NIST Human Factors in DNA Survey_TEST MODE_FINAL

Start of Block: Introduction

OMB Statement
OMB Control #0693-0043
Expiration Date: 03/31/2022
NIST Generic Clearance for Usability Data Collections
A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995 unless the information collection has a currently valid OMB Control Number. The approved OMB Control Number for this information collection is 0693-0043. Without this approval, we could not conduct this survey/information collection. Public reporting for this information collection is estimated to be approximately 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. All responses to this information collection are voluntary. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the National Institute of Standards and Technology (NIST) point of contact: Melissa Taylor, melissa.taylor@nist.gov.

Page Break

Thank you for taking part in this survey. The survey comprises questions relating to laboratory management, DNA interpretation, cognitive bias, training and research, testimony and reporting practices, and stakeholder engagement opportunities. Data from this survey will provide insight to inform best practice recommendations for forensic DNA interpretation.

This survey should be completed by the **DNA laboratory's TECHNICAL LEADER or equivalent.** This is the individual who is responsible for the technical oversight of the DNA laboratory, which may include (but is not limited to) day-to-day quality assurance and accreditation compliance, design and implementation of methods development, verification of analytical instrumentation function, and validation of new technologies.

Page Break

This survey is best taken on a computer rather than mobile device.

Your responses will be saved as you work through the survey. If you stop and wish to complete at a different time, you will need to use the same device in order to resume at the last saved point. Please complete the survey within two weeks of starting it or your response will be recorded as incomplete.

End of Block: Introduction

Start of Block: Laboratory Information

Page Break

Q2.1 This survey should be completed by the laboratory's technical leader or equivalent. Are you a technical leader or equivalent?

- ○ Yes
- ○ No
- ○ Not sure

Display This Question:

If This survey should be completed by the laboratory's technical leader or equivalent. Are you a tec... != Yes

Q2.2 If you answered "no" or "not sure" to the previous question, please end the survey here and forward the invitation link to the technical leader or equivalent, within your laboratory.

- ○ End survey now
- ○ I am a technical leader or equivalent

Skip To: End of Survey If If you answered "no" or "not sure" to the previous question, please end the survey here and forwa... = End survey now

Q2.3 What type of crime laboratory or forensic science service provider (FSSP) do you represent?

- ○ Publicly-funded local crime laboratory (to include city or town)
- ○ Publicly-funded county crime laboratory
- ○ Publicly-funded state crime laboratory
- ○ Publicly-funded federal crime laboratory
- ○ Private laboratory
- ○ Consultant
- ○ Other (please specify) _____

Q2.4 What region is your organization located in?

- ○ New England (CT, ME, MA, NH, RI, VT)
- ○ Mid-Atlantic (NJ, NY, PA)
- ○ West North Central (IA, KS, MN, MO, NE, ND, SD)
- ○ East North Central (IL, IN, MI, OH, WI)
- ○ South Atlantic (DE, FL, GA, MD, NC, SC, VA, DC, WV)
- ○ East South Central (AL, KY, MS, TN)
- ○ West South Central (AR, LA, OK, TX)
- ○ Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)
- ○ Pacific (AK, CA, HI, OR, WA)
- ○ Non-U.S. (please specify Country)

_____

Display This Question:

If What region is your organization located in? = Non-U.S. (please specify Country)

Q2.5 What continent is your laboratory in?

- ○ Asia
- ○ Europe
- ○ South America
- ○ Oceania (Australia, New Zealand)

Q2.6 Who is (are) your primary customer(s)? (Select all that apply)

- [ ] Law enforcement (local, county, state, federal)
- [ ] Prosecutor
- [ ] Defense attorney
- [ ] Private client
- [ ] Other (please specify)

_____

Q2.7 What Forensic DNA services are you providing to your primary customer(s)? (Select all that apply)

- [ ] Autosomal STR
- [ ] Mitochondrial
- [ ] Y-STR
- [ ] Next Generation Sequencing
- [ ] Mixture Interpretation
- [ ] Probabilistic Genotyping
- [ ] CODIS upload and search
- [ ] Familial Searching
- [ ] Forensic Genetic Genealogy
- [ ] Paternity/parentage (criminal)
- [ ] Paternity/parentage (non-criminal)
- [ ] Phenotyping
- [ ] Other (please specify)

_____

Page Break

Q2.8 Does your laboratory track the TYPE of DNA samples that you routinely analyze? (e.g., track whether a sample is liquid blood, saliva stains, dried semen stains, touch DNA, etc.)

