National Institute of Standards and Technology
U.S. Department of Commerce

Subcommittee on Procedures and Operations (SPO) Status Report
NCFS Bylaws

NCFS Meeting #9, March 21, 2016

Section V: Commission Work Products

ADDED LANGUAGE:

- The Commission shall prepare Commission Work Products, which take two forms:
  1) "Recommendations to the Attorney General" (Recommendations)
  2) "Views of the Commission" (Views)
- Commission Work Products shall be submitted to the Commission Officials no later than **21 calendar days** in advance of the meeting where the Commission Work Product is to be presented and voted on.

PREVIOUS LANGUAGE:

- Work Products may include **policy proposals, directive recommendations, or views documents.**
- Commission Work Products shall be submitted to the Commission Officials no later than **[15/14]** calendar days in advance of the meeting where the Commission Work Product is to be presented and voted on.
- **Removed: Commission Work Products can also be developed by Commission staff.**

Section VI: Meeting Procedures
B. Quorum

ADDED LANGUAGE:

For the purposes of conducting a meeting and voting on Commission Business, **more than seventy-five percent of regular members must be participating in the meeting to establish** a quorum (including remote participants)

[voting quorum for Commission Work Products moved to Section VII: Voting]

PREVIOUS LANGUAGE:

For the purposes of conducting a meeting and voting on Commission Business, a quorum **shall consist of a simple majority of Commissioners,** (including **proxies and** remote participants). For the purposes of voting on a Commission Work Product, a quorum shall consist of a majority of regular members, including proxies and remote participants.

Section VII: Voting

A. Subcommittee Work Products

NEW SUBSECTION:

Commission Work Products developed by a Subcommittee must be approved by that Subcommittee by consensus vote in the affirmative prior to presenting the Commission Work Product to the full Commission. The Co-Chairs of the Subcommittee that developed the Commission Work Product shall determine the number of votes necessary to achieve Subcommittee consensus, using a simple majority at a minimum. The Subcommittee Co-Chairs should record all votes and the manner in which the votes were collected.

Section IX: Subcommittees, B: Other Subcommittees, 2. Membership

REMOVED: A two-thirds majority of all Subcommittee members must vote in the affirmative to approve a Commission Work Product and refer the matter to the full Commission. Subcommittee members must vote in the affirmative, negative, or abstain. Abstentions will not be counted toward the required two-third affirmative vote, [but will be counted among the total number of voting members].

Section VII: Voting

B. Commission Work Products

ADDED LANGUAGE:

After a quorum is established, a two-thirds majority of regular members (to include proxies and remote participants) must vote in the affirmative **in order to adopt a work product.** Abstentions **are included in the required quorum, but** will not be counted toward the required two-third **majority** affirmative vote. Any proposal **to make minor editorial** amendments to a Commission Work Project **prior to a vote to adopt a final Commission Work Product** shall be voted on in the same manner.

PREVIOUS LANGUAGE:

A two-thirds majority of **present** regular members (including proxies and remote participants) must vote in the **affirmative, negative, or abstain**. Abstentions will not be counted toward the required two-third affirmative vote, **[but will be counted among the total number of voting members].** Any proposal to amend a Commission Work Project **after presentation to the full Commission shall be voted on in the same manner, and shall require a two-thirds majority of present regular members (including proxies and remote participants) to be adopted. It is not necessary for an amended Commission Work Product to be returned to the presenting Subcommittee for approval prior to the Commission vote.**

Section VII: Voting
C. Commission Business

ADDED LANGUAGE:

Votes related to Commission Business can be called by a Vice-Chair on an *ad hoc* basis and do not require written documentation or **14 calendar day** advance notice. Once a quorum is established, a simple majority of **voting** Commissioners (including proxies, remote participants, **and *ex officio* members**) is required for the passage of votes associated with Commission Business.

PREVIOUS LANGUAGE:

Votes related to Commission Business can be called by a Vice-Chair on an *ad hoc* basis and do not require written documentation or **fifteen-day** advance notice. Once a quorum **for the purposes of voting has been** established, a simple majority of **present** Commissioners (including proxies and remote participants) is required for the passage of votes associated with Commission Business.

Section IX: Subcommittees

A. Subcommittee on Procedures and Operations

ADDED LANGUAGE:

The SPO will provide support and counsel to the Co-Chairs/Vice-Chairs on administrative work and/or preparatory work raised by Commissioners or Commission Officials, including but not limited to: (1) the preparation of Commission meeting agendas and topics; (2) the drafting or revision of NCFS Guidance Documents designed to assist Commissioners in the performance of their duties; (3) the establishment, dissolution, and scope of other Subcommittees; (4) any revisions of the Commission bylaws; **and (5) make non-substantive revisions to reconcile adopted Commission work product documents**.

Section IX: Subcommittees
B. Other Subcommittees, 1. Co-Chairs

ADDED LANGUAGE:

The Vice-Chairs, in consultation with the SPO, shall select two Commissioners to serve as Co-Chairs of each Subcommittee. Subcommittee Co-Chairs shall **confirm that they have the time to commit to, and shall** be responsible for managing the work of the Subcommittee, **including** conducting Subcommittee meetings, overseeing the adjudication of public comments, and reporting to the Commission on the status of Commission Work Products under development by the Subcommittee. Co-Chairs should not act unilaterally of one another. **On an annual basis, Commission Officials shall confer with each Subcommittee Co-Chair to confirm his or her continuing availability and interest in serving as a Subcommittee Co-Chair.**

NIST
National Institute of Standards and Technology
U.S. Department of Commerce

Subcommittee on Procedures and Operations (SPO) Status Report

Work Product Development Process

NCFS Meeting #9, March 21, 2016

Work Product Development Process
ESTABLISHMENT OF PRIORITIES:

The Commission Vice-Chairs will designate or establish a subcommittee to research the issue and develop a work product. Potential work products include:

ADDED LANGUAGE:

Potential work products include: **(a) "Recommendations to the Attorney General," which propose specific acts that the Attorney General should take to further the goals of the Commission; or (b) "Views of the Commission," which reflect the collective view of the Commissioners but do not request specific action by the Attorney General.**

PREVIOUS LANGUAGE:

(a) policy proposals, (b) directive recommendations (strategic implementation) or (c) views documents

Work Product Development Process
ESTABLISHMENT OF PRIORITIES (continued):

ADDED LANGUAGE:

- The abstract **and any status updates** should **be included in the Subcommittee Report, and should** include the following elements: a statement of the issue; a high level synopsis of the direction the Subcommittee plans to undertake, **whether the work product is intended to be a View or a Recommendation**; and notionally, what a Recommendation might entail.

