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# A Quality System Review: Australian Federal Police Forensic and Data Centres

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## **Abstract:**

The Australian Federal Police Forensic and Data Centres recently completed a Quality Systems Review, which assessed whether the optimum balance was being maintained between the administrative overhead of accreditation whilst ensuring operational flexibility and innovation. This paper critically examines the Quality Systems Review as a policy evaluation process, and the approach adopted by the laboratory to gather feedback and ensure an open and inclusive process of options analysis and implementation. The interaction between quality or management systems review, business planning and risk management are also examined.

## **Keywords:**

Management, Accreditation, Strategic Planning, Quality Issues, Process Improvement

## **Introduction**

The Australian Federal Police (AFP) maintains a forensic laboratory system that strives to provide 'fault free, timely, impartial, and customer focused' forensic and technical intelligence services to government and the wider community (AFP 2009a). Our system holds accreditation from the National Association of Testing Authorities (NATA) against ISO/IEC 17025:2005 (NATA 2009a). NATA promotes accreditation as 'a means of determining, recognising and promoting the competence of facilities' (NATA 2009b). The National Research Council of the National Academies notes that '[a]n accredited laboratory has in place a management system that defines the various processes by which it operates on a daily basis, monitors that activity, and responds to deviations from the accepted practices...' (NRC 2009:195).

A key element of a quality system is that, over time, it should be subject to incremental improvement. However, from time-to-time there is a need to review the fundamental assumptions and

components that underpin the system. This process of re-engagement with stakeholders ensures that the quality system meets the future needs of both the forensic laboratory and its customers.

The requirement for forensic laboratories to maintain an appropriate quality assurance system is widely accepted by government and by the courts (for example, NRC 2009:37, AFP 2009d:183, *Hillier v R* 2005:¶199). Failures of forensic science, whether by error or lack of training, can result in miscarriages of justice (NRC 2009:37,44-48).

The AFP's quality system has developed gradually over the last twenty years and the move towards accreditation necessitated the writing of procedure manuals across all forensic disciplines. Along with this also came the implementation of a range of support processes to control documents, administer proficiency testing and internal audit programs, gather customer feedback and periodically review the laboratory's performance.

Each component of the framework adds value to the process, helping ensure that the laboratory achieves its mission. Furthermore, with ever increasing demands on forensic services (AFP 2009c:1), the benefits of these quality system requirements must be weighed against the business cost of managing accreditation and earning the added confidence of forensic science stakeholders.

Streamlining systemic inefficiencies is intended to increase the availability of resources, maximize laboratory output, and improve staff job satisfaction.. While quality systems are designed to reduce the risk of erroneous results, an excessively complex system can stifle innovation, resulting in delays within the judicial system (Speaker 2009:99) and creating a negative perception of the quality of forensic laboratory services.

An effective quality system must work hand-in-hand with both business planning and risk management, to ensure an effective outcome. An emerging perception of the AFP senior management group has been that some staff may be overly sensitive to risk and rely too heavily on the quality system to mitigate risk.

### ***Role of Business Planning***

During 2009, a review of the laboratory's management system was conducted within the AFP's Forensic and Data Centres. This Quality Systems Review came at a time of renewed focus on business planning within the Forensic and Data Centres portfolio and the wider AFP. The portfolio's Management Team invested considerable effort into the development of the 2009-10 Business Plan, which included twelve workshops conducted in late 2008 and early 2009 to write the portfolio's mission, vision and business strategies.

This business planning process saw a renewed focus on strategies for the portfolio to improve its customer service. A central theme and area of focus for 2009-10 is the improvement of timeliness, highlighted by the first two strategies of the portfolio's completed Business Plan:

- To provide responsive and reliable scientific and specialist support.
- To improve timeliness of service delivery to maximise customer and client satisfaction.

The streamlining of the portfolio's management system, through the Quality Systems Review, is seen as a central strategy to achieving these outcomes, by reducing systemic inefficiencies whilst maintaining a robust quality system to meet the requirements of customers and the courts.