- ○ Yes
- ○ No
- ○ Not sure
- ○ Not applicable

Display This Question:

If Does your laboratory track the TYPE of DNA samples that you routinely analyze? (e.g., track wheth... = Yes

Or Does your laboratory track the TYPE of DNA samples that you routinely analyze? (e.g., track wheth... = Not sure

Q2.9 What are the categories that your laboratory uses to track DNA samples? (Select all that apply)

- ○ Bodily fluid type
- ○ Case scenario
- ○ Crime type
- ○ Number of contributors
- ○ Template amount
- ○ Evidence item type (e.g., gun, clothing)
- ○ Other (please list) _____
- ○ Not applicable

Page Break

Q2.10 How many DNA analysts does your FSSP employ?

For the purpose of this survey, a DNA **analyst** is defined as: an employee or contract employee, that successfully completed the laboratory's training requirements for casework sample analysis, passed a competency test, and has entered into a proficiency testing program according to these standards. This individual can conduct and/or direct the analysis of forensic samples, interpret data, reach conclusions, and generate reports.

This definition includes both persons who process the DNA samples and those who perform the statistical analysis and interpretation of the DNA results (for laboratories who separate these functions).

- ○ 0
- ○ 1-5
- ○ 6-10
- ○ 11-30
- ○ 31-50
- ○ >50

Q2.11 In your laboratory, do the same analysts perform both the analytical/instrument processing and the interpretation of DNA results, or are these functions separated?

- ○ Analysts perform all aspects of the analysis and interpretation
- ○ These functions are separated
- ○ Combination of both
- ○ Other (please specify) _____

Q2.12 Does your laboratory or agency employ a human subjects officer (or similar)?

A human subjects officer (or similar) is a generally a person responsible for reviewing and approving (or seeking appropriate approvals for) human-subjects research in the laboratory/agency. They will likely coordinate and manage institutional review board (IRB) activities and other compliance activities.

- ○ Yes
- ○ No
- ○ Don't know

End of Block: Laboratory Information

Start of Block: Tasks that the lab performs

Q3.1 How often does your laboratory perform the following tasks?

Note: Direct-to-DNA is a DNA casework approach in which serology is removed from the workflow as the initial screening of a Sexual Assault Kit sample, and instead, the initial

screening is completed during the DNA quantification step to determine the level of male DNA among female DNA to inform downstream processing.

	Rarely	Sometimes	Often	Always	Not applicable
Presumptive test for semen	○	○	○	○	○
Presumptive test for blood	○	○	○	○	○
Presumptive test for saliva	○	○	○	○	○
Microscopic search for sperm	○	○	○	○	○
Confirmatory test for blood	○	○	○	○	○
Confirmatory test for saliva	○	○	○	○	○
Y-STR typing	○	○	○	○	○
Direct-to-DNA approach	○	○	○	○	○

Display This Question:

If How often does your laboratory perform the following tasks? Note: Direct-to-DNA is a DNA casewo... != Y-STR typing [Rarely]

Q3.2 At what point in the workflow is Y-STR typing incorporated (Select all that apply)

- [ ] At the biological screening stage
- [ ] After quantitation
- [ ] After initial autosomal STR results are obtained and evaluated.
- [ ] When specifically requested by the client.
- [ ] When specifically requested for court purposes.
- [ ] Other (please specify) _____

Display This Question:

If How often does your laboratory perform the following tasks? Note: Direct-to-DNA is a DNA casewo... != Y-STR typing [Rarely]

Q3.3 Which criteria are used to inform the incorporation of Y-STR typing? (Select all that apply)

- [ ] Based on screening results.
- [ ] Based on male DNA/ratio results.
- [ ] Based on autosomal STR results.
- [ ] If specifically requested by the client.
- [ ] If specifically requested for court purposes.
- [ ] Other (please specify) _____

End of Block: Tasks that the lab performs

Start of Block: Communication of results and testimony

Page Break

The following questions relate to reporting and testimony.

Q4.1 How are your laboratory's reports formatted?

- ○ Narrative (written explanations or paragraphs that describe evidence/items tested and the DNA results and opinions)
- ○ Tabular (lists and tables of the evidence/items tested and the DNA results and opinions)
- ○ Combination
- ○ Not sure

Q4.2 How and why did you select that format? (Select all that apply)

- ☐ Clarity
- ☐ Brevity
- ☐ Aesthetic
- ☐ Simplicity
- ☐ It has always been formatted that way
- ☐ Not sure
- ☐ Other (please specify) _____

Q4.3 How/why did you select the specific terminology language that you use in your reports? (Select all that apply)

- [ ] Based on published research pertaining to effective communication
- [ ] Based on best-practice recommendations from guidance bodies (e.g., ISFG, ISO, NAS. etc.)
- [ ] Based on feedback from stakeholders (e.g., lawyers, investigators)
- [ ] Based on internal research (e.g., in consultation with DNA analysts)
- [ ] The language we use now is the language we've always used
- [ ] Not sure
- [ ] Other (please specify) _____

Q4.4 Is your DNA laboratory reporting a quantitative value only or a combination of quantitative and qualitative statements?

