Defense Forensic Science Center

Blind Proficiency Testing

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Briefing Overview

- What is proficiency testing and why is it important?
- Pro's and Con's of blind proficiency testing.
- Pilot and implementation programs for testing.
- Timeline and implementation details.
- Summary
- References/Acknowledgements and questions.

Goals of the Presentation

- Delineate the distinct advantages of blind proficiency testing.
- Obstacles are not as bad as they seem.
- Pilot programs can be utilized to work out the issues.
- The more the merrier.

The What, Why, and How of Proficiency Testing…

- What are proficiency tests?
- Why are they important?
- How are they implemented?
- Open Testing
- Blind Testing
- Double Blind Testing

Open Proficiency Testing

Pro's

- Easily sourced
- Reasonably economical
- Wide variety of tests

Con's

- Situational bias
- Reporting inconsistency

Blind Proficiency Testing

Pro's

- Unbiased examinations
- Lab Process Measurement
- Analytical gap measurement

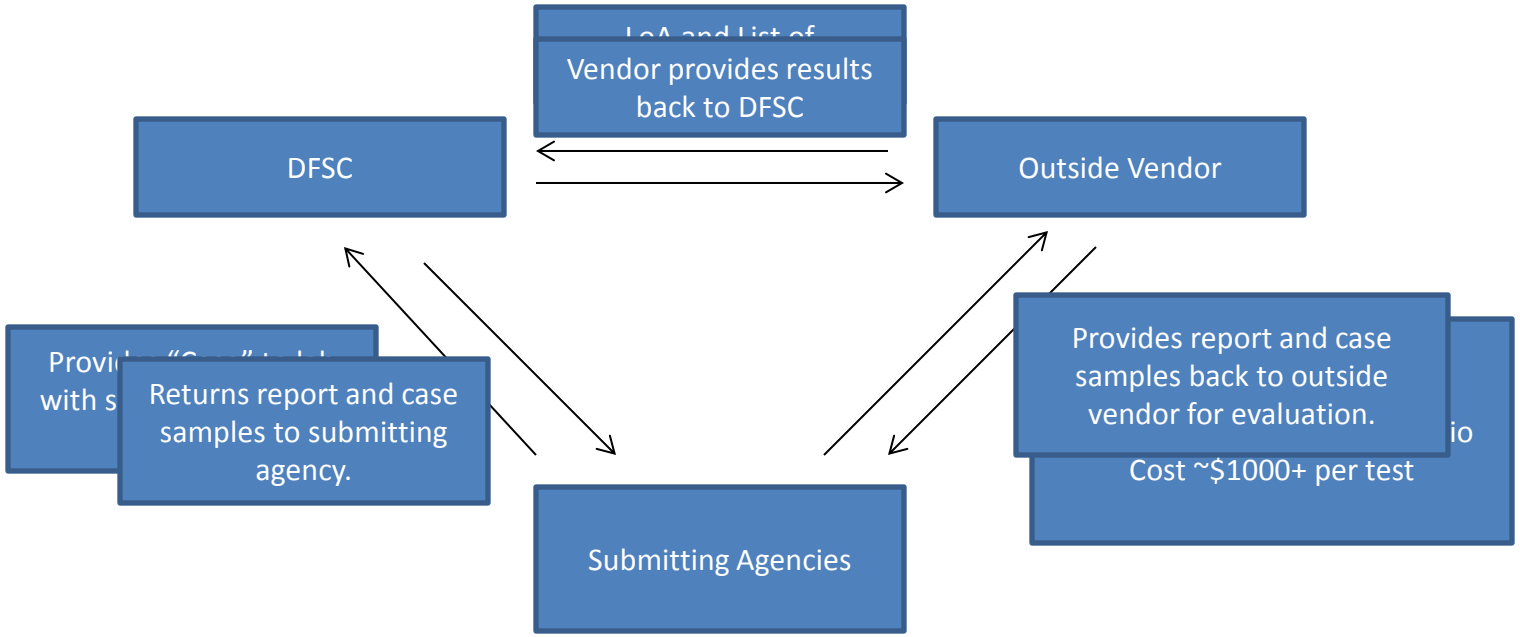
Con's

- Costly
- Outside agency involvement
- Complexity concerns
- Database issues
- Multiple party involvement

