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Document Title: Standard for Forensic Autosomal STR DNA Statistical Analyses

Comment #	Text Line # (s)	Document Section	Type of Comment E-Editorial T-Technical	Current Document Wording	Proposed Revision	Revision Justification	*For Working Group and Consensus Body use only, not to be completed by commenter.* **Final Resolution**
1	29-31	3.3	T	NOTE 1 The information might be the profile of an individual, or profiles of a set of individuals, who are assumed to have contributed DNA to the evidentiary item under a particular proposition, or it might simply be the assumption that a particular proposition is true.	The information might be the profile of an individual or a set of individuals assumed to have contributed DNA to the evidentiary item under a particular proposition.	Delete the last clause in the definition, which is vague does not seem to add clarity to the definition.	Accept.
2	32-33	3.3	E	NOTE 2 Any events (or information) that have been used for conditioning are placed to the right of the conditioning bar in a conditional probability expression.	Remove entirely	Delete this note; it explains mathematical notation but does not contribute to the definition of the term.	Reject. The note is important additional information for this term as applied to other terms used in the document.
3	67	4.1	T	", for additional information regarding the statistical values applicable to …"	", for additional information regarding the statistical **calculations** applicable to …"	Values does not seem like the intended word in this sentence. It isn't clear to voter what values it is referring to	Accept with modification. To provide clarity, added "calculations and".
4	81-83	4.2.3(now 4.2.4)	T	The protocol shall include a requirement that any reported association of an evidentiary DNA profile to a DNA profile from a known individual be supported by a statistical analysis that includes data from each locus used for comparison.	The protocol shall include a requirement that any reported association of an evidentiary DNA profile to a DNA profile from a known individual be supported by a statistical analysis that includes data only from loci that have been determined to be valid for the statistical model applied.	Revise "from each locus used for comparison" since, under binary methods such as CPI, you may have loci which are useful for exclusionary comparison but not valid for the statistical calculation. The current language implys all loci used for comparison must be part of the statistic.	Reject with modification. The standard is for "reported associations," not exclusions. Requirements 4.2.3 and 4.2.4 were switched for clarity on loci used for statistics.
5	88-91	4.2.4(now 4.2.3)	T	The protocol shall include a requirement that statistical analyses are performed only on loci deemed suitable for comparison based upon the laboratory's documented interpretation and comparison protocol (e.g., where stochastic phenomena such as allelic drop-out, allelic drop-in, or stutter are not explicitly accounted for in the statistical model being used).	Where stochastic phenomena are not explicitly accounted for in the statistical model being used, the protocol shall include a requirement that statistical analyses are performed only on loci where it is reasonable to assume there are no effects from allelic drop-out, drop-in, or stutter.	Revise "only on loci deemed suitable for comparison" for same reason as described in comment #6.	Reject. It is critical to establish which loci are suitable for comparison prior to performing the calculation. The original wording fits stylistically with the remainder of the document. Requirements 4.2.3 and 4.2.4 were switched for clarity on loci used for statistics. Added "loci" to clarify the parentheticals in the requirement.
6	74-75	4.2.2	E	NOTE 2 Statistical analyses on the evidentiary DNA profile may be performed prior to the comparison to known reference data, but are not required	NOTE 2 Statistical analyses on the evidentiary DNA profile may be performed prior to the comparison to known reference data	The phrase "but are not required" is redundant. The word "may" implies that this is not a requirement.	Reject. The WG believes that "may" is not redundant and it is a reminder that the note is not requiring the statistical analysis be performed, but can be important based on the case(s).
7	77-78	4.2.2	E	NOTE 3 Statistical analyses in support of an association between two sets of evidentiary data may be calculated and provided, but are not required	NOTE 3 Statistical analyses in support of an association between two sets of evidentiary data may be calculated and provided	The phrase "but are not required" is redundant. The word "may" implies that this is not a requirement.	Reject. The WG believes that "may" is not redundant and it is a reminder that the note is not requiring the statistical analysis be performed, but can be important based on the case(s).