- ○ Quantitative only (Likelihood Ratio or other numerical value)
- ○ Qualitative only (verbal equivalent or written explanation)
- ○ Quantitative and qualitative
- ○ Not sure

Q4.5 Does your laboratory have a standard operating procedure for testimony (to include recommendations on how to testify to specific results)?

- ○ Yes
- ○ No
- ○ Not sure
- ○ Not applicable

Q4.6 Does your laboratory have a procedure to monitor testimony?

- ○ Yes
- ○ No
- ○ Not sure
- ○ Not applicable

Q4.7 How often do analysts within your laboratory:

	Never	Sometimes	About half the time	Most of the time	Always	Not applicable
Solicit (and receive) feedback from your customers specific to the comprehension of your reports?	○	○	○	○	○	○
Attend a pre-trial conference with the prosecution?	○	○	○	○	○	○
Attend a pre-trial conference with the defense?	○	○	○	○	○	○
Offer forensic reports as evidence exhibits in court? (rather than simply referring to them during testimony)	○	○	○	○	○	○
Use visual aids during testimony?	○	○	○	○	○	○

Page Break

End of Block: Communication of results and testimony

Start of Block: Contextual information management / bias management / QA / QC

Q5.1 Which of the following terms does your laboratory regularly use as part of your quality management system? (Select all that apply)

- [ ] Analyst Error
- [ ] Conflict
- [ ] Deviation from protocol
- [ ] Disagreement
- [ ] Error
- [ ] Incident
- [ ] Instrument Error
- [ ] Lapse
- [ ] Mistake
- [ ] Non-conformity
- [ ] Quality Issue
- [ ] Slip
- [ ] Systematic Error
- [ ] Technological Error
- [ ] Unexpected finding
- [ ] Other (please specify)

Q5.2 How does your laboratory define "error", "disagreement", "conflict", or any other related terms that it regularly uses? Please include the term(s) and definition(s) here or write N/A.

_____

_____

_____

_____

_____

Page Break

Q5.3 If consensus is not reached following a technical review, which of the following steps could be engaged? (Select all that apply)

- [ ] Conversation between reviewer and analyst
- [ ] Mediation by supervisor
- [ ] Mediation by technical leader
- [ ] Involve the quality manager
- [ ] Re-amplification of sample by original analyst
- [ ] Re-amplification of sample by second analyst
- [ ] Independent re-interpretation by third party
- [ ] Send to independent laboratory for complete re-analysis
- [ ] Report the most conservative opinion
- [ ] Report an inconclusive opinion
- [ ] Report both opinions
- [ ] Not reporting the case
- [ ] No action
- [ ] Other (please specify) _____

Q5.4 If any results or opinions are changed as a result of the review processes, how are the disagreement/non-consensus and action documented? (Select all that apply)

- [ ] Report
- [ ] Case file
- [ ] Personnel file
- [ ] Not documented
- [ ] Other (please specify) _____
- [ ] ⊗ Review process would not change results or opinions

Q5.5 If any results or opinions are changed as a result of review processes, to whom are these disclosed to? (Select all that apply)

- [ ] Quality Manager
- [ ] Technical Leader
- [ ] Prosecution
- [ ] Defense
- [ ] Client (if not prosecution or defense)
- [ ] Law Enforcement
- [ ] Other (please specify)

_____

- [ ] ⊗ No one (it is not disclosed)
- [ ] ⊗ Review process would not change results or opinions

Q5.6 If a change of result or opinion is disclosed, how is it disclosed? (Select all that apply)

- [ ] ⊗ Not disclosed
- [ ] Phone call to client
- [ ] Email to client
- [ ] Within report
- [ ] Within routinely disclosed case file
- [ ] Within case file disclosed upon request
- [ ] Upon request
- [ ] Oral testimony
- [ ] Pre-trial case conference with prosecution
- [ ] Pre-trial case conference with defense
- [ ] Other (please specify) _____

Page Break

Q5.7 What type of risk assessment do you perform as part of your Quality Management System (QMS)?

- ☐ Matrix-based (based on intersecting factors; for example, the likelihood that the risk event will occur, and the potential impact that the risk event could have)
- ☐ Level-based (based on categories of risk tolerance, for example: acceptable level, tolerable level, and intolerable level)
- ☐ Other (please specify) _____
- ☐ ⊗ Not applicable

Display This Question:

If What type of risk assessment do you perform as part of your Quality Management System (QMS)? != Not applicable

Q5.8 What factors do you consider in your risk assessment? (Select all that apply)

- ☐ Frequency
- ☐ Effect on reported opinion
- ☐ Likelihood of occurrence
- ☐ Likelihood of detection
- ☐ Cost
- ☐ Severity
- ☐ Other (please specify) _____

Page Break

Q5.9 How do you monitor DNA analysts' abilities to perform complex tasks (excluding routine open proficiency testing), and how often?

