F35 The Need for Transparency in Forensic Report Writing

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After attending this presentation, attendees will understand the issues that need to be addressed by the forensic scientist and the areas that need to be explicit to ensure transparency in reporting. Attendees will better understand the difference between source and activity propositions.

This presentation will impact the forensic science community by providing a better understanding of the weight of evidence in forensic reports and how the alternative affects this value.

The reporting of forensic science findings is vital to ensure there is some shared understanding of their significance. This is particularly so when the findings need to be shared with a non-scientific audience. Modern forensic science is being redefined as the results from a testing facility. This is done in the erroneous belief that as long as the frequency of occurrence is known with accuracy and tests are capable of being repeated, all is well. There are some instances in which this is the case. There is no reason why the trigger pressure of a gun, the quantity of the active ingredient in a drug, or the level of alcohol in a sample should have any less or different criteria for reporting than many other analytical results from various testing laboratories.

Even so, the situation changes when two propositions need to be addressed, as is often the case in forensic science. Before beginning the testing, additional information is needed in relation to the discriminating power of the tests to be used and the frequency of occurrence of the characteristics to be measured. When probed further, there is a need to establish what questions need to be addressed and following Cook et al., propositions to be addressed can fall at various places in the hierarchy of propositions — subsource, source, activity, or offense.[1] Clearly, the offense level is the realm of the trier of fact, but the forensic scientist can, on occasion, address the probability of findings in activity level propositions; thus, both add value to the court and increase transparency by being explicit in what is being considered.

A forensic scientist may report matching refractive indices and elemental composition for two glass fragments and be influenced in answering questions in court on their significance based on the number of recovered fragments. Thus, two situations with the same apparent forensic findings could get different significance attached following questions in court. This is caused by the scientist reporting the test results but taking transfer and persistence issues into consideration without making these factors explicit.

The European Network of Forensic Science Institutes (ENFSI) produced guidelines to deal with evaluative reporting that advocate the need for a different approach over factual reporting of test results.[2,3] This presentation promotes this approach, which is based on earlier work by Evett et al. and standards produced by the Association of Forensic Science Providers.[4-6]

The approach calls for the scientist to ascertain what the issues are in the case, decide what propositions can be addressed, and conduct a precise assessment on the likely findings, particularly when addressing activity propositions. This approach recognizes that the findings are context-dependent and these factors also need to be made explicit in reports.

The presentation will highlight the critical role played by the alternative proposition on the significance of the findings and on the need for findings to be evaluated in a context.

Reference(s):

1. Cook, R., Evett, I.W., Jackson, G., Jones, P.J., and Lambert, J.A. 1998. A hierarchy of propositions; deciding which level to address in casework. *Science and Justice.* Vol 38 pp 232-239.
2. *ENFSI Guideline for Evaluative Reporting in Forensic Science.* Available on the internet at http://enfsi.eu/news/enfsi-guideline-evaluative-reporting-forensic-science/.
3. Standards for the formulation of evaluative forensic science opinion. *Science and Justice.* Vol 49 (2009) pp161-16.4.
4. Cook, R., Evett, I.W., Jackson, G., Jones, P.J. and Lambert, J.A. 1998. A model for case assessment and interpretation. *Science and Justice.* Vol 38 pp151-156.
5. Evett, I,W,. Jackson, G., Lambert, J.A. 2000. More on the hierarchy of propositions; exploring the distinction between explanations and propositions. *Science and Justice*. Vol 40 pp3-10.
6. Evett, I,W,. Jackson, G., Lambert, J.A. and McCrossan, S. 2000. The impact of the principles of evidence interpretation on the structure and content of statements. *Science and Justice.* Vol 40 pp233-239.

Transparency, Activity, Propositions

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