your own service that EQA would help remedy and work together, cooperatively, to fix it. EQA is an iterative process. Like Audit, it has cycles and as each cycle passes more knowledge is gained but also the bar of expectation gets raised further. Looking at the excellent and expanding EFLM Biological Variation database shows that there is still so much more that we need to do. You can help.

If there was one message that I would want to give to EQAS providers, it is this. By all means ensure that the small print has been addressed, but more importantly get out there and make a difference. Assist your Laboratory colleagues to have strong data at their fingertips, not just for consumption in the Laboratory, but for hospital 'grand rounds' or other pan-discipline Multi Discipline Team (MDT) groups that are more and more becoming the way that patient care is being delivered within the hospital settings and help make these patient pathways and diagnostic algorithms and testing accurate and not naïve in their delivery. Do join in with the big multi centre, multi-national projects like those from EQALM, Halma (International Consortium for Harmonisation of Clinical Laboratory Results) and the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) and the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) societies. But also, be creative on your own.

So, there are opportunities for both Laboratorians and EQA professionals alike.

The authors of these five papers have sought to record and publicise the hidden structures and processes that we all take for granted. But what now is the future of EQA? We must take it to a new level. The early pioneering days of simply discovering the huge variation between results and putting systems in place to address them are over. Yes, there will always be a place for EQA for the post-market surveillance and the identification of the occasional poorly performing Laboratory, but it is how to keep the 99 % of well-performing Laboratories even better that is the challenge. How do we improve patient pathways and patient care?

At what point do we say things are good enough? Do we put a pause on those areas that appear to be ahead of the game and focus the limited resources we have on pulling up the standards in the other disciplines? Do we as a worldwide community have an obligation to have a wider role in ensuring there are no deserts of poorly performing assays and clinical interpretations? Such arid areas need our support to raise the minimum standards. Is this pie in the sky altruism or the consequence of the social contract to which we aspire?

The future seems to be in personal health care. If this involves 'Apps' on phones devices and plugging in sensors to the charging port of your smartphone, then how does EQA cope with this? If history is anything to go by, then I am sure EQA professionals will find a way.

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