PREVIOUS LANGUAGE:

- The abstract should include the following elements: a statement of the issue; a high level synopsis of the direction the Subcommittee plans to undertake, **to include the kind of work product to be developed**; and notionally, what a Recommendation might entail.

Work Product Development Process
INITIAL DRAFT WORK PRODUCTS:

ADDED LANGUAGE:

1) Once an initial draft work product has been finalized (including proper formatting), it should become a consensus product of the Subcommittee **before it is presented to the full Commission. A consensus must reflect at least** a simple majority affirmative vote of all Subcommittee members. **The Co-Chairs of the Subcommittee that developed the Work Product shall determine the number of votes necessary to obtain this consensus.**

2) Subcommittee Co-Chairs will send a properly formatted initial draft work product to the Commission staff no less than 21 **calendar** days in advance of the meeting where the initial draft work product is to be introduced to ensure all administrative requirements have been met.

Work Product Development Process
INITIAL DRAFT WORK PRODUCTS (continued):

ADDED LANGUAGE:

3) Initial draft work products will be posted **at least 14 calendar days in advance of the meeting** to allow for the opening of a 30 **calendar** day public comment period. **Draft work products will be available on the Commission website and regulations.gov**. Public comments will be received through regulations.gov.

PREVIOUS LANGUAGE:

3) **Fifteen days in advance of the meeting**, initial draft work products will be posted **on the NCFS website under "Draft Work Products"** to allow for the opening of a 30 day public comment period **15 days in advance of a meeting.**

Work Product Development Process
FINAL DRAFT WORK PRODUCTS:

ADDED LANGUAGE:

1) The goal of developing work products is to obtain consensus of the Subcommittee. If it is determined that the initial draft work product does not require an additional public comment period, it will be put to a vote by the Subcommittee. **Consensus of Subcommittee members is required and may not be less than a simple majority. The Subcommittee Co-Chairs must determine the number of votes required.** In order for an initial draft work product to become a final draft work product of the Subcommittee, it ~~**must**~~ **is recommended that the Subcommittee** obtain a 2/3 majority affirmative vote of Subcommittee members.

Work Product Development Process
FINAL DRAFT WORK PRODUCTS:

ADDED LANGUAGE:

3) ~~**Fifteen**~~ **Fourteen** calendar days in advance of the Commission meeting, the final draft work product will be posted to the ~~**NCFS**~~ **Commission** website for informational purposes - regulations.gov will not be open for public comment on final draft work products.

NATIONAL COMMISSION ON FORENSIC SCIENCE

National Institute of Standards and Technology
U.S. Department of Commerce

RECONCILIATION PROPOSAL

Subcommittee
Subcommittee on Procedures and Operations

Type of Proposal
The Subcommittee on Procedures and Operations offers what we believe to be a non-substantive change to the Policy Recommendation document on "Universal Accreditation" adopted by the Commission on April 30, 2015.

Recommendation
That we eliminate the definition of "forensic science service provider," in footnote 1 of the "Universal Accreditation" document in favor of the definition of "forensic science service provider" found in views document defining terms and containing a separate definition for "forensic science practitioner" which is incorporated by reference into the definition of "forensic science service provider."

Background

Universal Accreditation

On April 30, 2015 the Commission voted to adopt a policy recommendation entitled "Universal Accreditation." The Universal Accreditation document was advanced by the Accreditation and Proficiency Testing Subcommittee. In its Recommendation it referred to "forensic science service providers" and defined that term in footnote 1. The definition was as follows:

> [1] For the purposes of this document, a forensic science service provider is "a person or entity that 1) recognizes, collects, analyzes, or interprets physical evidence, and (2) issues test or examination results, provides laboratory reports, or offers interpretations, conclusions, or opinions through testimony with respect to the analysis of such evidence." Providers who render opinions based only on the review of data from examinations conducted by other entities, or on an evaluation of procedures, tests, or methods used by other entities are not included in this definition. Examples of persons or entities that would be included or excluded from this definition can be found in Appendix A. This document does not address forensic medicine service providers.

Defining Forensic Science and Related Terms

On May 1, 2015, the Commission adopted a views document submitted by the Interim Solutions Subcommittee entitled "Defining Forensic Science and Related Terms." In its Statement of the Issue this document provided the following definitions relevant here:

> **"FORENSIC SCIENCE SERVICE PROVIDER**—A forensic science agency or forensic science practitioner providing forensic science services."
>
> "**FORENSIC SCIENCE PRACTITIONER**—An individual who (1) applies scientific or technical practices to the recognition, collection, analysis, or interpretation of evidence[1] for criminal and civil law or regulatory issues, and (2) issues test results, provides reports, or provides interpretations, conclusions, or opinions through testimony with respect to such evidence."

Explanation of the Proposed Change

In both documents a forensic science service provider is defined as an individual ("forensic science practitioner" in one and a "person" in the other) or an "agency" or "entity" that (1) recognizes, collects, analyzes or interprets evidence (or "physical evidence") and (2) issues "test results" (test or examination results), provides "reports" ("laboratory reports"), or provides ("offers") interpretations, conclusions or opinions with respect to such evidence ("with respect to the analysis of such evidence"). It is believed that multiple definitions of "forensic science service provider" may result in confusing the intent of the accreditation document.

The differences between the fundamental definitions are stylistic only and not a matter of substance. Therefore, referring to a "forensic science service provider" in the universal accreditation document without definition should not create any inconsistency. However, the focus of the policy recommendation advocating for universal accreditation is aimed at "agencies" where actual testing or examination occurs. As a result, the universal accreditation document contains a definitional exclusion for those "practitioners" who do not conduct tests or "examinations" but rather rely on the work of other practitioners or agencies to perform such work. For that reason and to avoid any change in substance in the universal accreditation document footnote 1 should continue to contain the definitional exclusion. For the sake of clarity and despite the fact that "forensic medicine service providers" [FMSPs] are defined separately in the definitions document, footnote 1 should continue to contain the exclusionary reference to FMSPs.

