



# What is evaluative reporting?

Evaluative reporting is a formalised thought process that enables the evaluation of scientific findings given two opposing (or competing) propositions. It is a way of providing the strength of the findings of an examination given those propositions.

## Why use it?

Evaluative reporting is a means of dealing with uncertainty and provides a balanced approach to evidence interpretation. Properly applied, cognitive bias can be minimized and opinions can be updated in a logical way on receipt of new information.

As such, the use of evaluative reporting in forensic science could assist in addressing some of the issues highlighted by the President's Council of Advisors on Science and Technology (PCAST) and the National Academy of Science reports on forensic science in the United States.<sup>1,2</sup>

Organisations such as the European Network of Forensic Science Institutes (ENFSI), the Royal Statistical Society (UK) and the Association of Forensic Service Providers have issued position statements and guidelines around its use.<sup>3,4</sup>

## Does it apply to my discipline?

Evaluative reporting can be used by comparative forensic science disciplines where you are forming an opinion based on your observations, or where a decision has to be made. It is generally not used for factual reporting, such as drug identification.

## Do you need a population database?

Ideally, relevant databases and surveys should be used and these could include published journal articles, locally produced surveys and records of previous cases; however, strengths of evidence can be assigned through training, knowledge and experience with the basis for the assignment being thoroughly documented in the case notes and written report.

## What is a verbal scale?

The verbal scale is a way of expressing the strength of evidence for your findings under competing propositions without the use of numbers. It uses a scale ranging from neutral through to extremely strong support and can be in favour of either prosecution or defence propositions.

## Do I need to be a statistician?

For day to day casework, no. It is a way of thinking and a significant amount of relevant material has already been published particularly in the fields of DNA and trace evidence. However, it may be appropriate to consult a statistician during the transition phase to assist in training, designing and developing the best approach for your laboratory.

## How am I going to explain it in court?

Evaluative reporting can be described as a transparent and logical thought process using competing propositions derived from the case circumstances that are relevant to the scientific examination in hand/in question.

It guides you through the examination from casework assessment to the interpretation and reporting phase. As always, care is needed when expressing opinions to avoid the pitfalls of the 'prosecutor's fallacy' or 'transposing the conditional'; however, this is no different to current expert testimony requirements.

1. Report on Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods, Executive Office of the President of the United States Council of Advisors on Science and Technology (PCAST) September 2016 [www.whitehouse.gov/ostp/pcast](http://www.whitehouse.gov/ostp/pcast)

2. Strengthen Forensic Science in the US: A Path Forward, Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, National Academies Press, 2009.

3. 'ENFSI Guideline for Evaluative Reporting in Forensic Science', European Network of Forensic Science Institutes 2015 v3.0.

4. Jackson, G., Aitken, C., Roberts, P., 2014, 'Case Assessment and Interpretation of Expert Evidence', Practitioner Guide No. 4, Working Group on Statistics and Law of the Royal Statistical Society.

## Who has experience using it?

In some laboratories, such as the Netherlands Forensic Institute (NFI) and The Institute of Environmental Science and Research (ESR) in New Zealand, evaluative reporting is used for all disciplines and cases.

Other laboratories apply the framework in specific disciplines, such as trace evidence analysis at Forensic Science South Australia and the Forensic and Analytical Science Service (New South Wales), or handwriting and signature examination (Victoria Police Forensic Services Department).

## How to transition?

It is important that laboratories have backing from their management and stakeholders to enable a transition to occur. There is support available from within and outside of Australia.

The National Institute of Forensic Science Australia New Zealand (NIFS) has developed a document entitled '**An introductory guide to evaluative reporting**' that covers the basics of evaluative reporting, including terminology, and uses examples in the appendices to illustrate the concepts. The guide can be downloaded from [www.nifs.org.au](http://www.nifs.org.au).

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