# APFCB

## Improving Laboratory Performance Through Quality Control

## Increasing throughput without compromising on quality

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QUALITY CONTROL

# Consolidating QC

Quality Control (QC) is vitally important in ensuring accurate patient test results, but it can be a time consuming business for laboratory staff. In an industry where budgets and resources are increasingly under pressure, laboratories are continuously looking for ways to ensure high levels of throughput without compromising on accuracy.

In light of this, there has been a significant drive to develop products and services to help streamline QC, provide assistance to laboratories with the interpretation of results, troubleshoot problems and improve overall laboratory performance.

Take the growing number of multi-analyte controls now available which help laboratories cut down on the range of quality control sera they have to run to cover their complete test menu. Where previously large multi-functional laboratories may have had to routinely use thirty or more individual controls, it is now possible to produce highly accurate results using just one or two.

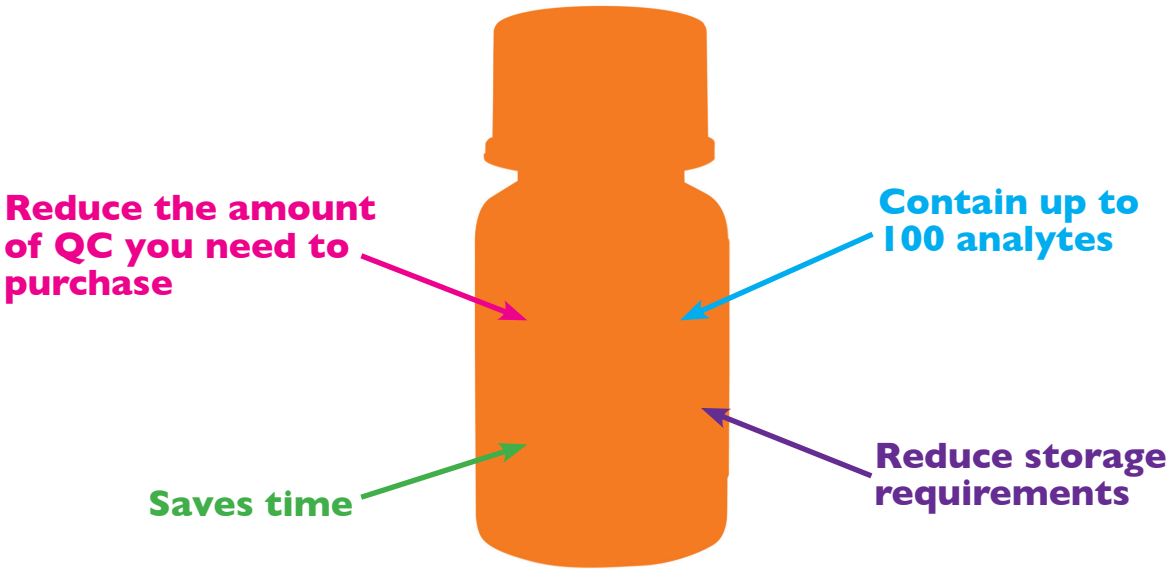
For example, in routine clinical chemistry testing where laboratories are testing patient samples for as many as 100 parameters including cardiac, lipids, proteins, therapeutic drugs and immunoassay, labs may previously have had to run multiple, and often costly, single analyte controls.

However, by switching to consolidated clinical chemistry controls, labs can now carry out highly accurate QC using just one multi-analyte control serum.

Similarly, in immunoassay testing, some multi-analyte controls currently available mean labs can run QC tests for 50 or more parameters, including cardiac and tumour markers, hormones, therapeutic drugs, kidney function and vitamins, all within the same serum.

Additionally, quality control for maternal screening is also simplified with consolidated controls. Where previously laboratories may have had to run three or more sera, accurate QC can now be achieved with one, covering all six key parameters measured during first and second trimester screening of Down's Syndrome and Spina Bifida, including PAPP-A and Inhibin-A.

**With consolidated controls, laboratories truly are getting more for less.**



## Greater Choice

Quality Controls come in a range of different formats, each with specific features to suit differing laboratory requirements. Some controls come in a liquid-frozen format, which don't require reconstitution but do require thawing prior to use. However, as the transportation cost of shipping frozen controls can be costly (and this is ultimately passed on to the end user), manufacturers are increasingly offering controls in a liquid-ready format.

