



The state of laboratory QC in Europe in 2025

Challenges and opportunities



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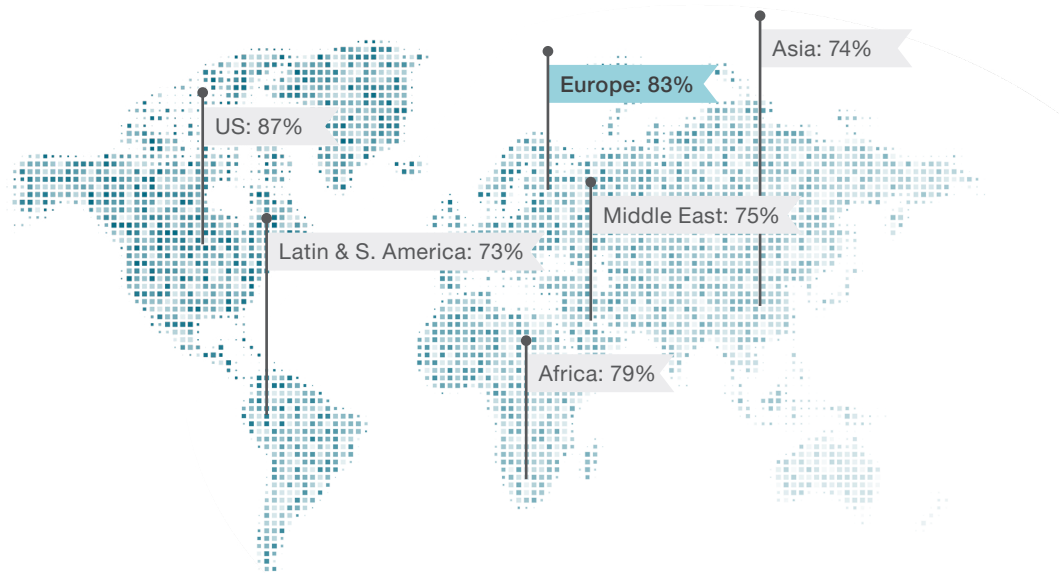
The 2025 Westgard Global QC Practices Survey

In 2025, Westgard QC and MAS controls conducted a global survey of QC practices. This online survey collected more than 1,200 responses across 110 countries, including 143 labs in Europe.

The persistence of poor QC practices

Since the dawn of the laboratory age, QC has been set at two standard deviation (SD) limits. Statistically, running two controls with 2 SD limits generates a 9% false rejection rate. Half a century ago, this was a manageable rate of waste, but the massive volumes and extensive menus of modern laboratories mean those using the 2 SD rule constantly experience out-of-control events. Despite this, 2 SD is still prevalent in Europe, second only to the US in its use of 2 SD limits on some or all tests. This creates extensive waste of controls and staff time.

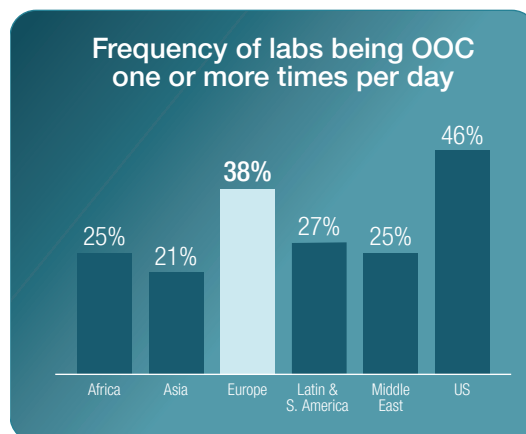
Global use of 2 SD on all or some tests



Europe runs the most QC

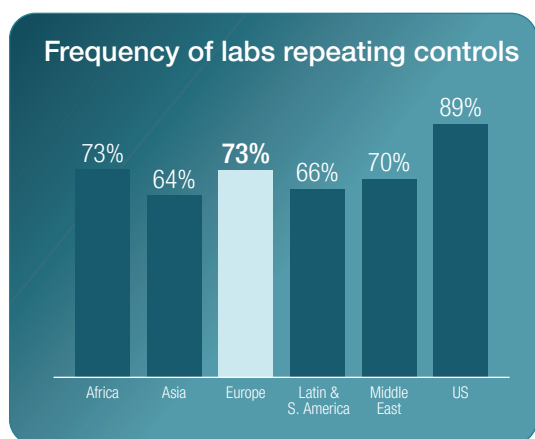
Europe leads the world in running QC three times per day at 38% compared to 25% of US labs. European labs are also the least likely to run QC just once a day (36% vs US 62%). When combined with a high use of tighter QC limits, it is not surprising that this results in a high rate of out-of-control (OOC) occurrences. Over one third of European labs report OOC results everyday, a dubious distinction second only to the US. Out-of-control results require more troubleshooting, more time, more money, and more frustration. And, as the survey reveals, that troubleshooting waste can be compounded by further bad practices.

When we surveyed Europe in 2017, 29.7% of labs reported OOC events every day or multiple times per day. Now, 38% of European labs surveyed experience alarms at least once a day, an increase of nearly 30% in less than a decade. The rate of OOC events is growing out of control.



