

Current QC and QA Guidelines

The 1992 report (NRC 1992) outlined many features of desirable QC and QA as part of a proposed regulatory program (p 104-105):

- "Individual analysts have education, training, and experience commensurate with the analysis performed and testimony provided.
- "Analysts have a thorough understanding of the principles, use, and limitations of methods and procedures applied to the tests performed.
- "Analysts successfully complete periodic proficiency tests and their equipment and procedures meet specified criteria.
- "Reagents and equipment are properly maintained and monitored.
- "Procedures used are generally accepted in the field and supported by published, reviewed data that were gathered and recorded in a scientific manner.
- "Appropriate controls are specified in procedures and are used.
- "New technical procedures are thoroughly tested to demonstrate their efficacy and reliability for examining evidence material before being implemented in casework.
- "Clearly written and well-understood procedures exist for handling and preserving the integrity of evidence, for laboratory safety, and for laboratory security.
- "Each laboratory participates in a program of external proficiency testing that periodically measures the capability of its analysts and the reliability of its analytic results.
- "Case records—such as notes, worksheets, autoradiographs, and population data banks—and other data or records that support examiners' conclusions are prepared, retained by the laboratory, and made available for inspection on court order after review of the reasonableness of a request."

Although not QC or QA features, the following are listed as desirable aspects of a regulatory program (NRC 1992, p 105):

- "Redundancy of programs is avoided, so that unnecessary duplication of effort and costs can be eliminated.
- "The program is widely accepted by the forensic-science community.
- "The program is applicable to federal, state, local, and private laboratories.
- "The program is enforceable—i.e., . . . failure to meet its requirements will prevent a laboratory from continuing to perform DNA typing tests until compliance is demonstrated.
- "The program can be implemented within a relatively short time.
- "The program involves appropriate experts in forensic science, molecular biology, and population genetics."