### ***Review Methodology***

The Quality Systems Review, conducted internally by members of the Forensic and Data Centres portfolio, examined existing laboratory processes and procedures, introduced over the previous two decades, and, as a result, made recommendations for changes to the laboratory's policies. As such, the review and subsequent workshops consisted of what most commentators have referred to as 'policy evaluation' (Howlett et al 2009:186).

Rodrigues (2007:255), in an examination of parliamentary policy evaluation, uses Evert Vedung's definition of policy evaluation:

'careful assessment of the merit, worth and value of content, administration, output and effects of ongoing or finished government interventions, which is intended to play a role in future, practical action situations'

Howlett (2009:179) notes that 'policy evaluation, like other stages in the policy process, [is viewed] as an inherently political activity...'. The processes involved are often impeded by such issues as adequately describing 'success' indicators (Howlett 2009:182) and in 'determining causality' (Althaus et al 2007:189).

Krane (2001:102-4) describes so-called 'method wars' over policy evaluation, particularly in terms of 'positivist' and 'constructivist' views of qualitative and quantitative analysis. An 'insistence on quantitative data' in reviewing the effectiveness of programs has been replaced by a new focus on 'responsive evaluation' based on participants' 'observations' (Krane 2001:103).

As an internal review, the Quality Systems Review required effective use of available resources, both the time that members of the review team could commit to the process and financial costs. The AFP has forensic laboratories in six cities across Australia. As the review required face-to-face interviews with stakeholders, the review team needed to travel to each site. Althaus (2007:186) refers to 'organisational investment' and, in the case of the Quality Systems Review, the review committee was chaired by the Senior Executive Service member with overall responsibility for the AFP's Forensic and Data Centres.

### ***Case Study***

The Quality Systems Review commenced with face-to-face discussions and feedback from members of all teams and disciplines. Some two hundred and twenty seven comments or suggested improvements were recorded, and these were grouped, initially by the Quality Assurance Team, into

thirty five areas of focus. These areas of focus were, in turn, grouped into six themes or overarching projects:

- Quality Assurance Structural Role Reform;
- Enhancements to Laboratory Information Management;
- Improvements to Training and Support for Systems;
- Training, Workbooks and Advancement;
- Ownership and Involvement with Quality Processes; and
- Document Control and Corporate Governance.

For each area of focus, recommendations were then developed for consideration by the Management Team.

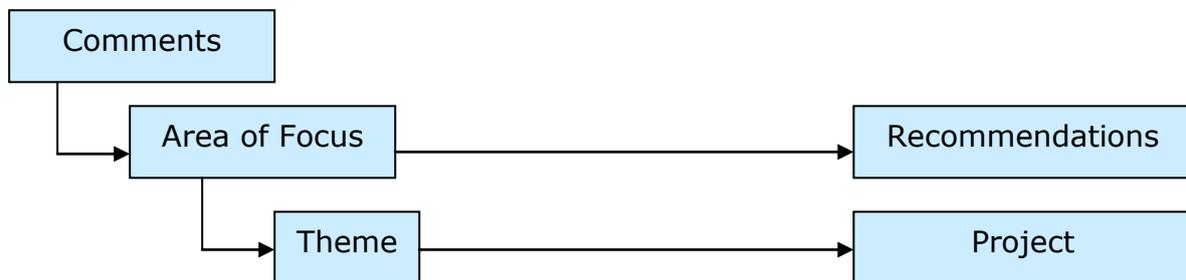
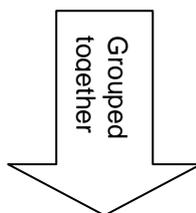


Figure 1: Origins/Development of Projects and Recommendations within the Quality Systems Review.

