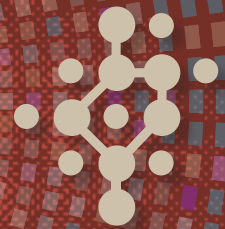


Measuring the Value of Forensic Services in Northern Ireland

Summary Report January 2021



Department of
Justice

An Roinn Dlí agus Cirt

Máinnstríe O tha Laa

www.justice-ni.gov.uk

CENTRE FOR PUBLIC ADMINISTRATION



Content

| | | | | | |
|----------|--|----------|----------|--|-----------|
| 1 | Introduction _____ | 3 | 4 | Public Prosecutors _____ | 12 |
| | Theme 1: Defining and understanding forensics: An expanding picture _____ | | | Theme 1: Defining and understanding forensics: An expanding picture _____ | 13 |
| | Theme 2: The value of forensics _____ | | | Theme 2: The value of forensics _____ | 14 |
| | Theme 3: Information overload: Coping with the complexity of modern forensics _____ | | | Theme 3: Information overload: Coping with the complexity of modern forensics _____ | 14 |
| | Theme 4: Efficiency and service delivery _____ | | | Theme 4: Efficiency and service delivery _____ | 15 |
| | Key Observations _____ | | | Key Observations _____ | 16 |
| 2 | Forensic Service Providers Findings _____ | 4 | 5 | Judge, Coroner and State Pathologist Department _____ | 17 |
| | Theme 1: Professional Attachment _____ | 6 | | Theme 1: Defining and understanding forensics _____ | 18 |
| | Theme 2: Functional/Organisational _____ | 6 | | Theme 2: The value of forensics _____ | 18 |
| | Theme 3: Efficiency _____ | 6 | | Theme 3: Applying forensic services effectively _____ | 18 |
| | Theme 4: Justice/Society _____ | 6 | | Theme 4: Coping with the complexity of modern forensics _____ | 19 |
| | Theme 5: Operational _____ | 7 | | Theme 5: Independence and the future of forensics _____ | 19 |
| | Theme 6: Roles _____ | 7 | | Key Observations _____ | 20 |
| | Key Observations _____ | 7 | 6 | Analysis of selected cases from the Northern Ireland Courts and Tribunals Service _____ | 21 |
| 3 | Police Investigators _____ | 8 | | Key Observations _____ | 23 |
| | Theme 1: Forensics are important, but only as one aspect of a successful investigation _____ | 9 | | | |
| | Theme 2: Inconsistency in defining forensics: Technology and a broadening remit _____ | 9 | | | |
| | Theme 3: Information Overload: Coping with the complexity of modern forensics _____ | 9 | | | |
| | Theme 4: Interpreting and making use of forensic investigations _____ | 10 | | | |
| | Theme 5: Hierarchy or threshold for the types of cases that qualify for forensics _____ | 10 | | | |
| | Theme 6: The public value of forensics and managing expectations _____ | 10 | | | |
| | Theme 7: The future and maintaining the independence of forensics _____ | 10 | | | |
| | Key Observations _____ | 11 | | | |

Introduction

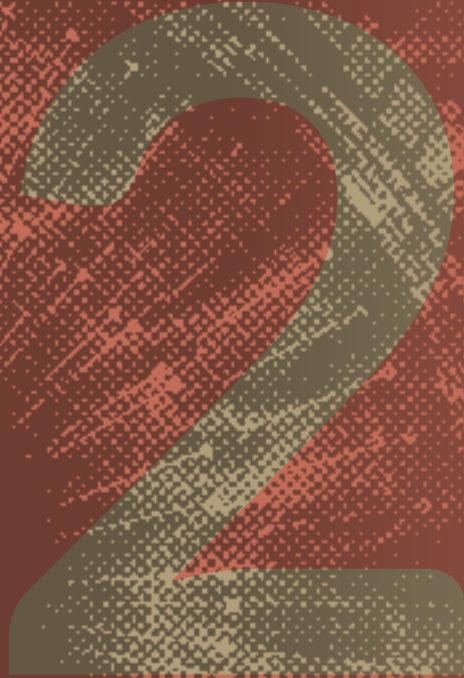
This report summarises the extensive research conducted by a team from Ulster University into the value of forensic services to the Criminal Justice System in Northern Ireland. It provides a summary of the findings around five core thematic areas within the Criminal Justice System, following the process in depth from crime scene to court.