	Monthly	Quarterly	Biannually	Yearly	Biennially	When required	Never	Not sure
In-house testing/research	○	○	○	○	○	○	○	○
Internal collaborative exercises	○	○	○	○	○	○	○	○
Inter-laboratory exchange	○	○	○	○	○	○	○	○
Training exercises	○	○	○	○	○	○	○	○
Blind proficiency tests	○	○	○	○	○	○	○	○
Other (please specify or select "never")	○	○	○	○	○	○	○	○

Q5.10 Does your laboratory use any sort of blinding during casework?

	Yes, formalized in SOPs	Yes, but not formalized in SOPs	No	Not sure
Sequential unmasking (task-relevant information presented in sequential order, for example evidence/item sample analyzed before reference sample)	○	○	○	○
Context manager (someone who filters task-relevant and task-irrelevant information and only passes on to the analyst that which is deemed to be task-relevant)	○	○	○	○
Blind technical review (reviewer does not know original analyst's interpretation opinion)	○	○	○	○
Blind reanalysis of samples (re-analyze samples without knowing original result)	○	○	○	○
Blind review of Number-of-Contributors assessments (assess NoC without knowing original analyst's opinion)	○	○	○	○

Blind data review (review data without knowing original analyst's opinion)	○	○	○	○
Blind interpretation of Probabilistic Genotyping Software outputs (interpretation of PGS outputs without knowing original analyst's interpretation)	○	○	○	○
Blind genotyping/EPG assessment (assessment of genotyping/EPG without knowing original analyst's assessment)	○	○	○	○

Page Break

Q5.11 Please indicate your level of agreement with the following statements.

Note: Depending on the device that you are viewing this on, you may need to scroll across or down to see all options.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The interpretation of DNA data can be influenced by the information given to the DNA analyst.	○	○	○	○	○
Bias can still occur when using Probabilistic Genotyping Software.	○	○	○	○	○
The research community should conduct more studies about contextual bias in forensic biology before our laboratory will change or implement contextual information management policies.	○	○	○	○	○
We already know enough about cognitive bias in forensic biology to start making policy changes in our laboratory.	○	○	○	○	○

Cognitive bias can affect forensic biologists' interpretation of DNA data.	○	○	○	○	○
All forensic analysts should be aware of cognitive bias.	○	○	○	○	○

Q5.12 Please indicate your level of agreement with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Cognitive bias is a bigger issue for analysts in other forensic disciplines than those in forensic biology.	○	○	○	○	○
Knowing about the reference profile before examining a complex DNA mixture can affect how a DNA analyst interprets the mixture.	○	○	○	○	○
Knowing about a confession before examining a complex DNA mixture can affect how a DNA analyst interprets the mixture.	○	○	○	○	○
Knowing one DNA analyst's Number-of-Contributor determination can affect another DNA analyst's Number-of-Contributor determination.	○	○	○	○	○

Likelihood ratios prevent contextual bias in forensic biology.	○	○	○	○	○
Probabilistic Genotyping Software prevents bias in forensic biology.	○	○	○	○	○

End of Block: Contextual information management / bias management / QA / QC

Start of Block: Probabilistic Genotyping

Page Break

Q6.1 Here, we are interested in your laboratory's data interpretation methods, with an emphasis on Probabilistic Genotyping Software (PGS). If your laboratory is not using PGS, please select "not applicable" where appropriate.

Q6.2 Which of the following statistical analysis methods does your laboratory use for autosomal DNA interpretation? (Select all that apply)

- [ ] Combined Probability of Inclusion / Random Man Not Excluded
- [ ] Likelihood Ratio
- [ ] Random Match Probability
- [ ] Other (please specify) _____

Q6.3 Has your laboratory implemented, or is it in the process of implementing, PGS?

- ○ Not using PGS and have no plans to
- ○ Not using PGS but may in the future
- ○ In the process of validating, but not using in casework
- ○ Validated and online
- ○ Validated, online, and in the process of validating an updated version

Display This Question:

If Has your laboratory implemented, or is it in the process of implementing, PGS? = Not using PGS and have no plans to

And Has your laboratory implemented, or is it in the process of implementing, PGS? = Not using PGS but may in the future

Q6.4 What tool(s) is your laboratory using to calculate a statistic for DNA opinions? (Select all that apply)

- [ ] Spreadsheet
- [ ] Manual
- [ ] Not calculating a statistic
- [ ] Other (please specify)

_____

Display This Question:

If Has your laboratory implemented, or is it in the process of implementing, PGS? = In the process of validating, but not using in casework

Or Has your laboratory implemented, or is it in the process of implementing, PGS? = Validated and online

Or Has your laboratory implemented, or is it in the process of implementing, PGS? = Validated, online, and in the process of validating an updated version

Q6.5 Which PGS is your laboratory using or in the process of implementing? (Select all that apply)

- [ ] STRmix (include version number) _____
- [ ] TrueAllele (include version number) _____
- [ ] EuroForMix (include version number) _____
- [ ] MixCal6 (include version number) _____
- [ ] LiRa (include version number) _____
- [ ] Other (please specify developer and version number) _____

Display This Question:

If Has your laboratory implemented, or is it in the process of implementing, PGS? = In the process of validating, but not using in casework

Or Has your laboratory implemented, or is it in the process of implementing, PGS? = Validated and online

Or Has your laboratory implemented, or is it in the process of implementing, PGS? = Validated, online, and in the process of validating an updated version

Q6.6 Does (or will) your laboratory train ALL DNA casework analysts to use and report PGS outputs?

