Laboratory Fraud and Inappropriate Practices

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Discussion Points

- Background
- What are Inappropriate Practices and Fraud
- What is Driving the Increase in Detected Issues
- Detection and Prevention

Background

- Data fraud has been identified in one laboratory for sample analyses conducted since 1991 for the Superfund, Resource Conservation and Recovery Act (RCRA), Air Toxics, well water and groundwater monitoring, underground storage tank clean-up, National Pollutant Discharge and Elimination System and pesticides programs.

Background

- False negatives were reported
- Potentially hazardous compounds were reported as not being present when they actually were present
- Thousands of separate analytical projects performed by this laboratory may be impacted

Background

- As a result there has been a push to detect and prevent these practices more effectively in the future.

Inappropriate Practices

- Fabrication, falsification, or misrepresentation of data
- Improper clock setting (time traveling) or improper date/time recording
- Unwarranted manipulation of samples, software, or analytical conditions
- Misrepresenting or misreporting QC samples

Inappropriate Practices

- Improper calibrations
- Concealing a known analytical or sample problem
- Concealing a known improper or unethical behavior or action
- Failing to report the occurrence of a prohibited practice

Conditions Promoting or Allowing Fraud

- Ineffective oversight of laboratory data
- Shrinking market
- Highly stringent QA/ QC requirements

Ineffective Oversight

- No amount of outside scrutiny can guarantee absence of fraud
- Effective internal oversight of laboratory data can deter and may also provide an opportunity to detect potentially fraudulent practices

Recommendations

- Developing an SOP for detecting and reporting potentially fraudulent laboratory activities to be followed by all personnel
- Presenting fraud awareness workshops
- Increasing scrutiny of data review

Recommendations

- Developing a fraud hotline
- Ethics program
- Automated data mining software

Shrinking Market

- The market for laboratory services has been consistently shrinking over time
- Labs are now looking to improve profit margins by focusing on production over quality.
- Increases undue pressure from management

Shrinking Market

- Leading to increase in “bottom feeders”
- High turnover rate due to job dissatisfaction
- Laboratories implementing cost-cutting measures

Recommendations

- Accreditation using consensus standards
- Levels the playing field
- Fosters the generation of environmental laboratory data of known quality in a cost-effective manner

QA/QC Requirements

- Highly stringent QA/QC requirements may not be appropriate for all activities
- Leads to increased cost to lab
- Labs may decide cut corners on QA/QC if deemed unnecessary for intended data use

Recommendations

- Increased training in Data Quality Objectives (DQO) Process
- Better understanding of how the Quality Assurance Project Plan (QAPP) is developed and how QA/QC limits are set

What Needs to Change?

- Fraud detection and prevention needs to have a higher focus during internal audits
- Increased data integrity training
- Increased use of data analytics tools
- Clear, anonymous, fraud reporting tools provided to employees

Conclusions

- Improper practices and fraudulent data reporting appear to be on the rise
- Laboratories must focus on detection and prevention in a highly competitive market
- Highly rigorous assessments, both internal and external, may be an effective tool

Questions?

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