The 2016 Forensic Services Strategy recommended the establishment of a monitoring and feedback process to “provide information on the role that forensic science has played in completed criminal cases.” As a result, the Forensic Services Leadership Board was established and the project to ‘Measure the Value that Forensic Services bring to the Criminal Justice System’ was created in 2018.

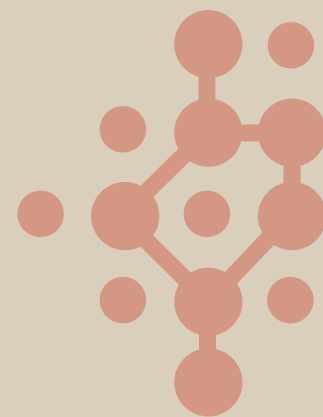
Fifty-two structured interviews were conducted with staff across four thematic areas, namely: **forensic providers; police investigators; public prosecutors; a judge, coroner, and state pathologist.** Significantly this research gained access to the conclusions and judgements from a number of court cases drawn from the Northern Ireland Courts and Tribunals Service. This enabled a deep analysis of the impact of forensics in serious crime case judgements. The first of this type of analysis in NI. At the core of this research is an exploration of the concept of ‘public value’ which recognises the difference between the cost of providing forensic services

and the value the service brings to the criminal justice system and society at large. A team of academics from Ulster University have designed a methodology to identify indicators of value to assess the contribution that forensic evidence makes to the investigation of crime as well as providing for the more effective allocation of resources in support of justice and the impact of forensics on society.

The fact that forensics add value to criminal investigations and wider society was an accepted reality prior to the commencement of the research. For example, it is clear that forensic science adds value in assisting investigations through the provision of clues, eliminating the innocent or identifying the guilty, and contributing to the gathering of intelligence. Each for the benefit of society. However clearly articulating that value and impact had, until the completion of the research, never been achieved. This report will now set out in greater detail the views of research participants on how this value can be best captured and developed.



Forensic Service Providers



Interviews were held with 43 forensic providers (24 forensic scientists and key staff in Forensic Science Northern Ireland (FSNI) and 19 forensic officers comprising forensic analysts and case managers, major crime forensic advisors, and crime scene investigators in the PSNI).

'Q Methodology' was adopted as the method of research for the forensic providers. 'Q' is a research method used in psychology and the social sciences to study people's opinions and attitudes. As part of Q Methodology, 37 statements were developed and categorised under six headings:

- Professional Attachment
- Functional/Organisational
- Efficiency
- Justice/Society
- Operational
- Roles

Each interviewee was asked to rank the series of statements into seven categories (from very strongly agreed through to very strongly disagreed).

Key Points Raised

Theme 1: Professional Attachment

- Unsurprisingly, forensic providers expressed high levels of commitment to their profession and believe that their work is valuable with **86%** of respondents recognizing *their role is to add value to society* even if their work produces outcomes that contradicts what the public might want.
- Underpinning this was a strong agreement on the importance of science both as a means for reaching the truth but also in allowing their work to speak for itself. Over **90%** confirmed that research and development was a critical component of their job and respondents noted frequently the importance of keeping pace with technological advancements and the need to ensure that adequate resources are provided to maintain a high quality service.

Theme 2: Functional/Organisational

- **95%** of respondents agreed the *importance of independence and impartiality* in withstanding scrutiny in court, and **70%** agreed that although independence and impartiality was important, it was also important to have contact with the other actors in the Criminal Justice System and that both independence, impartiality and *collaborative communication* were vital to deliver an effective Criminal Justice System.
- **56%** disagreed with the statement that forensic services were 'just a product,' stating that forensic services have the potential to exonerate or support prosecution to the *benefit of society*.
- **67%** disagreed that their primary role was to produce evidence at least cost. This highlights the importance of delivery of a quality service, that evidence was not merely a product and the importance of taking the time to do the job correctly.
- More than **62%** felt they had the *freedom to complete the right tests* for the case, not just those tests requested. This is achieved through communication and negotiation with investigators and the Public Prosecution Service as required.