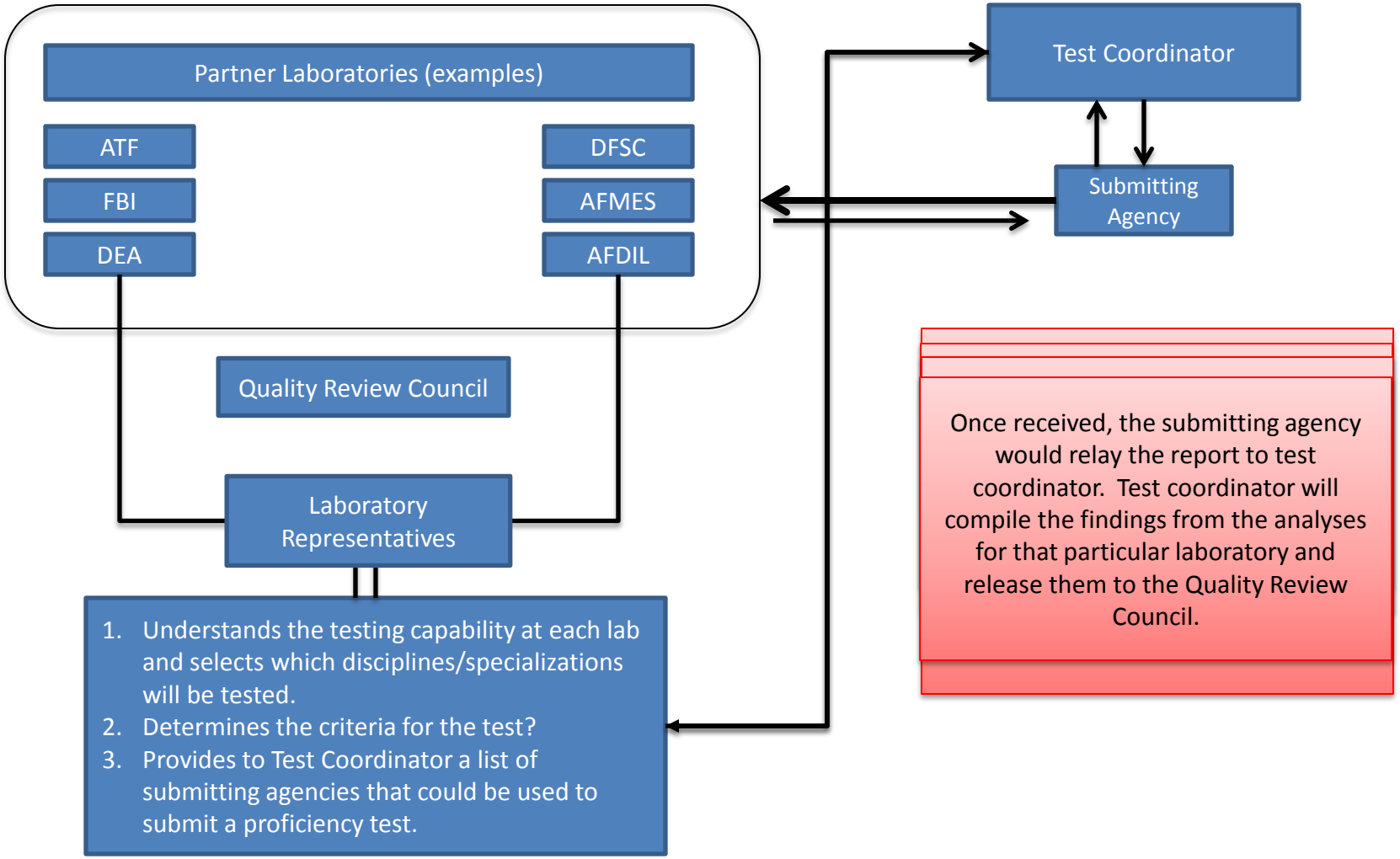
Current Proficiency Test Requirements

Blind proficiency testing serves to augment the current proficiency testing process in the laboratory system. Accreditation by an accrediting body and QAS standards will not be affected by this program.