Finally, dropping the definition of FSSP in in footnote 1 of the universal accreditation document in favor of the definition found in the views document eliminates the reference to "interprets physical evidence" in favor of a broader "interpretation of evidence." By not limiting the universal accreditation recommendation only to examinations of physical evidence we incorporate the field of digital evidence which has been added to our charter.

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[1] Note that Universal Accreditation references interpretation of physical evidence while the document Defining Forensic Science and Related Terms is about interpretation of evidence only. At the time these work products were in development the Commission's charter excluded consideration of the analysis of digital or electronic forms of evidence. At the time these work products were adopted the Commission's charter had just recently been amended to include those forms of analysis and so the broader reference to "interpretation of evidence" would seem to embrace that discipline, while "physical evidence" may not.

The only changes proposed to reconcile the two documents are found in the document on universal accreditation and are noted on the attached proposed revised document.

Cross References

On January 30, 2015 the Commission adopted a policy recommendation document relating to the Accreditation of Medicolegal Death Investigation Offices.

NATIONAL COMMISSION ON FORENSIC SCIENCE

NIST National Institute of Standards and Technology U.S. Department of Commerce

Proposed Revision

Universal Accreditation

Subcommittee

Accreditation and Proficiency Testing

Commission Action

On April 10, 2015, the Commission voted to adopt this recommendation with a more than two-thirds majority (96% affirmative) vote.

Type of Work Product

Policy Recommendation.

Recommendation

It is recommended that all forensic science service providers (FSSPs)[1] become accredited.

Statement of the Issue

The 2009 National Research Council (NRC) report on forensic science set forth 13 recommendations for FSSPs.[2] Relevant among these were best practices, standardization, and improving the quality of services, including universal accreditation of FSSPs. Many FSSPs currently providing services in furtherance of criminal, civil, regulatory, or administrative proceedings in the United States are not accredited to any national or international standard. To achieve universal accreditation, the Commission recommends that the Attorney General take several actions to promote and enforce universal accreditation.

Background

Accreditation programs specifically for FSSPs have been available in the United States since approximately 1982. Accreditation has been voluntary in many jurisdictions, and universal accreditation has not been required or achieved. Several states[3] have passed legislation mandating accreditation and other forms of oversight of FSSPs. The legislation and oversight requirements vary greatly from state to state.

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[1] ~~For the purposes of this document, a forensic science service provider is "a person or entity that 1) recognizes, collects, analyzes, or interprets physical evidence, and (2) issues test or examination results, provides laboratory reports, or offers interpretations, conclusions, or opinions through testimony with respect to the analysis of such evidence."~~ Providers who render opinions based only on the review of data from examinations conducted by other entities, or on an evaluation of procedures, tests, or methods used by other entities are not included in this definition. Examples of persons or entities that would be included or excluded from this definition can be found in Appendix A. This document does not address forensic -medicine service providers as defined in the views document on certain definitions adopted by the Commission on April 10, 2015.

[2] National Research Council of the National Academies. *Strengthening Forensic Science in the United States: A Path Forward*, Washington, DC, 2009.

[3] As of January 7, 2015, 10 states have passed legislation. Information found on http://www.ncsl.org/research/civil-and-criminal-

justice/dna-database-search-by-policy.aspx.

Benefits of Accreditation

Accreditation helps to ensure both ongoing compliance to industry standards and continual improvement of a FSSP's operations. Accreditation assesses a FSSP's capacity to generate and interpret results. Accreditation criteria are based on accepted industry standards and applicable international standards. Accreditation uses these criteria to assess the quality of the FSSP's management system by examining, among other things, staff competence, training, and continuing education; method validation; appropriateness of test methods; traceability of measurements and calibrations to national standards; suitability, calibration, and maintenance of test equipment; testing environment; documentation, sampling, and handling of test items; and quality assurance of data, including reporting results and proficiency tests. The accrediting body prepares the assessment report and monitors any remediation to ensure the appropriate corrective action(s) have been implemented before accreditation is granted. Accreditation also includes periodic surveillance by the accrediting body to ensure continued compliance with requirements. Failure to maintain these standards can result in the accrediting body suspending or revoking the accreditation of the FSSP.[4]

Universal accreditation will improve FSSP ongoing compliance with industry best practices, promote standardization, and improve the quality of services provided by FSSPs nationally.[5]

Challenges to Achieving Accreditation

A major challenge facing the forensic community is identifying the FSSPs. The NRC report noted that insufficient data exists on the number and expertise of forensic practitioners who are not employed in publically funded laboratories.[6] There are potentially thousands of FSSPs, predominately in law enforcement agencies, providing limited forensic science services. The majority of these providers are not accredited.

Although significant progress has been made in the accreditation of public and private FSSPs to ISO/IEC 17025, ISO/IEC 17020, and, ISO 15189 and supplemental forensic science standards by an accrediting body that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA), this voluntary accreditation has not resulted in universal accreditation. To improve the overall quality of forensic science, all entities performing forensic science testing, even on a part-time basis, must be included in universal accreditation.

This document acknowledges there are challenges to achieving universal accreditation including, but not limited to:

- There are specialty examinations that are valuable; however, they may be outside the scope of existing forensic science accreditation programs.
- There are research laboratories with equipment and expertise that may allow them to provide valuable services to the criminal justice system, but because the provision of such services is only a rare occurrence, they will have no incentive to secure accreditation for forensic testing.

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[4] For additional information, see *The Advantages of Being an Accredited Laboratory*, ILAC Publications, 2010.

[5] The recommendation that FSSPs be accredited is a policy one, meant to ensure an increase in overall quality and quality assurance. It is not meant to be used as a criterion for a threshold admissibility determination for a particular expert or conclusion. Those types of decisions are made pursuant to judicial standards applying the criteria enunciated in Daubert, Frye, FRE 702, and/or various state laws.

[6] National Research Council of the National Academies. *Strengthening Forensic Science in the United States: A Path Forward*, Washington, DC, 2009, 64.