Theme 3: Efficiency

- **72%** disagreed that it was their job to deliver science at the lowest possible cost, with only **16.5%** feeling pressurised to deliver evidence within a short time frame. The majority (**62.5%**), agreed that they had the time to get the results right and that science would never be compromised to deliver speed.
- **67%** disagreed that there have been times when they could not stand over the science produced in the lab. In the main, this statement elicited an emotive response from many of the providers who were appalled that this could even be contemplated with several noting that robust systems were in place to investigate any abnormalities or issues with compliance.
- **58%** agreed that context could adversely influence interpretation leading to cognitive bias, however many interviewees highlighted the safeguarding measures in place to protect against this.

Theme 4: Justice/Society

- **79%** agreed that their *prime motivation* was to serve the public and create a safer society and that they achieved this through their science, and over 46% agreed that public confidence in the Criminal Justice System would increase if forensic services were used in relation to more types of crime.
- **95%** of respondents agreed that co-operation, communication and collaboration achieve better outcomes.
- **74.5%** of forensic providers disagreed that their primary role was to improve victim or family satisfaction, with comments highlighting that the *primary responsibility is to deliver an accurate and quality service* where the science speaks for itself.
- **67.5%** agreed that public confidence in the Criminal Justice System is *dependent on an effective and efficient forensic service* and **88%** agreed that the public wanted a safer society and that the Criminal Justice System must work out how to achieve it.

Theme 5: Operational

- **70%** of respondents disagreed that the marketisation of forensic services had identified efficiencies. The fact that forensic services are provided by public sector providers in Northern Ireland, with the majority of disciplines under one roof enabling sequential forensic examination, was viewed as an efficient delivery model.
- **95%** agreed that they would greatly welcome feedback as this would help identify those forensic disciplines having the greatest impact. This could inform investment, recruitment and training.
- There was a mixed response to the statement that the police understood what forensics do and that good science takes time. A small majority (**53%**) disagreed with this statement, whilst **35%** were ambivalent.
- The statement that the role of a forensic provider is to provide evidence to the police quickly also received a mixed response with **37%** agreeing, **23.5%** ambivalent and **39.5%** disagreeing.
- **83%** of forensic providers felt that police intelligence could be enhanced by *deploying forensic evidence to more types of crime*.

Theme 6: Roles


- **67%** of forensic providers agreed that *increasing investment in forensics would reduce overall costs to the Criminal Justice System*.
- **72%** disagreed that their role is understood by stakeholders with only **2.5%** agreeing that it is.
- Only **14%** agreed that it was their role to improve detections and clear up rates with the majority confirming that this was either the role of the police or the Criminal Justice System as a whole.
- In response to the statement that scientists serve society through their science alone - **70%** disagreed, recognising that their science does serve victims, families, society and the stakeholders of the Criminal Justice System.
- Over **70%** agreed that they had a role to play in improving co-ordination and communication across the Criminal Justice System.

Key Observations

The analysis of Q methodology interviews with forensic service providers produced a range of themes and the following observations are worth noting:

- **Forensic providers understand the value they add to society** and recognise that through more effective communication and collaborative working their expertise will better support the Criminal Justice System and society as a whole.
- Forensic providers would welcome feedback on the value and impact of their work in court cases and **this feedback could guide investment and training** and target resources to those forensic disciplines having the greatest impact.
- There is a keen awareness of the cost of producing forensic evidence and the need to deliver the process as quickly as possible. However, this would **never be at the expense of the quality of the science** or the need to undertake a further test if it is necessary.
- **'Marketisation' is not viewed as a successful way to deliver forensic services, as it impacts upon quality and drives costs to unsustainable levels.** An impartial, independent public sector forensic provider is viewed as the best service provider for Northern Ireland. Whilst some forensic services are provided by the PSNI, those staff were clear that it is their science which makes them impartial providers of the service and not the fact that they are employed by the investigatory body.

