

Delivery and evaluation of forensic science

J Fraser

Forensic Investigation Department, Kent Police, Police Headquarters, Sutton Rd, Maidstone, Kent ME15 9BZ, United Kingdom
Presentation before the Joint Meeting of the Forensic Science Society and CAC at Oxford 2003

Introduction

A market has gradually developed in the provision of forensic services in England and Wales. The large suppliers are either Home Office agencies or private companies. There are also numerous highly specialist or minor players in addition to fringe players of uncertain status. Investment by central government, particularly in the DNA database, has resulted in increased interest and considerable growth in the spend of individual police forces on forensic science. The declared intention of government is to develop and maximise the impact of forensic science on the criminal justice system [1].

The question I wish to address is: how do police forces make judgements about supply of forensic services that meet their individual needs meet appropriate scientific standards and are in the interests of justice? Achieving this requires the knowledge and ability to evaluate a complex range of criteria from timeliness of service delivery to scientific quality and standards. There is no formal framework that takes into account the variety of provision, complexity of products and risk in this area although Best Value is of some utility [2]. This paper identifies some relevant decision making criteria and proposes a framework for evaluation.

Police use of forensic science has had a great deal of attention from 'regulatory bodies' such as Her Majesty's Inspector of Constabulary (HMIC) [3], the Home Office Police Standards Unit and the Audit Commission. There have also been internal studies carried out by the police service itself [4]. Reports from these varying sources have been influential in shaping usage and working practices of police forces but none has explored how to specify and evaluate forensic science provision from suppliers. None of the Best Value reviews published by HMIC [5] on their website address the issue of scientific standards or the variety of sources of forensic science products.

The following compounds this situation:

- Lack of knowledge of forensic science in the police service [4];
- The paucity of structured, objective evaluations of tactical use of forensic science;
- A general reliance on anecdotal evidence of success by police forces;
- A tendency for the apparent complexity of some of the science

to overshadow the simpler issues of service delivery;

- Difficulties in comparing suppliers due to variation in products and pricing structures;
- Multiplicity of suppliers in niche areas;
- Supplier marketing activities;
- Cultural differences between scientific and law enforcement organisations.

A comparison with the procurement of information technology (IT) is interesting. In broad terms this includes:

- A user requirement;
- A product/service specification;
- Delivery and price specification;
- A process of evaluation determined in advance.

The absence of a structured approach to forensic supply means that decisions may be made on restricted criteria that do not provide sufficient information to make effective evaluations. There is also a danger of being driven by short-term priorities such as price or timeliness at the cost of value and scientific standards.

I would assert that a rational judgement about the provision and evaluation of forensic services is predicated on the following elements:

- A general understanding of the nature of science and scientific institutions;
- A general understanding of scientific quality standards;
- Specific knowledge of the relevant legal frameworks that impact on forensic science and police investigations;
- Demonstrable receipt of the service and confidence of its continued delivery.

The Market: Supplier Typology

Effective evaluation requires taking into account the variation in structure of forensic providers and the range of services provided. The typology below enables an understanding of the market and the identification of relevant evaluation criteria.

© The Forensic Science Society 2003

Key words Forensic science, police, service, evaluation, best practice, suppliers.

Strategic suppliers

Strategic suppliers are characterised by:

- Primary knowledge and experience in the criminal justice sector;
- A comprehensive range of services in volume, serious and major crime;
- Consistency of products and services;
- An integrated response to police needs;
- Significant investment and therefore stake in the sector;
- Formal quality management including third party accreditation of scientific standards;
- Influential in policy and working practice development;
- R&D capability or partnership;
- An international role in forensic science;
- Available to prosecution and defence.

Strategic suppliers present wide-ranging benefits to customers and present a low risk high value option across the board. The main weaknesses of strategic suppliers are:

- A comparatively high level of bureaucracy;
- Slower, less effective communication;
- Standardised, less flexible products;
- Standardised, less flexible services;
- The dangers of ‘over marketing’.

Primary niche suppliers

These suppliers provide a restricted, sometimes very narrow range of products but their core business is forensic science provision. This means that the organisation shares a number of the key criteria with strategic suppliers in terms of their primary experience and knowledge of the forensic sector. They may have an international dimension and are likely to have formal quality assurance systems. They may be associated with or be part of a larger organisation and benefit from this in a number of business dimensions such as financial stability or synergy of R&D programs.

Primary niche suppliers are likely to provide one or more products or services to a high standard. They are less likely to be bureaucratic and are potentially more flexible. The main drawback of such suppliers is the restricted range of services. This limits their understanding of the sector and the potential usage of services by police forces.

Primary niche suppliers present a low risk, high value option in the products and services that they deliver.

Secondary niche suppliers

Secondary niche suppliers crucially differ from the above in that the primary purpose of the organisation is not the provision of forensic science. The quality of science in many instances is probably high but this may not be universally so. The level of knowledge of the criminal justice and forensic context is likely to be variable. This is a key criterion which is fundamental to police needs.