- There are existing accrediting bodies that do not use ISO/IEC standards at this time, although they have been accepted within the community, and standards have been generated by professional organizations.
- There are existing accrediting bodies not recognized by ILAC, and this recognition will take time to achieve.
- Factors outside the control of the FSSP, such as the availability of assessors, subject matter experts, and parent agency resources/funding, may affect the ability of the FSSP to achieve or maintain accreditation within recommended timeframes.
- Compliance with government policies and regulations (e.g., purchasing, contracting, hiring, budget cycles) may also affect a FSSP's ability to meet a mandated timeline. In some enacted state statutes, certain FSSPs are not required to meet accreditation standards and may be excluded from oversight regulations.
- The establishment of the necessary quality management systems may require significant resources and may impact timeliness of services provided during implementation.
- FSSPs or their parent agencies may eliminate some or all services rather than seek accreditation, thus shifting additional caseload, testimony and travel to other FSSPs. This could impact backlogs, turnaround times, and operating costs, thereby adding to existing delays in the justice system.
- Forensic units, small municipalities, law enforcement agencies, entities with part-time practitioners, and private entities that provide forensic science services may misunderstand or misinterpret the applicability of universal accreditation to their organization. It may be necessary to conduct directed outreach through nongovernment organizations that support these entities to assist with educating the affected FSSPs, judicial system, and enforcement bodies.

Proposed Implementation Strategy

- The Attorney General shall direct all Department of Justice (DOJ) FSSPs to maintain their accreditation, and those FSSPs who are not yet accredited shall prepare and apply for accreditation within 5 years.
- The Attorney General shall direct DOJ FSSPs to use accrediting bodies that submit to and are in compliance with ISO/IEC 17011 and are a signatory to the ILAC MRA. Accreditation shall be to internationally recognized standards (at a minimum ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories; ISO/IEC 17020, General Criteria for the Operation of Various Types of Bodies Performing Inspection; and ISO 15189, Medical laboratories—Particular Requirements for Quality and Competence), including all appropriate supplemental standards.
- The Attorney General shall require that DOJ grant funding provided to non-DOJ FSSPs shall be granted only to those FSSPs who are accredited or are in the process of becoming accredited. In the future, any DOJ funding award shall include a special condition requiring that the agency's FSSPs be accredited.

- The Attorney General shall require that federal prosecutors, in cases in which they are in a position to request forensic testing, contract with accredited FSSPs. This provision does not apply to analyses conducted prior to the involvement of a federal prosecutor.
- The Attorney General should encourage, by all means possible, the universal accreditation of all non-DOJ FSSPs with any available enforcement mechanisms.

Appendix A

Examples of Forensic Science Service Providers

For the purposes of this document, a forensic science service provider is "a person or entity that 1) recognizes, collects, analyzes, or interprets physical or digital evidence, and (2) issues test or examination results, provides laboratory reports, or offers interpretations, conclusions, or opinions through testimony with respect to the analysis of such evidence." Providers who render opinions based only on the review of data from examinations conducted by other entities or on the review of procedures, tests, or methods used by other entities should not meet this definition. This document does not address forensic medicine service providers.

Examples of functions that would be included are below, whether in public or private practice. The list is not inclusive of all FSSPs.

1. Crime scene (e.g., blood pattern analysis, fire investigation, crime scene reconstruction)
2. Identification examinations (e.g., latent prints, ten prints, tire impressions)
3. Document examinations
4. Firearms/ballistics examinations
5. Toolmark examinations
6. Digital and multimedia examinations
7. Drug or chemical identifications
8. Biological examinations
9. Trace evidence examinations

Examples of functions that would be excluded are below, whether in public or private practice. The list is not inclusive of all functions that would be excluded.

1. Opinions/evaluations of the appropriateness or use of a particular statistical, probabilistic, or mathematical statement or error rate calculations.
2. Opinions/evaluations of the validity or reliability of a forensic science discipline, method, or technique.
3. Opinions/evaluations of the validity or reliability of research supporting a forensic science discipline, method, or technique.
4. Opinions/evaluations of results, methods, or techniques used in a forensic examination.
5. Examinations for which there is no forensic science accreditation program.

Appendix B Certification vs. Accreditation

Accreditation is an independent third-party assessment of a FSSP's (which can consist of one or many practitioners) quality, administrative, and technical systems. Accreditation uses specific criteria and procedures based upon accepted standards to ensure the quality of the FSSP's management system by examining staff competence, training, and continuing education; method validation; appropriateness of test methods; traceability of measurements and calibrations to national standards; suitability, calibration, and maintenance of test equipment; testing environment; documentation, sampling, and handling of test items; and quality assurance of data, including reporting results and proficiency tests.

Professional certification,[7] which is not addressed in this document, is the recognition by an independent body that an **individual** has acquired and demonstrated specialized knowledge, skills, and abilities in the standard practices necessary to execute the duties of his or her profession. Certification programs can include: written and/or practical testing; an evaluation of education, training, and practical experience; requirements for continuing education; and adherence to a code of ethics. Certification does **not** assess the quality, administrative, and technical systems used by the individual in his or her work. It also does **not** assess methods, procedures, testimony, reports, documentation, equipment, validation, measurement uncertainty, facilities, evidence handling, security, or safety procedures used by the individual.

Accreditation and certification are very different programs that assess and evaluate different aspects of forensic practitioners and FSSPs. They are not interchangeable, but both are necessary to strengthen forensic science.

[7] Certification, for purposes of this document, does not include certification of an instrument, equipment, or the company manufacturing the equipment.

Survey of ASCLD Members on Contextual Bias in Forensic Science

Human Factors Subcommittee

National Commission on Forensic Science

Methodology

- Target Population
  - The American Society of Crime Laboratory Directors (ASCLD), a nonprofit professional society of crime laboratory directors and forensic science managers
- With permission of ASCLD Board, Laura Sudcamp invited all ASCLD members to take the online survey
- 174 of 488 members (36%) completed survey
  - Some of the non-respondents either did not receive or did not open invitation email
    - We could confirm that 232 opened the invitation and 159 of those (69%) completed the survey.
- Participants responded to multiple-choice and open-ended questions; many commented at length.