It should be noted at this point that Q Methodology was only utilised in interviews with forensic providers. Semi-structured qualitative interviews were considered more appropriate in smaller sample sizes for interviews with the police, prosecutors, the state pathologist and the judiciary.



3

Police Investigators



The following section sets out findings from the thematic analysis of qualitative interviews conducted with three senior police officers, each with significant experience of conducting investigations into a range of serious incidents including fatal road traffic collisions, sexual assault, murder, terrorism and other serious offences. Analysis of the interviews with police investigators elicited seven key themes.

Theme 1: Forensics are important, but only as one aspect of a successful investigation

All three officers stressed the role of forensics in complimenting investigations. Forensics was viewed as a means for providing surety in comparison to other forms of evidence such as witness accounts, particularly in Public Prosecution Service charging decisions and later in the adversarial context of the courtroom. The overall sense from the discussions was that forensics was an integral part of any police investigation but not the sole determining factor in the actual investigation. Police officers had several tools in terms of 'investigating' and the key was not to overly rely on any particular one, but instead to use each method to either validate existing evidence and/or point the direction of further enquiries.

Theme 2: Inconsistency in defining forensics: technology and a broadening remit

There was no common and clear narrative regarding a definition for forensics. There was the basic understanding as taught to officers at the commencement of their careers, and this was enhanced as they advanced through the organisation and joined different specialist departments. This introduced them to new crimes and experiences which resulted in increasing knowledge and interpretations of forensics and how it can be applied (including cyber, mobile devices, biometrics and CCTV).

Similar definitional difficulties were believed to be faced by members of the public, and new technological developments meant that forensics now covered a much broader area than the common public perception associating forensics with DNA, blood and bodily fluids. These definitional challenges made it more difficult to explain forensics as a unitary concept but the indicators of a successful outcome (and therefore of value in the services) remain consistent.

Theme 3: Information overload: coping with the complexity of modern forensics

Consistently interviewees talked about information overload, especially in relation to digital data. Conversations also focussed on the increasing complexity of forensics, the basic training provided at the commencement of service and the expertise and experience gained over time. Experience and good judgement were mentioned as qualities in understanding the importance of ensuring the integrity of a crime scene and making the best use of available evidence.

An onus was placed upon first responders to protect the crime scene and quickly and carefully gather evidence for in-depth analysis. Interviewees also indicated how the introduction of forensic case managers, who are responsible for the prioritisation and submission of forensic evidence, had aided the processing of forensics.

Theme 4: Interpreting and making use of forensic investigations

In general, officers spoke highly of the information provided in forensic reports. They noted that the language was both clear and concise and presented in a way that supported their investigation. Whilst officers might have desired a firmer position on the results of some of the evidence, they voiced an understanding that scientists can only act on the basis of the information before them and are unable to draw conclusions from the evidence. Throughout the interviews, officers often described in glowing terms the forensic work produced in cases. A key aspect repeatedly stated was the strength of working relationships and consistent communication between officers and forensic service providers from initial examination through to review processes. It is important to note that the interviewees stressed the independence of forensic services and suggested that the system in Northern Ireland was more effective and efficient than the privatised system in England and Wales.

Theme 5: Hierarchy or threshold for the types of cases that qualify for forensics

The ability to conduct forensic investigations was frequently described as being a finite resource with difficult decisions on the deployment of resources made on a daily basis. For example, in road traffic collisions, forensics are only used in the event of a fatality. Similarly, with respect to other matters, it is often the perceived seriousness of the potential offence that determines whether a forensic examination will take place.

Investigators described how, in an ideal world, they would prefer to have forensics in a broader range of cases in order to enhance their powers to investigate and ease inflexibility in the current decision-making process for deploying. One notable example was a case where there is uncertainty if a victim of a road traffic collision will survive, with investigators sometimes having to wait for up to two weeks for the condition of the victim to become apparent before forensics can be deployed. Conversely, investigators noted that having a blank cheque would be counterproductive as deploying forensics to every incident would produce an overwhelming amount of material. Respondents described how, when needed, important evidence such as DNA, can be utilised to assist an investigation.