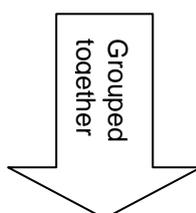
An example, for one Area of Focus is shown below:

**Original Stakeholder Comments:**

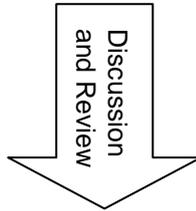
- *“Investigators lack of knowledge of [the Laboratory Information Management System or LIMS]”*
- *“Lack of LIMS training for investigators - awareness, system generated emails etc.”*
- *“Lack of training/awareness for clients re LIMS, or any new system, that is rolled out specifically for Forensics but also has an indirect affect on our clients.”*
- *“Lack of awareness of LIMS - did we inform our clients? Investigators don't understand LIMS generated emails. Now takes longer to lodge exhibits with Forensic.”*
- *“LIMS milestones need to be more understandable to investigators.” (AFP 2009e:6)*



**Area of Focus 3.3:** *“Strategies to increase awareness of the Laboratory Information Management System (LIMS) and Forensic and Data Centres quality systems within the wider AFP should be considered.” (AFP 2009e:6)*



**Theme 3: “Improvements to Training and Support for Systems” (AFP 2009e:1)**



**Recommendations:**

- *“That the current status of [investigator] recruit training should be ascertained with respect to awareness of quality assurance and Forensic and Data Centres systems such as LIMS.”*
- *“That aspects of quality assurance and LIMS should be communicated to the wider AFP as a marketing tool for the portfolio and also awareness of developments in these areas.” (AFP 2009e:12)*

***Quality Review Process***

The process evaluation of the quality system within the AFP’s Forensic and Data Centres portfolio commenced in June 2009. There were ultimately one hundred and ten recommendations provided to the Management Team in December 2009 for review and endorsement.

Broadly speaking, the review concluded that there were some elements of the quality system that could be streamlined and made more efficient, and identified both specific elements that could be immediately targeted, and some areas of focus for further policy review and development.

A key element of the Quality Systems Review was engagement with staff, encouraging a sense of shared ownership of the project and its outcomes. As well as delivering practical benefits to the laboratory, through streamlining and process simplification, the Quality Systems Review sought to reinvigorate interest in the quality system.

The review sought to underscore the fact that quality assurance is an essential element of the laboratory’s success, but also that the quality system is ultimately ‘owned’ and must be nurtured by the laboratory staff. As such, the decision to undertake an internal review, rather than engaging an external consultant, was aimed at providing staff with ownership of the process for enhancing and reinvigorating their own system.

One key driver of the Quality Systems Review was the changing assumptions associated with quality assurance driven by the gradual turnover of staff. Of particular note, very few members currently employed by the AFP’s forensic laboratory worked within the laboratory prior to its initial accreditation. Many staff had never worked in an unaccredited laboratory, and came without any ‘corporate memory’ of the reasons for, the advantages of and, indeed, the disadvantages of a mature quality system.

The format of the review documentation was intended to ensure that original comments and suggestions received from face-to-face discussions with staff can be traced to one of the six themes, with consideration given to potential strategies and associated recommendations. All documents were made available electronically to Forensic and Data Centres members for review and feedback to their discipline representatives.

Timeliness and communication were critical issues for the review team. It was essential that members were aware of the review methodology and that progress reports continue to be provided periodically as strategies are developed and implemented.

Regular updates, with concise lists of outcomes and planned activities, were provided to members via e-mail during the Quality Systems Review. The review team were acutely aware that, like most organisations, large quantities of e-mail traffic were prevalent within the portfolio, and short yet informative messages were important in reaching the widest possible audience.

### ***Example Outcome - Quality Assurance and Risk***

One of the recommendations from the Quality Review was that the Quality Assurance Committee adopt a more formalised risk management approach to its role in overseeing and coordinating the quality system.

The Quality Assurance Committee's membership includes Deputy Coordinators, as senior representatives of each forensic discipline, and a senior team leader or deputy director from the Australian Bomb Data Centre, the Australian Chemical Biological Radiological and Nuclear Data Centre and Forensic Drug Support team, and representatives of the Quality Assurance Team.

Comments received indicated that the decisions of the Committee appeared at times inconsistent, with a perception that the Committee was often risk averse. However, the observation of members of the Committee was that considerable latitude had been given in decisions made by the group, to affect operational outcomes. This contradictory view of the Committee's management style indicated a disparity between the ways in which members viewed the quality system, depending on their primary role in the process.

The adoption of the AFP's corporate approach to risk management, embodied in AS/NZS 4360:2004, was seen as a strategy to achieve business outcomes but, just as important, to ensure that the reasons for granting or denying a request are transparent, appropriately documented and explained to the business area concerned.