What is your position or role in your laboratory (please check all that apply)?

Answer	Response	%
Laboratory Director	83	53%
Supervisor or Section Head	47	30%
Bench Analyst	7	4%
Crime Scene Investigator	3	2%
Quality Assurance Manager	19	12%
Other	15	9%

Which type of agency or entity operates your laboratory?

Answer	Response	%
A law enforcement agency (e.g., a police department or district attorneys office)	106	68%
A military, intelligence, or national security agency	1	1%
Another type of government agency (e.g., a state department of forensic science)	36	23%
A non-government entity, such as a private corporation	10	6%
Other	4	3%
Total	157	100%

Opinions on Contextual Bias in Forensic Science

- Is it an important a problem?
- Has it received too much or too little attention?
- How vulnerable are analysts?
- Can bias occur without conscious awareness?
- Would blinding procedures be helpful?

In your opinion, how important a problem is contextual bias in forensic science?

#	Answer	Response	%
1	Not at all important	7	5%
2		13	9%
3		26	18%
4		35	24%
5		44	30%
6	Extremely important	23	16%
	Total	148	100%

Statistic	Value
Mean	4.11
Variance	1.87
Standard Deviation	1.37
Total Responses	148

Do you think the issue of contextual bias has received too much, too little, or about the right amount of attention in forensic science?

Answer	Response	%
Far too much	8	5%
Too Much	38	26%
About Right	62	42%
Too Little	37	25%
Far too Little	3	2%
Total	148	100%

How vulnerable do you think forensic scientists are to contextual bias when drawing conclusions from evidence that is ambiguous or difficult to evaluate?

#	Answer	Response	%
1	Not at all vulnerable	8	5%
2		40	27%
3		29	20%
4		44	30%
5		21	14%
6	Extremely vulnerable	6	4%
	Total	148	100%

Statistic	Value
Mean	3.32
Variance	1.62
Standard Deviation	1.27
Total Responses	148

Do you believe that bias can occur without the examiner being consciously aware of it?

#	Answer	Response	%
1	Yes	136	92%
2	No	12	8%
	Total	148	100%

One way to reduce contextual bias is to use "blinding" procedures that prevent analysts from being exposed to potentially biasing information that they do not need to make a scientific assessment. Do you think blinding procedures are (or would be) helpful in forensic science?

Answer	Response	%
Definitely not	20	14%
Probably not	33	23%
Maybe	46	32%
Probably yes	33	23%
Definitely yes	12	8%
Total	144	100%

Steps Taken to Address Contextual Bias

- Training?
- Procedures
  - Case managers?
  - Blinding of analysts?
  - Sequential unmasking?
- How much analysts know (or can find out) about contextual background of case

Has your laboratory provided examiners with training on the issue of cognitive or contextual bias?

Answer	Response	%
Yes	92	64%
Not yet, but we plan to do so	16	11%
No	36	25%
Total	144	100%

Has your laboratory instituted any procedures designed to minimize or reduce the risk of bias?

Answer	Response	%
Yes	74	51%
Not yet, but we plan to do so	14	10%
No	57	39%
Total	145	100%

Have you implemented a [case manager system] in your laboratory?

Answer	Response	%
Yes	30	21%
No	114	79%
Total	144	100%

Have you adopted any blinding procedures in your laboratory?

Answer	Response	%
Yes	31	21%
Not yet, but we are considering it.	18	12%
No	96	66%
Total	145	100%

Do you have rules or procedures in your laboratory that limit what examiners can know or find out about a case when performing bench-level examinations of specific items of evidence (e.g., latent print or DNA comparisons)?

Answer	Response	%
Yes	14	10%
No	129	90%
Total	143	100%

In your laboratory, do examiners have access to police reports and other background information about the cases when performing bench-level examinations of specific items of evidence (e.g., fingerprint or DNA comparisons)?

Answer	Response	%
Yes, all have access to such materials	86	60%
Some have access and some do not	43	30%
No, none have access to such materials	14	10%
Total	143	100%

Do you allow examiners who are performing bench-level examinations of specific items of evidence to communicate directly with police officers and other officials about submitted evidence prior to the conclusion of the examination and analysis?

Answer	Response	%
Yes, all are allowed	126	88%
Some are allowed and some are not	12	8%
No, none are allowed	6	4%
Total	144	100%

Have you implemented “sequential unmasking” procedures in your laboratory?

Answer	Response	%
Yes	70	49%
No	73	51%
Total	143	100%

In which laboratory sections have you designed the sequence of workflow in order to reduce bias?

- DNA
- Latent print
- Firearms

Perceived problems with blinding

- Unnecessary
- Need for contextual information to decide what and how to test
- Difficulty of separating task-relevant and task-irrelevant contextual information

Perceived benefits of blinding

- Enhanced credibility
- Facilitates blind testing

National Commission on Forensic Sciences

Code of Professional Responsibility
March 22, 2016

Interim Solutions Subcommittee
Out for Public Comment Twice
Substantial Revision,
Adjudicated All Comments

NATIONAL COMMISSION ON FORENSIC SCIENCE
Directive Recommendation:
National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers

NIST National Institute of Standards and Technology U.S. Department of Commerce

Subcommittee

Interim Solutions

Type of Work Product

Directive Recommendation

Recommendation

The US Attorney General should require the forensic science service providers within the Department of Justice to adopt the National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers, that the Code be annually reviewed and signed by all forensic science and forensic medicine service providers, and that steps be defined to address violations.

Recommendation

The US Attorney General should strongly urge all forensic science and forensic medicine service providers, associated certification and accreditation bodies, and professional societies to adopt the National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers, and for their management systems to develop policies and procedures to enforce the standards embodied in this code.

Statement of Issue

The 2009 National Research Council of the National Academies report entitled *Strengthening Forensic Science in the United States: A Path Forward* ("NAS Report") recommended a national code of ethics for all forensic science disciplines and encouraged professional forensic

science societies to incorporate the national code into their own codes of professional responsibility and code of ethics. The NAS Report also recommended exploring mechanisms to enforce serious ethical violations.