Theme 6: The public value of forensics and managing expectations

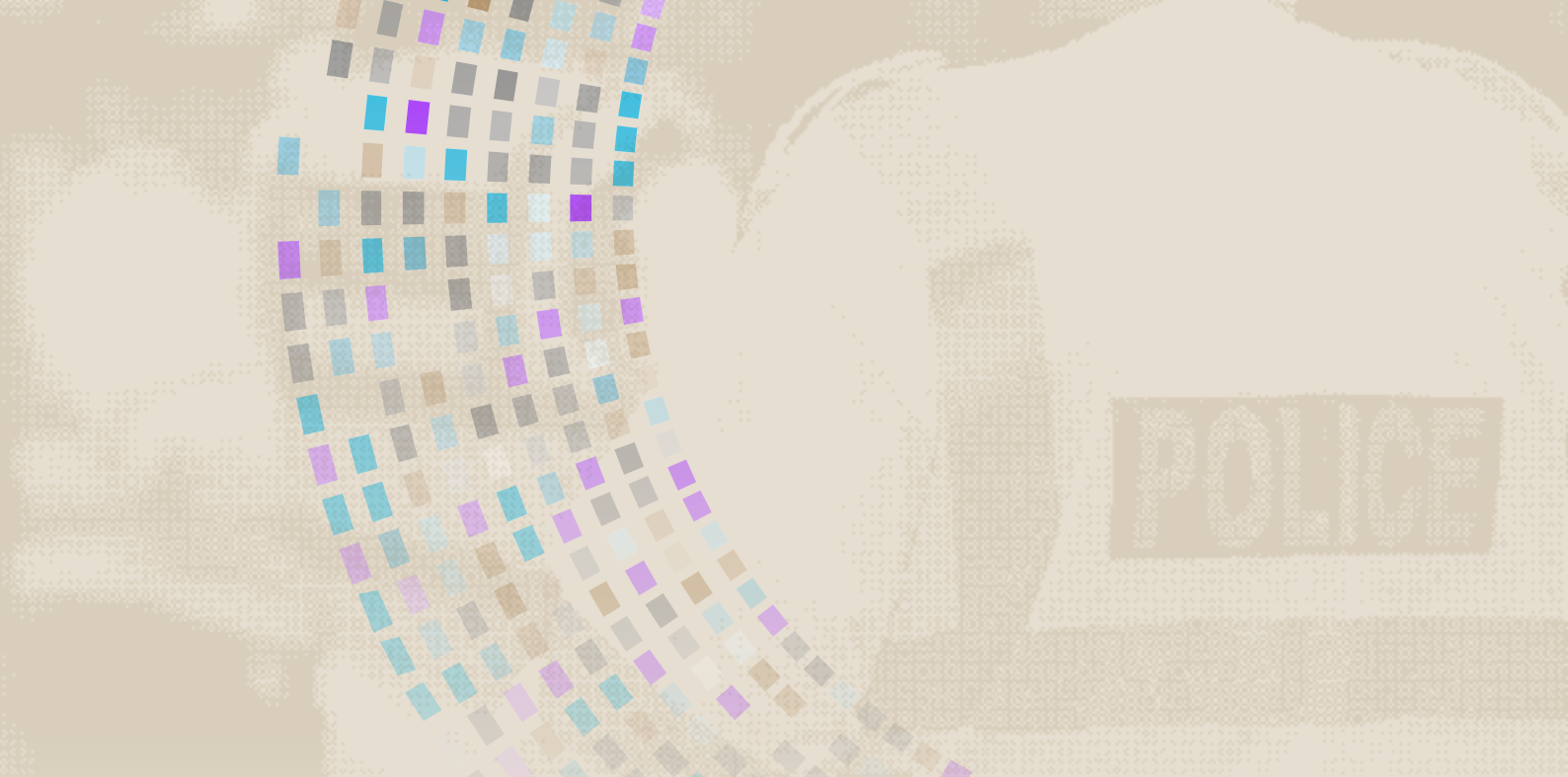
There is a gap between the portrayal of the speed, efficiency and effectiveness of forensics in fictional depictions such as CSI and Silent Witness and the reality of what can be achieved. This can lead to a loss of public confidence and frustration on the part of victims and their families. All three officers spoke at length on ways that forensics could be speeded up and the benefits that would bring both for the value afforded by forensics and for the cost and effectiveness of the Criminal Justice System. Officers also described the need to fully grasp the importance of forensics beyond convictions in court as, for example, forensics added value to the Coroners Court and the understanding of what happened in a particular incident, or in intelligence gathering as a means for targeting criminal organisations. There was a consistent narrative from the interviews around the need to accelerate the forensic process and the sharing of information. It was suggested that the system currently took too long, and this impacted public confidence. However, there was also an acknowledgement that there were financial and budgetary implications in making any changes to the system.