Control repetition is common in Europe

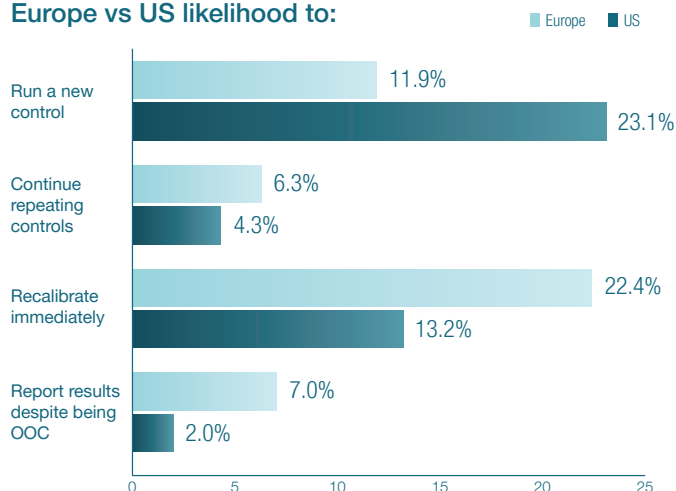
The US leads the world in repeating controls, but Europe is tied for second place. In fact, European labs have improved only marginally in the last eight years. Currently, 73% of European labs respond to OOC events by repeating the control, compared to 74.3% in the 2017 survey.



While repeating the control is the traditional response to an OOC event, if most of these events are due to false alarms caused by 2 SD limits, this repetition is doubly wasteful. In this case, two wrongs do not make a right, they simply double the waste. The survey also reveals that while European labs run new controls almost half as often as US labs (EU 11.9% vs US 23.1%), they are more likely to continue repeating controls even further (EU 6.3% vs US 4.3%). Unfortunately, this habit has been increasing in the

last few years. In 2017, only 4% of European labs were repeating controls multiple times, meaning the wrong response has actually increased by 50%. European labs are also more likely than US labs to recalibrate immediately (EU 22.4% vs US 13.2%). All of these troubleshooting responses consume more time and materials and contribute to increased turn-around times for patient results. Worse, this leads to a high rate of lab technicians overriding QC concerns and reporting patient results despite OOC events. Laboratories in Africa, Asia and Central and South America report engaging in this behavior 10% of the time, while European labs report ignoring OOC events 7% of the time. This is significantly worse than the US rate of only 2%.

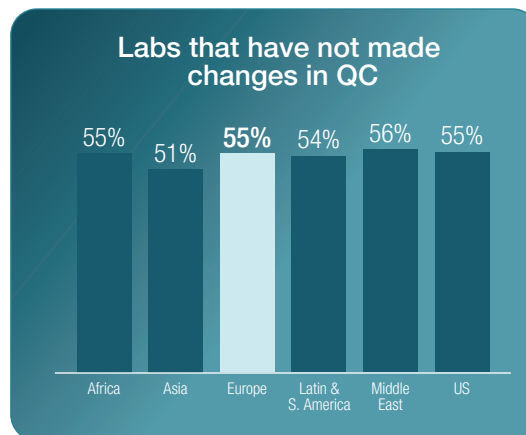
Europe vs US likelihood to:



Is QC improving?

While many laboratories use outdated QC techniques, few are attempting to improve their practices. Like every other region in the world, a majority of European labs have not made any changes to their QC that impact costs. In the 2017 survey, 57.7% of European labs had not made any updates to their QC. Nearly ten years later, that number is only down to 55%. Progress is slow in coming to QC.

In an effort to control rising costs, 20% of European labs have consolidated their QC (second only to the US at 25%) while 9% of European laboratories have switched to cheaper QC (again, second only to US labs at 12%). Although one of the easiest fixes is changing QC rules, only 4% of European labs have done so, just above African and US labs (tied at 3%).



Conclusion

European laboratories find themselves neither the best nor the worst in QC practices around the world, utilizing the same inefficient and wasteful practices as their global peers. While there are alternatives available to improve QC and limit waste, European labs must be willing to confront their failings and change established workflows.

There is opportunity to make dramatic improvements with minimal effort or investment. With the right QC software, the tools and approach are already built into system. European laboratories simply need to opt-in to reap the benefits.

Overall, the 2025 QC survey paints a picture of a laboratory world in crisis: increasing out-of-control events, burgeoning repeat-QC

workload, slow adoption of best-practice rules, and only partial cost optimization. Lab managers need tools that:

- **Drive visibility and early detection** via dashboards and alerts
- **Empower the lab** to set better QC rules (Six Sigma, mean/SD and reduced false rejections)
- **Provide education and training** to close the standards-practice gap
- **Offer cost-efficient QC** materials and practices, such as support for consolidation

Labs that invest in smarter QC design now can gain efficiency, lower cost, improve staff confidence, and reduce the occurrence of error and risk.



View the complete 2025 Westgard
Global QC Practices Survey results

Learn more at thermofisher.com/masqc

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