8	81-83	4.2.3(now 4.2.4)	T	The protocol shall include a requirement that any reported associations of an evidentiary profile to a DNA profile from a known individual be suppported by a statistical analysis that includes data from each locus used for comparison.	The protocol shall include a requirement that any reported associations of an evidentiary profile to a DNA profile from a known individual be suppported by a statistical analysis that includes data from each locus used for comparison. NOTE: This does not apply to instances where linkage disequilibrium is considered.	Does this standard apply to kinship associations? If so, it doesn't take into account linkage disequilibrium in vWA and D12S391 and please consider the proposed revision.	Accept with modification. This standard does not apply to kinship testing. The concept of not using loci in linkage disequilibrium is a basic principle in population genetics. "This standard does not provide requirements for the applicability or the use of population databases (e.g., population structure, equilibrium vs. disequilibrium)." was added into the Foreword.
9	81-83	4.2.3(now 4.2.4)	T	The protocol shall include a requirement that any reported associations of an evidentiary profile to a DNA profile from a known individual be suppported by a statistical analysis that includes data from each locus used for comparison.	The protocol shall include a requirement that a supporting statistical analysis that includes data from each locus be generated in support of any inclusion associations of a DNA profile from a known individual to an evidentiary profile.	I believe the phrase "reported associations" inherently means inclusionary, but there was confusion in a recent discussion. My assumption is that this is an add on to QAS std. 9.8.2 and, if so, the FBI's language is "Performing statistical analysis in support of any inclusion that is determined to be relevant in the context of the case"	Reject. This language was specicially used to avoid the binary term of "inclusion."
10	92-96	4.2.3 NOTE	E	Although such practice has been historically labeled as neutral or conservative, it typically is not, and can be especially problematic with interpretation methods that do not allow explicit modeling of allele drop-out or other stochastic phenomena.	This requirement is meant to eliminate the practice of omitting loci which do not exhibit the alleles of one or more individuals after a comparison has been performed to the knowen reference standard, which can be especially problematic with interpretation methods that do not allow explicit modeling of allele drop-out or other stochastic phenomena.	Unnecessary verbiage and although I agree, it's no the type of language that is included in standards. It reads more like lanuage for the forward or an annex.	Reject. The note clarifies the language in the requirement. This note applies to all types of autosomal statistical calculations outlined in this document and in the Annex.

11	138-141	4.2.6.5	T	4.2.6.5 When multiple validated methods are available in the laboratory for calculating statistical values and more than one may be appropriately used for a particular case sample scenario and/or DNA profile per requirement 4.2.6.4, the protocol shall state which statistical analysis method shall be used and/or how to be determine wich method will be used.	4.2.6.5 When multiple validated methods are available in the laboratory for calculating statistical values and more than one may be appropriately used for a particular case sample scenario and/or DNA profile per requirement 4.2.6.4, the protocol shall state which statistical analysis method shall be used and/or how to be determine wich method will be used. The protocol shall also justify why that method was chosen and whether it was chosen prior to observing the possible consquences of choosing one method over another	Choice of method should be transparently justified, including the timing of that choice, which can have a major effect on the results, see https://www.pnas.org/doi/10.1073/pnas.1708274114	Reject. The protocol does not need to provide the justification on which method to use. The validation studies that precede the development of the protocol is where this justification must be explicitly stated. See requirement 4.2.1.
12	148	4.2.6.5.2 NOTE	Ballot Comment		known female contributor suggest removing the word female and just saying "known contributor"		Accept.
13	153	4.2.6.6	E	", and statistical calcuations using the combined probability of inclusion."	", and statistical calcuations using the combined probability of inclusion".	Appropriate position of period after the article quotes	Reject with modification. Italicized the title of the article and removed quotations.
14	170-173	4.2.7.3.1	T	Before the subsequent conditioning of the evidentiary profile interpretation when using probabilistic genotyping, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile when the DNA typing results are insufficient, as defined by the laboratory, to support conditioning based solely on a manual evaluation of the data.	If a laboratory calculates a likelihood ratio to evaluate the support for conditioning of a potential assumed contributor, the laboratory shall establish a minimum likelihood ratio threshold for this evaluation.	Edit language to clarify that calculating LRs for this purpose is not required (but if done, a threshold must be established) and eliminate the explanation that the use of a LR would only occur if the manual evaluation cannot be made. Some procedures may require LRs to be calculated in this scenario even when DNA typing results are sufficient for manual evaluation.	Accept with modification. Used a different proposed revision on line 22 (comment #16).