Theme 7: The future and maintaining the independence of forensics

When asked if forensic services should remain independent in Northern Ireland differing views were raised. Two officers argued that while in a practical sense, bringing forensics under the umbrella of the police might be better, they agreed that independence provided some level of protection to police officers in that it negated any accusation or suspicion that the police would be biased in terms of how investigations were conducted. Conversely, another officer disagreed and felt that the PSNI would be the appropriate host for forensics.

Whether independent or not, one officer felt strongly that forensics in Northern Ireland needed to evolve to match the challenges currently being faced (including being able to deploy and utilise cutting-edge technology in the face of scientific advancements). Another officer noted the importance of gauging the impact of forensics, for example in recognising benefits for identifying suspects, expediting an arrest, saving money, improving outcomes for victims and families, and bringing about faster convictions.

Overall, interviewees felt that the operating environment for forensics would only increase, alongside a public expectation that forensics was both a requirement for a successful police investigation and key to solving a crime. Given Northern Ireland's history it was also noted that independence around forensics was crucial to ensure public support for both the police and wider Criminal Justice System.



Key Observations

The analysis of interviews with three senior police investigators produced a range of themes and the following observations are worth noting:

- There is variation in ways that investigators define and conceive of forensics with technological advancements leading to a broader expanse of applications that can fall under the label of forensics. The experience of officers underpins their knowledge of forensics and there is a belief that any definition cannot remain static as the field is constantly evolving. However, **whilst it is difficult to place a value on something that is applied in different ways, and in different contexts, the indicators of a successful outcome are described in a consistent manner across each application.**
- There are challenges in coping with the added complexity of forensic investigations and interpreting the guidance put forward in reports, often negated by the recruitment of specialist forensic managers or by asking and receiving further support and explanation from service providers. Similarly, there was some frustration that reports do not always provide a definitive conclusion with respect to the strength of a particular piece of evidence or what it may or may not suggest. However, it was acknowledged that this is not always possible, particularly given the risks to a case of an inaccuracy or inflation of the importance of a particular piece of evidence. **It is therefore important that unrealistic expectations are not placed on forensic services so that they are able to maintain the integrity of services.**
- **There is also a need to ensure that increased public expectations around forensics (partly created by fictional depictions in film and television) do not adversely affect the public value placed on them in the future.**
- Forensics can bring about speedier and more cost-effective outcomes in the Criminal Justice System. There is no doubt that officers see forensics as an integral element of their powers to investigate. All officers agreed that **investing in forensics has the potential to reduce wider investigative and prosecution costs, enhance and extend the use of a range of intelligence based policing attributes and build confidence in the wider Criminal Justice System.** This may be an issue that the new, developing Forensic Services Strategy may wish to consider.
- Not all types of investigation receive the benefits of forensic analysis. Obviously, this is influenced by the nature of the crime, however the stated ability of forensics to improve outcomes across a range of stages of the criminal process highlights **the need to consider fully how forensics are employed and what impact they have on an investigation.**
- It was suggested that there were aspects of forensic analysis which could be modernised and developed to meet changing demands i.e. as volume crimes decrease and online crimes increase. **It was also noted that the Northern Ireland system was more favourable to the privatised approach adopted in England and Wales.**

A large, stylized green number '4' is positioned on the left side of the page. The background is a deep red color with a fine halftone dot pattern. On the right side, there is a decorative border composed of concentric, curved lines of small, multi-colored squares in shades of blue, purple, and grey. The overall aesthetic is modern and graphic.