In 2010, the Education, Ethics, and Terminology Inter-Agency Working Group (EETIWG) of the National Science and Technology Council's Subcommittee on Forensic Science developed a National Code of Ethics and Professional Responsibility for the Forensic Sciences (NCEPRFS). Further, the EETIWG recommended that all practitioners "who provide reports and expert opinion testimony with respect to forensic evidence in United States courts of law, adopt the NCEPRFS." Unfortunately, this recommendation was not acted upon and no NCEPRFS exists today.

Background

The EETIWG reviewed codes of ethics in use by forensic science organizations. While it noted the lack of a single code of ethics that covered all forensic disciplines, the working group identified four major categories addressed by every code of ethics it reviewed: 1) working within professional competence, 2) providing clear and objective testimony, 3) avoiding conflicts of interest, and 4) avoiding bias and influence, real or perceived.

The EETIWG found that the most broadly applicable code of ethics that would best serve as the NCEPRFS was the *ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists*. The working group found that the principles in this document were

appropriate to the work conducted in the federal forensic laboratories, and ultimately proposed that the ASCLD/LAB document be adopted as the NCEPRFS. The Interim Solutions Subcommittee of the National Commission on Forensic Sciences utilized this code as its starting point for a National Code of Professional Responsibility ("Code") for all forensic science and forensic medicine service providers. The subcommittee chose professional responsibility rather than ethics as the title because ethics is a much broader term referring to many issues beyond those directly associated with forensic science and forensic medicine service providers' professional responsibilities.

Perhaps the key element lacking from the proposed NCEPRFS was the acknowledgement and address of serious violations of professional conduct, as recommended in the NAS Report. Oversight and enforcement are critical to compliance.

THE CODE

The National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers

The National Code of Professional Responsibility ("Code") defines a framework for promoting integrity and respect for the scientific process among forensic science and forensic medicine service providers, both practitioners and agencies, including its managers, must meet requirements 1-15 enumerated below. Requirement 16 specifically refers to the responsibility of forensic science and forensic medicine management rather than individual practitioners.

1. Accurately represent relevant education, training, experience, and areas of expertise
2. Be honest and truthful in all professional affairs including not representing the work of others as one's own
3. Foster and pursue professional competency through such activities as training, proficiency testing, certification, and presentation and publication of research findings
4. Commit to continuous learning in relevant forensic disciplines and stay abreast of new findings, equipment, and techniques

5. Utilize scientifically validated methods and new technologies, while guarding against the use of unproven methods in casework and the misapplication of generally-accepted standards

6. Handle evidentiary materials to prevent tampering, adulteration, loss, or nonessential consumption of evidentiary materials

7. Avoid participation in any case in which there is a conflict of interest

8. Conduct independent, impartial, and objective examinations that are fair, unbiased, and fit-for-purpose

9. Make and retain contemporaneous, clear, complete, and accurate records of all examinations, tests, measurements, and conclusions, in sufficient detail to allow meaningful review and assessment by an independent professional proficient in the discipline

10. Ensure interpretations, opinions, and conclusions are supported by sufficient data and minimize influences and biases for or against any party

11. Render interpretations, opinions, or conclusions only when within the practitioner's proficiency or expertise

12. Prepare reports and testify using clear and straightforward terminology, clearly distinguishing data from interpretations, opinions, and conclusions and disclosing known limitations that are necessary to understand the significance of the findings

13. Reports and other records shall not be altered and information shall not be withheld for strategic or tactical advantage

14. Document and, if appropriate, inform management or quality assurance personnel of nonconformities and breaches of law or professional standards

15. Once a report is issued, communicate fully when requested with investigators, prosecutors, defense attorneys, and other experts, except when instructed that a legal privilege or law prevents disclosure

16. Appropriately inform affected recipients (either directly or through proper management channels) of all nonconformities or breaches of law or professional standards that adversely affects a previously issued report or testimony and make reasonable efforts to inform all relevant stakeholders, including affected professional and legal parties, victim(s) and defendant(s)

Nonconformities are any aspect of laboratory work that does not conform to its established procedures. An evaluation of the nonconformity risk is appropriate to deciding whether or not reporting is necessary

Implementation

The National Commission on Forensic Science recommends that the US Attorney General require all DOJ forensic science service providers to adopt the Code. The Commission also recommends that management systems develop policies and procedures to enforce the standards embodied in this code. Policies and procedures should describe or define a system whereby individuals are protected when reporting suspicious, unscrupulous, unethical, or criminal actions without punitive concerns. The Code must be annually reviewed and signed by all DOJ forensic science service providers.

In addition, there must be an effective process to report and correct nonconformities or breaches of law or ethical standards that adversely affects a previously issued report or testimony.

Scientific Inquiry and Research

Identifying and Evaluating Literature that Supports the Basic Principles of a Forensic Science Method or Forensic Science Discipline