The AFP's risk management framework allows for the risks associated with business or operational decisions to be quantified using a matrix (Figure 2).

<b>LIKELIHOOD</b>	<b>ALMOST CERTAIN</b>	<b>Critical</b>	<b>High</b>	<b>Significant</b>	<b>Medium</b>	<b>Low</b>
	<b>LIKELY</b>	<b>High</b>	<b>High</b>	<b>Significant</b>	<b>Medium</b>	<b>Low</b>
	<b>POSSIBLE</b>	<b>Significant</b>	<b>Significant</b>	<b>Medium</b>	<b>Medium</b>	<b>Low</b>
	<b>UNLIKELY</b>	<b>Medium</b>	<b>Medium</b>	<b>Medium</b>	<b>Low</b>	<b>Low</b>
	<b>RARE</b>	<b>Low</b>	<b>Low</b>	<b>Low</b>	<b>Low</b>	<b>Low</b>
		<b>SEVERE</b>	<b>MAJOR</b>	<b>MODERATE</b>	<b>MINOR</b>	<b>INSIGNIFICANT</b>
<b>CONSEQUENCE</b>						

Figure 2: AFP Risk Management Framework  
(based on AS/NZS 4360:2004)

The level of formality required in risk assessments will vary depending on the perceived impact of a particular proposal. The use of risk management methodologies allows the Quality Assurance Committee to assess the risks of a particular decision.

The use of a risk management framework is not intended to preclude the making of any decision, but rather to ensure that there is appropriate thought and consideration given to specific business risks, and that ultimately sign-off of a so-called ‘higher risk’ decision is made at the correct level. For example, the AFP’s *National Guideline on Risk Management* requires ‘Significant’ risks to be escalated to middle management. A ‘Critical’ risk, by way of contrast, must be escalated through management channels to the Commissioner.

Accordingly, the mandate of the Quality Assurance Committee to make decisions or to grant dispensations under the quality system is limited to lower level risks. Importantly, a significant portion of business decisions have a low level of risk. Only a small number of decisions, where a higher level of risk is anticipated, should need to be referred to the laboratory’s Management Team for further discussion.

Adopting an approach based on the AFP’s risk management methodology is seen as a ‘win-win’ decision, giving the Quality Assurance Committee certainty in its decision-making processes, and the laboratory’s Management Team reassurance that ‘higher risk’ decisions are being appropriately escalated for discussion and review.

A similar risk management approach is also necessary in other aspects of the quality system. The concept of individual risk as opposed to corporate risk has also been discussed. A quality system should provide reasonable protection to staff in a judicial context, but cannot exclude all personal risk or displace the role of the expert witness in court proceedings.

Indeed the appropriate exercise of professional judgement should be expected of any forensic scientist. This necessarily requires an understanding of risk and concepts of likelihood and consequence.

## **Conclusions**

The 2009 Quality Systems Review conducted by the AFP's Forensic and Data Centres sought feedback from scientists and support staff across all teams and disciplines. The review was seeking to streamline, where possible, the elements of the quality system and achieve enhanced business outputs as well as improved customer and staff satisfaction.

The process forms part of continual improvement, which is expected in all mature quality systems. However, the review specifically required members of the portfolio to critically analyse business processes and identify unnecessary or over-engineered processes. The review then provided a transparent mechanism for tabulating this information, assessing and debating options in the context of acceptable business risk as well as ISO 17025 and corporate governance requirements, and to progress selected recommendations for implementation. Regular updates to members provided an important feedback mechanism.

Reviews such as this can be conducted in a number of ways. Consultation can be wide or limited, and the review itself can be run internally by a laboratory director or their delegate, or by external auditors or consultants. The AFP's review has shown that an approach actively supported by the laboratory director and able to gather feedback from members of all teams, disciplines and geographic locations, can be an effective way to periodically review and enhance a quality system. A primary goal for this review was to re-engage staff with the quality system and to encourage greater ownership. Given the increase in new staff, other organisations may see value in conducting similar reviews as a way of rejuvenating their quality system.

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