15	170-173	4.2.7.3.1	T	Before the subsequent conditioning of the evidentiary profile interpretation when using probabilistic genotyping, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile when the DNA typing results are insufficient, as defined by the laboratory, to support conditioning based solely on a manual evaluation of the data.	If the manual evaluation of the DNA typing results cannot support conditioning on a profile, then probabilistic genotyping and a subsequent LR shall be assigned.	Same as comment #1. This is another proposed option for the revised language.	Accept with modification. Used a different proposed revision on line 22 (comment #16).
16	170-173	4.2.7.3.1	T	Before the subsequent conditioning of the evidentiary profile interpretation when using probabilistic genotyping, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile when the DNA typing results are insufficient, as defined by the laboratory, to support conditioning based solely on a manual evaluation of the data.	Conditioning of the profile for probabilistic genotyping should be supported by manual evaluation of the data. If conditioning cannot be supported based solely on manual evaluation of the data, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile.	Same as comment #1. This is another proposed option for the revised language.	Accept with modification. Used: Conditioning of the profile for probabilistic genotyping should be supported by manual evaluation of the data, as defined by the laboratory. If conditioning cannot be supported based solely on manual evaluation of the data, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile.
17	170-173	4.2.7.3.1	T	"Before subsequent conditioning of the evidentiary profile interpretation when using probabilistic genotyping, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile when the DNA typing results are insufficient, as defined by the laboratory, to support conditioning based solely on a manual evaluation of the data."	Before subsequent conditioning of the evidentiary profile when laboratory policy specifies that manual evaluation of the data alone is insufficient to support conditioning, the laboratory shall establish a minimum likelihood ratio threshold for the conditioning profile to support its use.	Current phrasing is unclear and could be interpreted as requiring a minimum likelihood ratio when typing results are "insufficient". Rewording makes it clearer that a minimum likelihood ratio is not required unless a laboratory has stated that conditioning cannot be done by a manual/visual evaluation of the data alone.	Accept with modification. Used a different proposed revision on line 22 (comment #16).
18	181	4.2.9	E	The protocol shall define when and how an alternate proposition database and/or theta correction value shall be applied.	The protocol shall define when and how an alternate proposition database and/or theta correction value is applied	Remove second "shall" in the sentence to avoid confusion.	Accept.
19	194-197	4.2.13	T	The protocol shall define a) the relevant output parameters and diagnostics that shall be evaluated, b) their acceptable values based on validation studies, and c) actions to be taken when either the parameters or diagnostics are outside the acceptable values, for each method used to generate statistical values.	Begin with the inserted language, "If the laboratory uses probabilistic genotyping software, the protocol shall define…"	This standard does not seem to apply to binary methods, such as RMP, CPI, or RMNE.	Accept with modification. Added "as applicable".
20	198-200	4.2.14	T	The protocol shall include a requirement that a new statistical analysis shall be performed when subsequent review of the profile data alters how it was used in the original statistical analysis.	The protocol shall include a requirement describing how to determine when a new statistical analysis must be performed following review or reinterpretation of the profile data.	It is unclear what "alters" means in the current version of this statement.	Accept with modification. Sentence was restructured to clarify "alters" is for altering the profile data.
21	211-212	4.3.3.1	T	4.3.3.1 The data for all contributors used in the verification shall be known and available for review.	4.3.3.1 The data for all contributors and the origin of that data used in the verification shall be known and available for review.	Document who was considered a contributor and how that decision was made.	Reject. The verification data must be traced back to the known individual's DNA profile.
22	262	A.1 2)	E	"the use of all three statisticial calcuations"	The use of any of the three	Clarity. Current wording sounds like all 3 are being use at once	Accept.
23	282	A.2 1)a)	E	"Within a mixture the RMP may be used for:"	Within a mixture, the RMP may be used for	comma is grammatically needed	Accept.
24	338		Ballot Comment		Remove "(A.1)"?		Accept, typographical error corrected to original form.

25	344		Ballot Comment		Fix to "I = relevant Information in formulating the propositions and assigning the probabilities."		Accept, typographical error corrected to original form.
26	344		Ballot Comment		says "I = relevant" but should actually read "I = relevant information..." which is on line 345.Otherwise the statement on line 345 is a sentence fragment and doesn't make sense.		Accept, typographical error corrected to original form.
27	345		Ballot Comment		Should start at "Propositions may be referred to as..."		Accept, typographical error corrected to original form.
28	Bibliography		Ballot Comment		Consult DNA CB and WG about removing the edition number and publication year from ANSI/ASB citations.		Accept.