- ○ Yes
- ○ No
- ○ Not applicable

Display This Question:

If Does (or will) your laboratory train ALL DNA casework analysts to use and report PGS outputs? = No

Q6.7 Approximately what percentage of fully trained DNA casework analysts are also trained to use and report PGS outputs?

	0 10 20 30 40 50 60 70 80 90 100
Please move slider to indicate the percentage of DNA analysts in your laboratory who are trained on PGS.	

Page Break

Q6.8 Does your laboratory routinely perform replicate amplifications?

- [ ] Yes
- [ ] No
- [ ] Case/sample dependent (please describe)

_____

- [ ] ⊗ Not applicable

Q6.9 Does your laboratory have a minimum amplification threshold based on quantification results? (Select all that apply)

- [ ] ⊗ No minimum threshold
- [ ] Total amount of DNA
- [ ] M:F ratio
- [ ] Other (please specify)

_____

Page Break

Q6.10 An idea being discussed in the DNA community is to create a central repository of validation summaries that multiple laboratories could contribute data to and use. This repository could be accessible to all stakeholders/interested parties (including attorneys and researchers), or it could be password-protected and only available to other DNA laboratories (i.e., private).

Please read the following statements and select the one that best applies to your laboratory:

- ○ Our laboratory would use a central repository, regardless of who can access it.
- ○ Our laboratory would only use a central repository if it was private.
- ○ I do not know if our laboratory would use a central repository.
- ○ Our laboratory would not use a central repository.
- ○ Validation summaries are not applicable to our laboratory.

Q6.11 Please read the following statements and select the one that best applies to your laboratory:

- ☐ Our laboratory would contribute data to a central repository, regardless of who can access it.
- ☐ Our laboratory would contribute data to a central repository, but only if it was private.
- ☐ I do not know if our laboratory would contribute data to a central repository.
- ☐ Our laboratory would not contribute data to a central repository.
- ☐ Validation summaries are not applicable to our laboratory.

Q6.12 Please comment on why your laboratory would or would not be able to contribute to or use such a repository.

_____

Page Break

Q6.13 Some laboratories use internally-collected DNA samples for their validation studies (e.g., from staff members). Collecting samples in this way may restrict sharing data outside of the laboratory due to privacy concerns.

Would your laboratory benefit from access to appropriately consented, externally-collected DNA samples to use in your validation studies?

- ○ We already obtain external DNA samples
- ○ We do not currently obtain external DNA samples but would benefit from such samples
- ○ No, we would not benefit
- ○ Not sure
- ○ Not applicable

Q6.14 Has your laboratory encountered any barriers to creating complex DNA mixture samples for your internal validation exercises? Please discuss or type "not applicable".

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_____

_____

Page Break

Q6.15 Does your laboratory print out electropherograms for the case file?

- ○ Yes
- ○ No
- ○ Not sure
- ○ Not applicable

Q6.16 Does your laboratory save electronic data for all PGS runs even if some runs are not used to render the final report conclusion (e.g., an alternate contributor number was evaluated and rejected)?

- ○ Yes, save all runs
- ○ No, do not save all runs
- ○ Not sure
- ○ Not applicable

Q6.17 Does your laboratory have a method in place (other than routine network back-ups) for tracking and maintaining the integrity of all saved electronic files related to PGS?

- ○ Yes
- ○ No
- ○ Not sure
- ○ Not applicable

End of Block: Probabilistic Genotyping

Start of Block: Internal Training Opportunities

Page Break

The following questions relate to training.

Q7.1 To what level are DNA analysts within your laboratory trained? (Select all that apply)

- [ ] To minimum accreditation standards
- [ ] To perform relevant laboratory techniques
- [ ] To explain case file content to stakeholders (separate from court testimony)
- [ ] To participate in an admissibility hearing
- [ ] To testify in court
- [ ] Other (please specify) _____

Carry Forward Selected Choices from "To what level are DNA analysts within your laboratory trained? (Select all that apply)"

Q7.2
Please indicate all ways that performance is assessed for each task.

Note: Depending on the device that you are viewing this on, you may need to scroll across or

down to see all options.

