

Lessons Learnt

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The Proficiency Test Handling

Key Words: Forensic toxicology, proficiency test, screening, quantification.

This concerns the handling of proficiency test (PT) samples in a different manner to routine casework by a forensic toxicology laboratory.

Blood samples from an established proficiency testing scheme were sent to the laboratory. One came with the instruction to screen the sample for unknown drugs with a short case scenario. The other came with the instruction to measure an accurate concentration of a known drug.

For screening, normal practice in the laboratory was to conduct a limited number of standard screening tests, and only once per case. In this instance, all possible screening tests were carried out on the proficiency sample, some intentionally more than once.

For quantification, normal practice in the laboratory was to report the average of two analyses. In this instance, three analyses were carried out on two separate runs and the average of six results reported. PT quantifications were always delegated to the most experienced member of the technical staff.

In both scenarios the PT samples were not treated in the same way as routine casework; additional tests and checks were carried out to ensure that the results would 'pass' the proficiency testing scheme. Laboratory managers had prioritised obtaining a response within an acceptable range over providing a true test of the systems in place.

Repeating the screening tests had arisen because on a previous PT a drug was missed. The practice of delegating the quantification to the most experienced

member of staff arose after a junior technician previously reported an incorrect result compared to what was expected by the PT scheme organiser.

Things to consider

- 1) PTs are designed to reveal problems in workflow and methods, not just 'to be passed'.
- 2) No additional analyses and checks should be carried out on PT samples that would not be done for routine casework.
- 3) Consider introducing PT samples 'blind' into the workstream to reduce the risk of them being treated differently or overworking.
- 4) All levels of appropriately trained staff should be subject to PTs.
- 5) Results of PTs should be shared with all staff, ideally in a way so they are seen as a learning opportunity and not merely a management tool.
- 6) There should be in place a process for investigating PT failures.
- 7) Failures are a form of non-conforming testing that should be reported to the Regulator; learning from errors is a feature of a quality organisation.
- 8) Have lessons learnt from previous PTs been implemented, or have work-arounds simply been put in place to avoid another fail?
- 9) PTs are a measure of methods in place and should not be used inappropriately, e.g. to manage the performance of individual staff members.

Further reading

Guidance on Forensic Science Providers: Validation:

www.gov.uk/government/publications/forensic-science-providers-validation

Guidance on the conduct of proficiency tests and collaborative exercises within ENFSI:

enfsi.eu/wp-content/uploads/2017/07/QCC-PT-001- -Guidance-on-PT-CE.pdf

FSR Newsletter (Issue 31)

www.gov.uk/government/publications/forensic-science-regulator-newsletter-number-31

The Chartered Society of Forensic Sciences articles:

www.csofs.org/News/new-forensic-proficiency-test-service-launched-today

www.csofs.org/News/digital-forensics--mobile-phone-proficiency-test-now-available/164788

EPTIS database of Proficiency Tests:

www.eptis.org