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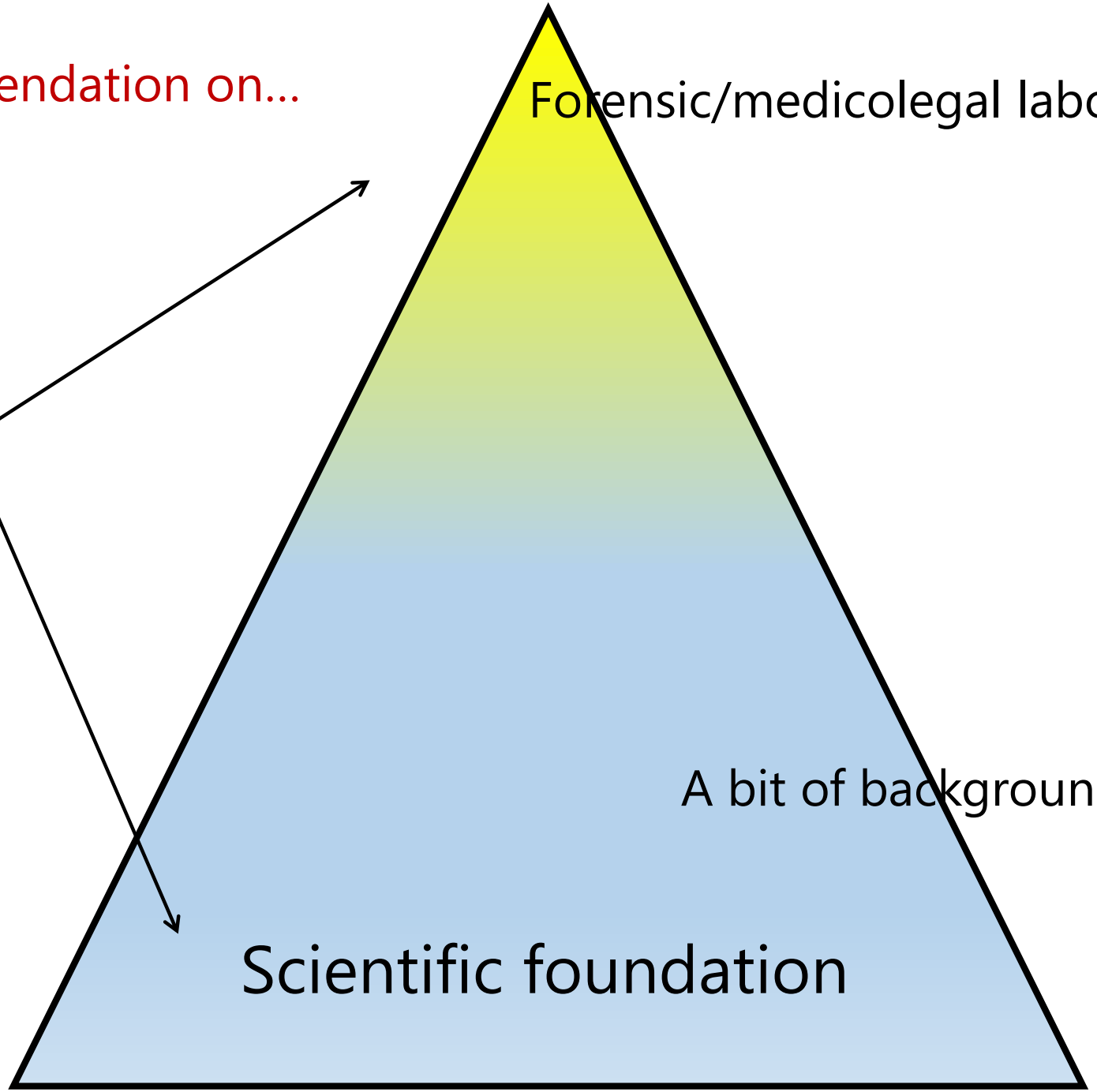
NATIONAL COMMISSION ON FORENSIC SCIENCE

National Institute of Standards and Techn
U.S. Department of Com

Fund Pilot Projects to Facilitate Translation for Research into Forensic Science Practice

Recommendation to Fund Projects for Post-Doctoral Research in Forensic Science Practice