	Oral Exam	Written Exam	Moot Court	We do not assess performance on this task	Other
To minimum accreditation standards	☐	☐	☐	☐	☐
To perform relevant laboratory techniques	☐	☐	☐	☐	☐
To explain case file content to stakeholders (separate from court testimony)	☐	☐	☐	☐	☐
To participate in an admissibility hearing	☐	☐	☐	☐	☐
To testify in court	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐

Q7.3 Does your laboratory provide in-house training for DNA analysts?

- ○ Yes
- ○ No
- ○ No, but our laboratory does provide external training opportunities
- ○ Not sure

Skip To: End of Block If Does your laboratory provide in-house training for DNA analysts? != Yes

Q7.4
In choosing content for your laboratory's DNA analyst training program, did your laboratory follow recommendations from any of the following groups? (Select all that apply)

- [ ] FBI Quality Assurance Standards (QAS)
- [ ] International Organization for Standardization (ISO)
- [ ] International Society for Forensic Genetics (ISFG)
- [ ] Scientific Working Group on DNA Analysis Methods (SWGDAM)
- [ ] The Organization of Scientific Area Committees for Forensic Science (OSAC)
- [ ] Other (please specify) _____
- [ ] ⊗ Not sure
- [ ] ⊗ None of the above

Display This Question:

If In choosing content for your laboratory's DNA analyst training program, did your laboratory follo... != Not sure

And In choosing content for your laboratory's DNA analyst training program, did your laboratory follo... != None of the above

Carry Forward Selected Choices from "In choosing content for your laboratory's DNA analyst training program, did your laboratory follow recommendations from any of the following groups? (Select all that apply)"

Q7.5 How adequate are the documents provided by the groups you selected previously for guiding training?

	Extremely inadequate	Somewhat inadequate	Neither adequate nor inadequate	Somewhat adequate	Extremely adequate	Not sure	Not applicable
FBI Quality Assurance Standards (QAS)	○	○	○	○	○	○	○
International Organization for Standardization (ISO)	○	○	○	○	○	○	○
International Society for Forensic Genetics (ISFG)	○	○	○	○	○	○	○
Scientific Working Group on DNA Analysis Methods (SWGDAM)	○	○	○	○	○	○	○
The Organization of Scientific Area Committees for Forensic Science (OSAC)	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○
⊗ Not sure	○	○	○	○	○	○	○
⊗ None of the above	○	○	○	○	○	○	○

Q7.6 Please elaborate on your views of the adequacies (or not) of the training documents that your laboratory used to guide training.

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_____

Page Break

Q7.7 How long does it usually take a DNA analyst to complete their training at your agency?

- 0-3 months
- 4-6 months
- 7-9 months
- 10-12 months
- >12 months
- Not sure

Q7.8 Would you like to see more national training efforts similar to programs offered by the National Forensic Science Technology Center (NFSTC)?

- Yes
- No
- Not sure
- Do not know what the NFSTC offers

Q7.9 Who provides training and continuing education to DNA analysts at your agency? (Select all that apply)

- [ ] Designated training coordinator (internal to agency)
- [ ] Training team (internal to agency)
- [ ] Occasional trainers (e.g., external speakers or vendors)
- [ ] Other (please specify) _____
- [ ] ⊗ Not sure
- [ ] ⊗ Not applicable

Display This Question:

If Who provides training and continuing education to DNA analysts at your agency? (Select all that a... = Designated training coordinator (internal to agency)

Q7.10 What percent of your **designated training coordinator's** time is dedicated to training activities?

	None 0 10 20 30 40 50 60 70 80 90 100 All
% of time spent on training activities	

Display This Question:

If Who provides training and continuing education to DNA analysts at your agency? (Select all that a... = Training team (internal to agency)

Q7.11
Excluding any designated training coordinator, approximately how many **Full Time Equivalent positions** in your **training team** are dedicated to supporting training and education?

For the purpose of this survey, a **Full Time Equivalent (FTE) position** is defined as equal to

a *40 hour full-time working week*. So, if you have two team members working as a training team to provide training and education, and each team member spends half of their time on training and education activities, you have 1 FTE team member dedicated to training and education activities.

- ○ < 0.5
- ○ 0.5
- ○ 1
- ○ 1.5
- ○ 2
- ○ 2.5
- ○ 3
- ○ 3.5
- ○ 4
- ○ 4.5
- ○ 5 +

Display This Question:

If Who provides training and continuing education to DNA analysts at your agency? (Select all that a... = Occasional trainers (e.g., external speakers or vendors)

Q7.12
On average, how many times *per year* does an **occasional trainer** come to your agency to provide training to DNA analysts?