4

Public Prosecutors



Three public prosecutors were interviewed as part of this research. The prosecutors each have a wealth of prosecutorial experience in reviewing files across a range of serious offences including terrorism, murder, fatal road traffic collisions, rape and sexual assault.

Analysis of the interviews with public prosecutors elicited four key themes.

Theme 1: Defining and understanding forensics: an expanding picture

The interviews with prosecutors presented a similar picture to those with police investigators where forensics was most often defined in a broad manner and as being a mixture of older 'traditional' methods (blood, DNA) that were largely still the preserve of Forensic Science Northern Ireland (FSNI), or increasingly new methods (cyber, biometrics etc.). These more advanced methods have been brought about by the rise in the use of technology and innovative investigative techniques for harnessing the information produced and are processed by a broadening range of organisations outside of FSNI including private providers and the police.

All three prosecutors agreed that forensics is an evolving discipline creating major challenges for investigators and core criminal justice actors such as prosecution and defence. Linked to the rise in the complexity and volume of forensic evidence is the increased use of experts (public or private) who are often tasked with analysing forensic evidence and in some cases presenting their theories in the courtroom. However, it was noted that "testimony and evidence" that comes from FSNI was described as "carrying much more weight and being less open to accusations of bias", with prosecutors clearly arguing for an expansion in the services provided by FSNI to move into the spaces currently being filled by other experts and private providers in England. The independent status enjoyed by FSNI in comparison to other jurisdictions cuts across several of the themes set out in this report with respondents united in their view that "independence breeds confidence" in the integrity of forensic science.

All of the prosecutors agreed that the public conception of forensics can be unduly influenced by films and television programmes which can create simplistic views or unrealistic expectations. But it is not just the public who may have misconceptions about the scope and practice of forensic science. Respondents felt that the police can also have unrealistic impressions of forensics and that the level of knowledge across the police service can be inconsistent in terms of the types of evidence to be sought and collected or how the integrity of evidence and the crime scene can be protected. (A notable caveat here was that interviewees reported that the police get things right more often than not, especially those officers with more advanced experience).

The expansion of the types of evidence gathering that now fall under the label of forensics has undoubtedly created greater opportunities for investigating and prosecuting crime, but it has also created difficulties for prosecutors who must rely on a broader spectrum of organisations and experts in order to bring a case to court and has placed added pressure on police when tasked with gathering evidence. Findings of this nature reinforce the point made by prosecutors that, rather than progressing to a multiplicity of providers and experts as witnessed in England, it would be preferable to streamline and resource effectively the current system to increase capacity and maintain the high standards of forensic services available here.

Finally, it was noted that the increased complexity of forensics and the simplified or unrealistic ways that it is portrayed in popular culture have created enhanced expectations amongst the public, jurors and the media with respect to what forensics can achieve.



Theme 2: The value of forensics

All three prosecutors were emphatic in their agreement that “forensics has a vital role in the work that they do”. The perceived unreliability of witnesses in comparison with the evidence presented by a forensic scientist was another recurring theme. For prosecutors, forensics can represent a more effective way of securing judgements, rather than a reliance on the impression of a person’s character made by juries. Conversely, one respondent noted that if a case is deemed to have enough evidence or is relatively minor in nature, forensics may be deemed unnecessary. In the end, a good outcome for prosecutors does not necessarily involve a prosecution, but rather involves confidence that the truth is borne out, even if the forensic evidence disclosed is not helpful to their prosecution.


The importance of communicating the findings from forensic analysis effectively and sensitively was spoken about throughout the interviews. For example, when asked if victims have unrealistic expectations of the value of forensics, prosecutors described how the outcome was often the important factor. It was outlined that victims and their families often wish to know simply whether the prosecution is proceeding or not.