In some highly specialist, low volume examinations such suppliers may be the only option. On the positive side, such suppliers are likely to be more responsive to user needs in that they are likely to be more flexible and easier to communicate with. Overall, secondary niche suppliers present an increased business risk but if the issues of scientific and legal standards can be managed they may present a valuable source of service provision to police forces.

Primary individual suppliers

Primary individual suppliers are individuals who provide one or more specialist products or services. They present similar benefits to primary niche suppliers but higher risks in that the user may have ‘all their eggs in one basket’. Although they may have extensive knowledge and experience in the sector there may be issues of business continuity or security to be considered. There is also the issue of ongoing individual competence and standards in the absence of an organisation to maintain these.

Table 1 Primary criteria for evaluation of forensic service provision. These criteria are fundamental to the provision of any forensic work in that if they are not met the service standard will be unacceptable.

Criterion	Description	Potential evidence
Legal standards	Understanding and compliance with relevant law and procedure Understanding and compliance with police investigative procedure	Evidential statements, reports, interviews etc.
Scientific standards	Meeting the standards required of the forensic sector in addition to more general scientific standards	Formal documented quality management system Declared and undeclared trials External third party accreditation Competence and development of staff (CRFP etc.) Site inspections

Table 2 Criteria for evaluation of products and services. These criteria relate to the detailed profile of the service and product and the fit with a user's requirement.

Criterion	Description	Potential evidence
Product standards	Clarity of individual products Product range Consistency of products Flexibility of product to meet user need	Product descriptions, catalogues, etc User evaluation of consistency
Service	Service range Consistency, flexibility of service Speed of delivery (timeliness)	Delivery times, targets met, deadlines missed Subjective surveys of users
Price	Price of product and service elements	Pricing structures of products and services Actual vs. projected spends Comparison with alternative suppliers
Communication	Quality and speed of communications Management and resolution of complaints	Subjective surveys of users Numbers of complaints or unresolved issues

Table 3 Criteria for evaluation of business resilience. These criteria enable evaluation of the ability of the supplier to maintain a service and to provide confidence in how they manage various risks in their own organisation.

Criterion	Description	Potential evidence
Business infrastructure	Security and storage of exhibits Security and storage of information Confidentiality Business continuity and disaster recovery IT and other support systems	Manuals and documented procedures Annual reports Documented relationship between user and supplier, e.g., contract or memorandum of understanding Site inspections
Stake and longevity	How important is forensic work to the suppliers? How long have they been involved in forensic work and how likely are they to remain involved? Do they have an ongoing research and development programme?	Annual reports Previous experience with supplier Information from current service users Site inspections

On the positive side, primary individual suppliers can provide tailored products and a level of communication unmatched by large suppliers and unhampered by intrusive marketing. Therefore, to some extent these suppliers present the extremes of risks and benefits to users.

Secondary individual suppliers

These are individuals who may have expertise that overlaps with some of the requirements of police forces in forensic science provision. They do not have primary knowledge of the criminal justice sector or the support of a formal organisation with such knowledge or expertise. As with primary individual suppliers the issue of competence needs to be addressed.

As such these suppliers present a higher risk to police forces and are likely to only be used in very low volume, highly specialist work.

Evaluation criteria

Given the range of suppliers and complexity of service provision a standard set of criteria is likely to simplify and clarify evaluation. Some of these criteria are relatively simple to evidence directly, others are more subjective. Tables 1–3 describe a range of criteria and the potential evidence by which they can be evaluated.

Conclusion

The purpose of this presentation was to explore how police forces could evaluate the provision of forensic science services in an increasingly complex market. No individual supplier can provide the full range of products and services available in the market. In these circumstances police forces are likely to obtain maximum benefits from a portfolio that includes strategic, primary niche and primary individual suppliers. To do so will require a sophisticated evaluation of the market and effective management of the relationship between individual forces and individual suppliers. The criteria described should aid the process of evaluation. Some of the criteria are relatively obvious and can be evidenced, others are more subjective, and some are ultimately a matter of trust. It is accepted that this is not a definitive list that will meet the needs of all organisations. It is an attempt to raise debate in an area that merits further reflection and investigation and which is inconsistent with procurement practices in other specialist services such as information technology.

Afternote

In July 2003 it was announced by the Home Secretary, that the Forensic Science Service was to become a Public Private Partnership.

Acknowledgements

Sarah Johnson, Kent Police, Dianne Burns, California Department of Justice, Richmond, CA, Richard Eikelenboom, Netherlands Forensic Institute, Peter D Barnett, Forensic Science Associates, Richmond CA.

References

- 1 Police Science & Technology Strategy, Home Office Science Policy Unit, January 2003.
- 2 The Local Government Act, 1999.
- 3 Under the Microscope, Her Majesty's Inspector of Constabulary, 2000.
- 4 Using Forensic Science Effectively, Forensic Science Service & Association of Chief Police Officers, 1996.
- 5 www.homeoffice.gov.uk/hmic.