- 1 or 2 times
- 3-5 times
- 6-10 times
- >10 times
- Not sure
- Not applicable

Display This Question:

If Who provides training and continuing education to DNA analysts at your agency? (Select all that a... != Not sure

And Who provides training and continuing education to DNA analysts at your agency? (Select all that a... != Not applicable

Carry Forward Selected Choices from "Who provides training and continuing education to DNA analysts at your agency? (Select all that apply)"

Q7.13 How were those who provide training and continuing education for DNA analysts in your agency selected for their role? (Select all that apply for each factor contributing to trainer selection)

	Opt in/ volunteer	Word of mouth/ recommendation	Relevant professional/ technical experience	Relevant training experience	Capacity/ availability	Best fitting role for the person within the agency	Not sure	Not applicable
Designated training coordinator (internal to agency)	☐	☐	☐	☐	☐	☐	☐	☐
Training team (internal to agency)	☐	☐	☐	☐	☐	☐	☐	☐
Occasional trainers (e.g., external speakers or vendors)	☐	☐	☐	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐	☐	☐	☐
⊗ Not sure	☐	☐	☐	☐	☐	☐	☐	☐
⊗ Not applicable	☐	☐	☐	☐	☐	☐	☐	☐

Display This Question:

If Who provides training and continuing education to DNA analysts at your agency? (Select all that a... != Not sure

And Who provides training and continuing education to DNA analysts at your agency? (Select all that a... != Not applicable

Carry Forward Selected Choices from "Who provides training and continuing education to DNA analysts at your agency? (Select all that apply)"

Q7.14 Have those who provide training and continuing education for DNA analysts in your agency completed any training on **how to train others**?

	Yes	No	Not sure	Not applicable
Designated training coordinator (internal to agency)	○	○	○	○
Training team (internal to agency)	○	○	○	○
Occasional trainers (e.g., external speakers or vendors)	○	○	○	○
Other (please specify)	○	○	○	○
⊗ Not sure	○	○	○	○
⊗ Not applicable	○	○	○	○

End of Block: Internal Training Opportunities

Start of Block: External Training Opportunities

Page Break

Q8.1 Does your agency provide a budget to offer DNA analysts training from outside your organization (e.g., to attend conferences, workshops, meetings, etc.)?

- ○ Yes
- ○ No
- ○ Not sure

Display This Question:

If Does your agency provide a budget to offer DNA analysts training from outside your organization (... != Not sure

Q8.2 How adequate is the budgeted amount (even if $0)?

- ○ Extremely adequate
- ○ Somewhat adequate
- ○ Somewhat inadequate
- ○ Extremely inadequate
- ○ Not sure

Page Break

Q8.3 Does your agency rely on external grants to provide DNA analysts training from outside your organization?

- ○ Yes
- ○ No
- ○ Not sure

Display This Question:

If Does your agency rely on external grants to provide DNA analysts training from outside your organ... = Yes

Q8.4 Please specify the source(s) of the external grants that your agency relies on. (Select all that apply)

- ☐ State Coverdell Funds
- ☐ National Institute of Justice (NIJ) / Bureau of Justice Assistance (BJA)
- ☐ National Institute of Standards and Technology (NIST)
- ☐ Capacity Enhancement for Backlog Reduction (CEBR) grants
- ☐ Other (please specify) _____

Page Break

Q8.5 What percentage of DNA analysts in your laboratory attend training external to your organization each year?

	0 10 20 30 40 50 60 70 80 90 100
% of DNA analysts who attend external training each year	

Q8.6 How is information from external training opportunities shared with others in your agency?

	Always	Often	Sometimes	Never
Report to supervisor	○	○	○	○
Presentation to colleagues	○	○	○	○
Written summary	○	○	○	○
Other (please specify)	○	○	○	○

Page Break

Q8.7 Do DNA analysts at your agency have access to peer-reviewed publications (e.g., journals, conference proceedings)?

- Yes
- No
- Not sure

Q8.8 How adequate is the budget to provide DNA analysts with access to peer-reviewed publications (even if $0)?

- Extremely adequate
- Somewhat adequate
- Somewhat inadequate
- Extremely inadequate
- Not sure

Q8.9 Does your agency run a "journal club" or similar for DNA analysts?

Note: a journal club is typically an informal meeting to discuss peer-reviewed journal articles, book chapters, or conference proceedings.

- Yes
- No
- Not sure

Q8.10 Are there any incentives or requirements for DNA analysts in your agency to read peer-reviewed publications? (Select all that apply)

- [ ] Yes - Accreditation
- [ ] Yes - Promotion
- [ ] Yes - Remuneration
- [ ] No
- [ ] Other (please specify) _____
- [ ] ⊗ Not sure
- [ ] ⊗ Not applicable

Q8.11 If your agency had unlimited resources to enhance the training and continuing education of DNA analysts in your laboratory, what would be your TOP TWO priorities?

- [ ] Funding for external conferences
- [ ] Access to peer-reviewed publications
- [ ] A dedicated training coordinator
- [ ] An expanded training team
- [ ] Funding for occasional training (e.g., from vendors)
- [ ] Better training and education materials
- [ ] My agency already has all the training and education resources needed
- [ ] Other (please specify) _____

End of Block: External Training Opportunities

Start of Block: Stakeholder engagement

Page Break

Q9.1 The final section of this survey relates to stakeholder engagement.