The benefit of this format is that no advance preparation is required, eliminating the possibility of reconstitution errors. Liquid ready controls are ideal for quality control in Point of Care Testing. In warm climates laboratories may favour lyophilised (freeze-dried) controls as they have enhanced stability, when kept at +2-8°C.

As well as different formats, controls come in different concentration levels to cover the complete clinical range, and in different sizes and types of vial making them suitable for use on a broad spectrum of analysers. With so much choice, be sure to shop around to find QC products that fit your needs.

## Range of QC Formats

### Liquid Frozen

- Must be stored in a laboratory grade freezer
- Don't require reconstitution
- Need to thaw

### Lyophilised

- Enhanced stability
- Suitable for warmer climates
- Reconstitution errors possible

### Liquid Ready to Use

- No preparation required
- No reconstitution errors
- Ideal for POCT

## A Problem Shared is a Problem Halved

The ability to correctly interpret the resulting data arising from internal QC is vital, however in order to do so adequately, laboratories need to be able to monitor their performance as part of a wider data group.

Picture the following scenario:

You're running routine QC and the results being reported are 25% low to target. What do you do next? Re-run QC and keep your fingers crossed the results are closer to target the next time, or start troubleshooting to find the potential problem?

If you're part of a chain of laboratories you might turn to colleagues in affiliated labs to see if they have been experiencing similar problems. As the saying goes, a problem shared is a problem halved, after all. Having immediate access to the findings and experience of other laboratories running the same tests can help you validate your results, giving you confidence in their accuracy.

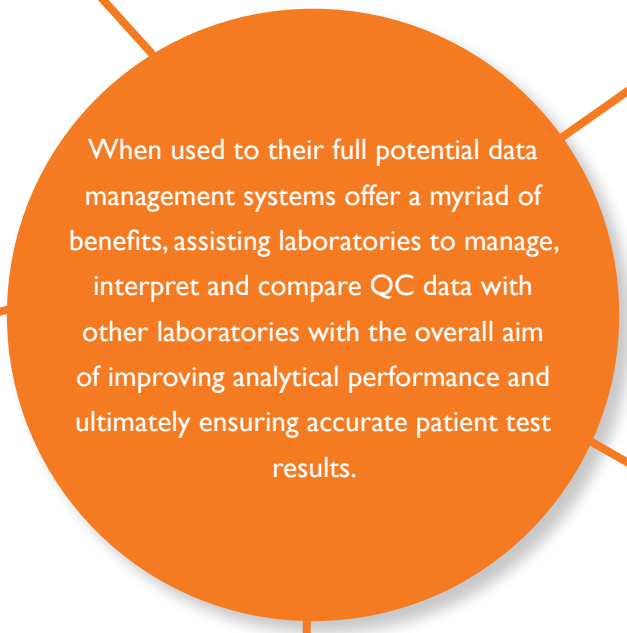
However, consider what an independent lab in this situation would do. Without the benefit of colleagues to consult with, the laboratory must start a time-consuming process of troubleshooting the problem, with the possibility of having to rerun QC further delaying the release of patient results.

Now consider the same laboratory running the same tests but utilising a data-management platform to monitor performance, giving them access to data from multiple laboratories running the same tests. Now the laboratory is no longer viewing the lower than expected results in isolation, they can look at the performance of their peers, making troubleshooting a great deal easier and ensuring a faster turnaround of accurate patient results.

## Laboratories can use data management platforms to:

Identify trends, instrument errors or reagent issues as soon as they arise, assuring validity and increasing confidence in the accuracy of results.

Help laboratories have confidence in assigned target values.




Improve EQA performance by eliminating any undetected bias.

Facilitate regulatory requirements and meet ISO 15189 accreditation.

Minimise false rejections whilst maintaining high error detection through the use of multi-rule QC procedures.

Streamlining QC doesn't mean compromising on quality, so explore the latest QC innovations and take some of the stress out of improving your laboratory performance.

## For more information visit www.randoxqc.com or www.riqas.com

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Information correct at time of print.

MAY 14