Views and Recommendation on…



Humans discover fire

Laboratory use

Method validation and deployment

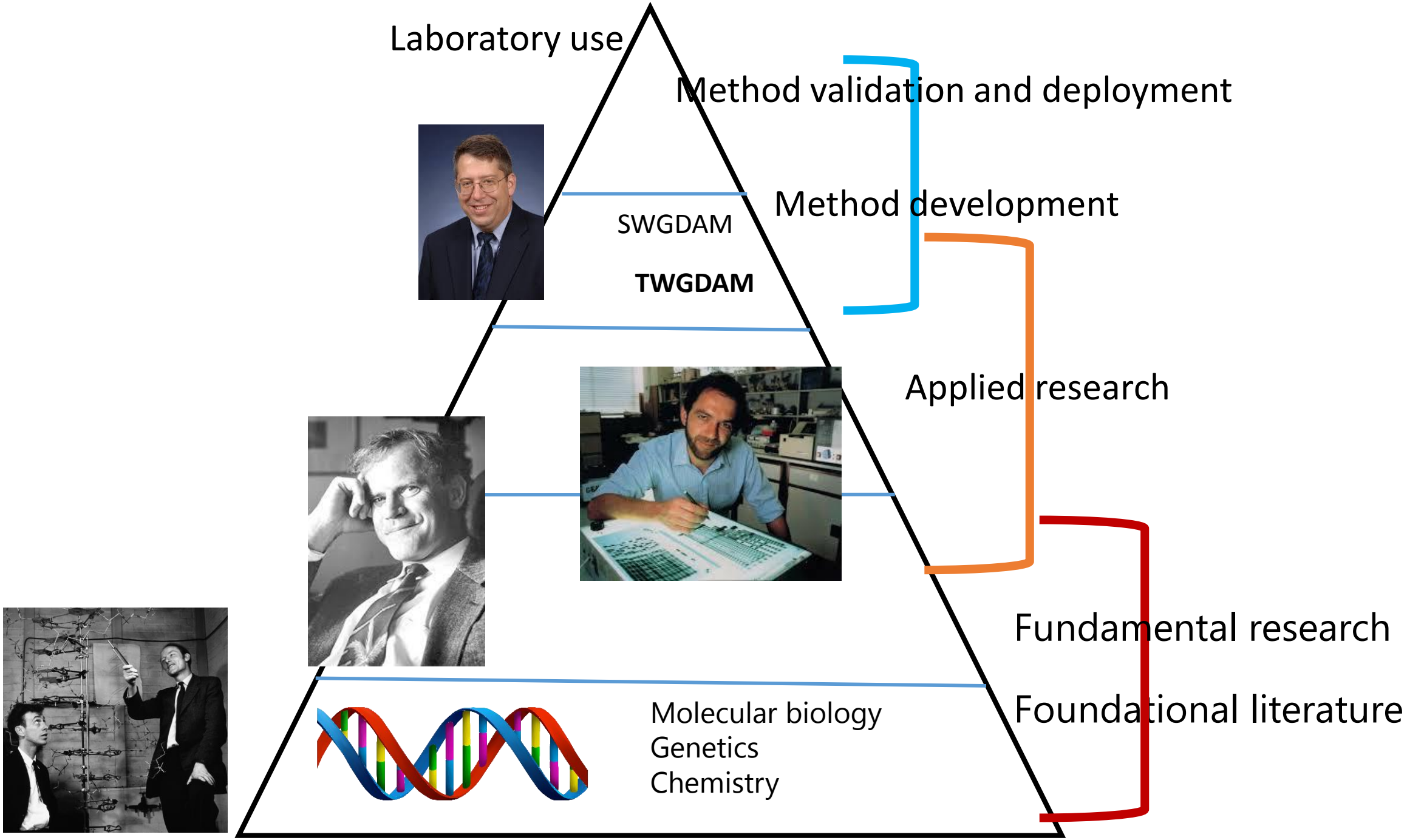
Standard
SOP…

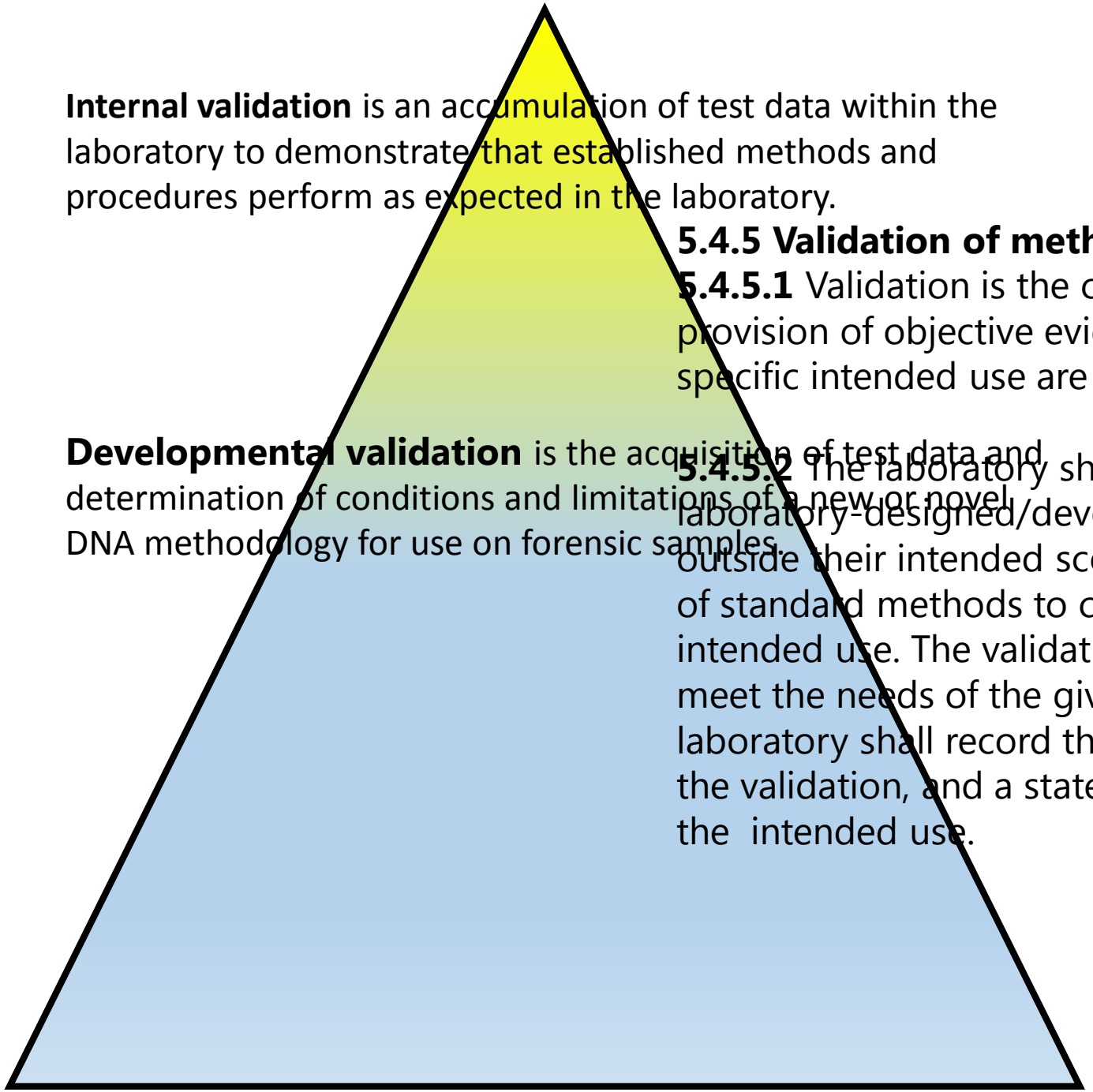
Method development

Applied research

Fundamental research
Foundational literature

Peer review
Replication
Falsifiability
Hypotheses…


Laboratory use
Method validation and deployment
SWGDAM
Method development
TWGDAM
Applied research
Fundamental research
Foundational literature
Molecular biology
Genetics
Chemistry



Internal validation is an accumulation of test data within the laboratory to demonstrate that established methods and procedures perform as expected in the laboratory.

Developmental validation is the acquisition of test data and determination of conditions and limitations of a new or novel DNA methodology for use on forensic samples.

5.4.5 Validation of methods

5.4.5.1 Validation is the confirmation by examination and the provision of objective evidence that the particular requirements for a specific intended use are fulfilled.

5.4.5.2 The laboratory shall validate non-standard methods, laboratory-designed/developed methods, standard methods used outside their intended scope, and amplifications and modifications of standard methods to confirm that the methods are fit for the intended use. The validation shall be as extensive as is necessary to meet the needs of the given application or field of application. The laboratory shall record the results obtained, the procedure used for the validation, and a statement as to whether the method is fit for the intended use.

NATIONAL COMMISSION ON FORENSIC SCIENCE

NIST National Institute of Standards and Technology U.S. Department of Commerce

Views of the Commission

Forensic Science Methodology Evaluation with Characterization of Capabilities and Limitations

Therefore, it is the view of the National Commission on Forensic Science that:

1) All forensic methodologies should be evaluated to characterize its capabilities and limitations to accurately and reliably answer a specific and clearly-defined forensic question.
2) The National Institute of Standards and Technology (NIST) should assume the role of independent scientific evaluator ~~scientific gatekeeper~~ within the justice system for this purpose.
3) Additional resources should be made available to support this new capacity.