Q9.2 Which stakeholder groups does your laboratory engage with throughout the process of a DNA examination? (Select all groups and stages that apply)

	Submission of evidence	Processing of evidence	Reporting results	Pre-trial	Trial	Post-trial	Never
Law enforcement	☐	☐	☐	☐	☐	☐	☐
Prosecution	☐	☐	☐	☐	☐	☐	☐
Defense	☐	☐	☐	☐	☐	☐	☐
Judge	☐	☐	☐	☐	☐	☐	☐
Defendant	☐	☐	☐	☐	☐	☐	☐
Complainant	☐	☐	☐	☐	☐	☐	☐
Other FSSPs	☐	☐	☐	☐	☐	☐	☐

Q9.3 How important is communication between your laboratory and the stakeholders:

	Extremely important	Very important	Moderately important	Slightly important	Not at all important	Not applicable
When evidence/items are received by the laboratory for DNA processing?	○	○	○	○	○	○
During the processing of evidence/items?	○	○	○	○	○	○
When reporting results?	○	○	○	○	○	○
In preparing for trial (i.e., pre-trial)?	○	○	○	○	○	○
During the trial?	○	○	○	○	○	○
At the conclusion of a trial? (i.e., post-trial)	○	○	○	○	○	○

Page Break

Q9.4 How important is communication between your laboratory and stakeholders about the following types of information when evidence/items are **received by the laboratory** for DNA processing? Please rank in order of importance with 1 being the most important.

Note: click and drag each option to move into order of importance.
_____ Information about probative items
_____ Information about the number of items
_____ Information about case prioritization (rush, trial status, etc.)
_____ Information about the case scenario
_____ Information about the crime scene

Q9.5 How important is communication between your laboratory and stakeholders about the following types of information **during the processing of** DNA evidence? Please rank in order of importance with 1 being the most important.

Note: click and drag each option to move into order of importance.

_____ Information about DNA standards
_____ Information about CODIS eligibility
_____ Information about additional items and/or rounds of DNA testing

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Q9.6 How important is communication between your laboratory and stakeholders about the following types of information **after the processing of** DNA evidence? Please rank in order of importance with 1 being the most important.

Note: click and drag each option to move into order of importance.

_____ Information about CODIS confirmation standards
_____ Information about case discovery
_____ Information about pre-trial hearings
_____ Information about pre-trial interviews
_____ Information about the trial

Page Break

Q9.7 How satisfied are you with the communication between your laboratory and the stakeholders at each phase of the case?

	Extremely satisfied	Slightly satisfied	Neither satisfied nor dissatisfied	Slightly dissatisfied	Extremely dissatisfied	Not applicable
When evidence/items are received by the laboratory for DNA processing	○	○	○	○	○	○
During the processing of evidence	○	○	○	○	○	○
When reporting of results	○	○	○	○	○	○
In preparing for trial (i.e., pre-trial)	○	○	○	○	○	○
During the trial	○	○	○	○	○	○
At the conclusion of a trial (i.e., post-trial)	○	○	○	○	○	○

Q9.8 What mechanisms are in place for stakeholders to access information from your laboratory? (Select all that apply)

- [ ] Phone
- [ ] Email
- [ ] Website
- [ ] Laboratory director
- [ ] DNA technical leader
- [ ] Case manager
- [ ] Report
- [ ] Site visit
- [ ] Other (please specify) _____

Q9.9 How important is it for your laboratory to communicate with stakeholders regarding quality incidents such as contamination, sample loss, analyst error, changed procedure, misconduct, or negligence?

- ○ Extremely important
- ○ Very important
- ○ Moderately important
- ○ Slightly important
- ○ Not at all important
- ○ Not applicable

Q9.10 How important is it for your laboratory to communicate with stakeholders regarding the following quality incidents? Please rank in order of importance with 1 being the most important.

Note: click and drag each option to move into order of importance.

_____ Contamination
_____ Sample loss
_____ Analyst error
_____ Changed procedure
_____ Misconduct
_____ Negligence

Q9.11 What resources would improve communication between your laboratory and the stakeholder? (Select all that apply)

- ☐ Glossary
- ☐ Training
- ☐ Technology solutions, software packages, RMS communication pathways/interfaces
- ☐ Web resources/how-to guides
- ☐ Informational bulletins
- ☐ ⊗ Other (please specify) _____

Page Break

End of Block: Stakeholder engagement

Start of Block: Feedback

Q10.1 If you wish to provide any feedback or additional comments about this survey, please use the box below or email nikola.osborne@nist.gov

Click next to complete the survey.

_____

_____

_____

_____

_____

End of Block: Feedback