Internal Pilot Program

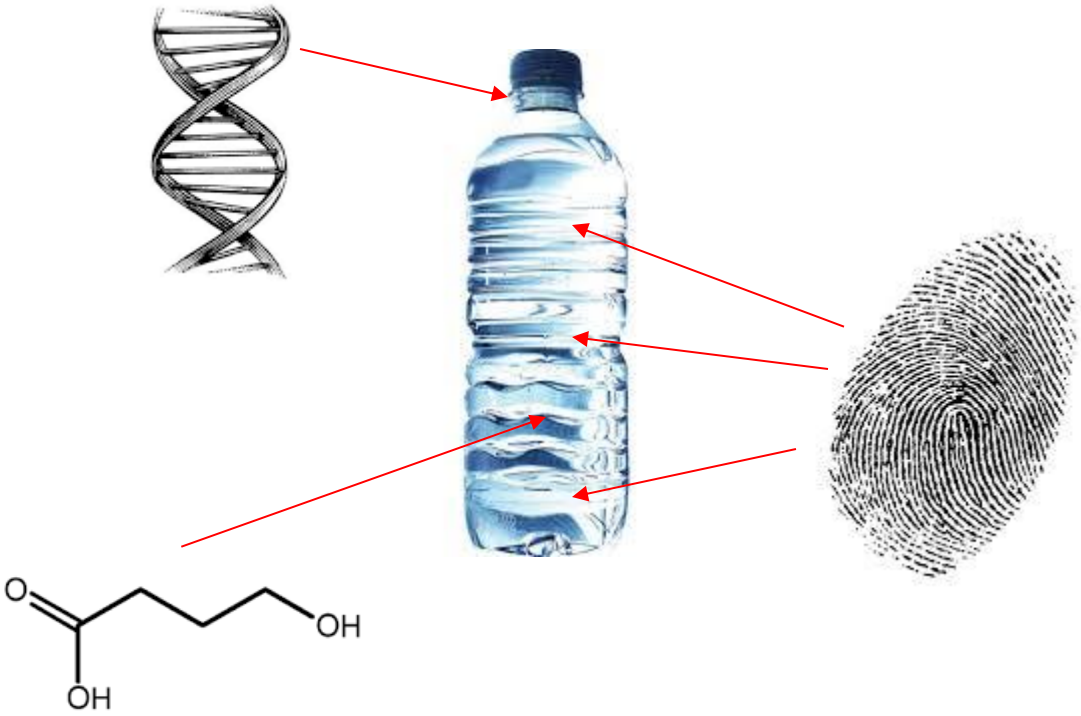


Large Scale Implementation



Evidentiary Example

- Evidence types
- Examinations
- Case Complexity



Sample Evidence Submissions

Evidence	Primary Scopes of Analysis	Secondary Scopes of Analysis	Scenario
Water bottle containing liquid	Latent Prints, DNA, Unknown Liquid Analysis	Fiber embedded on water bottle label	Sexual Assault
Glass (Q and K)	Glass comparison	Direction of Force, DNA, Latent Prints	Burglary
Paint (Q and K)	Paint comparison	Fibers, DNA	Hit and Run
Low Explosives (IED) intact device	Explosives, Toolmark, Latent Prints	DNA, Fibers, Handwriting	Possession of bomb making materials
Robbery Note	Handwriting, Latent Prints	DNA, Fibers	Armed Robbery
Pants and underwear	DNA, Fibers	Hair	Sexual Assault
Suspect clothing			
Burned carpet and wood materials from a suspected arson scene	Fire Debris, Accelerant comparison,	DNA, Latent Prints, Fibers	Arson
Suspected accelerant container with liquid inside for comparison			
Low Explosives (IED) Post Blast	Explosives, Latent Prints	DNA, Fibers	Vandalism (pyrotechnic in a mailbox)
Bullets fired from weapon	Firearms Analysis (Bullet and CC)	Latent Print	Assault
Cartridge cases found at scene			
Three cut padlocks	Toolmark analysis	Paint, Latent Prints	Burglary
Bolt cutters			
Plastic baggie with white powder	Controlled Substance Analysis	Latent Prints, DNA	Possession of a controlled substance

Potentially Problematic Submissions

Evidence types that could cause problems with blind proficiency test process:

1. Found crime scene evidence
2. Evidence requiring processing
3. Antiquated evidence types
4. Evidence containing unknown profiles
5. Novel evidence types

Summary

- Distinct advantages and valuable data can be gleaned from a blind proficiency test program.
- Financial and logistical obstacles are real, but not insurmountable.
- Smaller pilot programs can be utilized for testing and evaluation purposes.
- Multiple laboratory participation key to success.

Acknowledgement

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