However, the desire to understand what has happened can lead to quite difficult conversations. In some cases, victims can be unhappy with an outcome and will therefore start to second-guess the forensics. In such scenarios, prosecutors noted that all they could do was explain that they could only deal with the evidence provided and suggest that if individuals felt that additional evidence was available, they should submit it to the police. Although scenarios of this nature are relatively rare, they do serve to highlight the pressures that are placed upon the use of forensics.

Theme 3: Information overload: Coping with the complexity of modern forensics

Each of the prosecutors discussed at length the “value” of forensic reports. While the detailed and independent nature of the reports was recognised as being paramount, their complexity on a particular aspect can make them difficult to understand without additional support. For one respondent, the complexity of a report was not an issue as forensic scientists will clearly state for the court if they are convinced of the value of a particular piece of evidence. Prosecutors voiced a desire to also be able to view all the background evidence that had been considered by forensic scientists in writing their report. This broader knowledge may allow prosecutors to assign significance to a seemingly unimportant factor and enable discussion of its potential significance with scientists to enable its consideration for inclusion in the case. It was also noted that the interpretation of forensic reports is often backed up with a healthy form of communication and shuttle negotiation between prosecution, police, defence and forensic scientists. Finally, prosecutors also expressed the desire that evidence from emerging forms of technology including high volume data from devices should always be fully analysed and the pertinent information extracted.

For prosecutors, a key indicator of the value of forensics is its ability to bring about a successful outcome, whether it be prosecution or acquittal in a criminal case. This is despite a number of impediments such as the very high bar set by the requirement for convictions to be beyond reasonable doubt, the likelihood of challenges from the defence, and the necessity to disclose any evidence that might place their case in a bad light. From such a perspective, the “perceived integrity of the forensic evidence being put forward is paramount”, primarily in convincing a judge or jury; but also in limiting the occasions where the defence feel compelled or motivated to challenge a piece of evidence. As discussed under theme 1, the expansion in the use of external providers and experts due to the increasing



complexity and scope of forensics is viewed as necessary due to the size of this jurisdiction and the difficulty in resourcing a broad range of specialisms. However, prosecutors maintained a preference for evidence provided by FSNI as it tends to carry more weight and instils greater confidence and would prefer that as broad a range of services as possible be resourced to minimise the use of external providers.

In terms of public and media scrutiny of the evidence from forensic services, there is little in the way of challenge or controversy. This would appear to show how relatively robust the system in place is. However, the public in Northern Ireland will often be unwilling to give witness evidence meaning that the different types of forensic evidence available are vital. As technological advancement continues and the scale of operations that can be considered for forensic investigation increases, issues with the broadening of forensic disciplines to other forensic providers such as the police and private forensic providers can create issues for due process for defendants as they are not seen to be as independent as FSNI.


Theme 4: Efficiency and service delivery

Another point of frustration throughout the interviews was the length of time taken to receive the report of a completed forensic investigation. Impediments include the very heavy case load in Northern Ireland, but it was also recognised that the exacting nature of the work takes time. Prosecutors also acknowledged that their desire to 'go the extra mile', particularly in serious cases with respect to the forensic evidence sought, including requesting notes and photographs of evidence being gathered, led to longer timeframes. The fastidious nature with which prosecutors will seek to examine every eventuality in certain cases places them at odds with some proposed initiatives for streamlining and improving the efficiency of forensic services. When asked if the Criminal

Practice Rules introduced in England & Wales for dealing with a criminal case should be incorporated in Northern Ireland, two of those interviewed felt they would likely be unworkable as most prosecutions in Northern Ireland are contested by the defence. However, all three felt that the rules could work if the defence came on-board. One prosecutor, when reflecting on what was happening in England, felt that lessons could be learned in Northern Ireland, such as the importance of speeding up case management by placing limits of some form on the actions of the defence and prosecution in order to maintain an efficient criminal process.

Similarly, the incorporation of the new forensic system called Proportionate Forensic Reporting (PFR), wherein prosecutors receive a shorter, more proportionate, forensic report, received mixed responses in the interviews. On the one hand, it was acknowledged that not having to rely on the scientist to attend court had sped up some cases and that PFR was an advantage in straightforward cases. However, the more complex a case, the more important it was to have access to the full forensic report at the beginning.

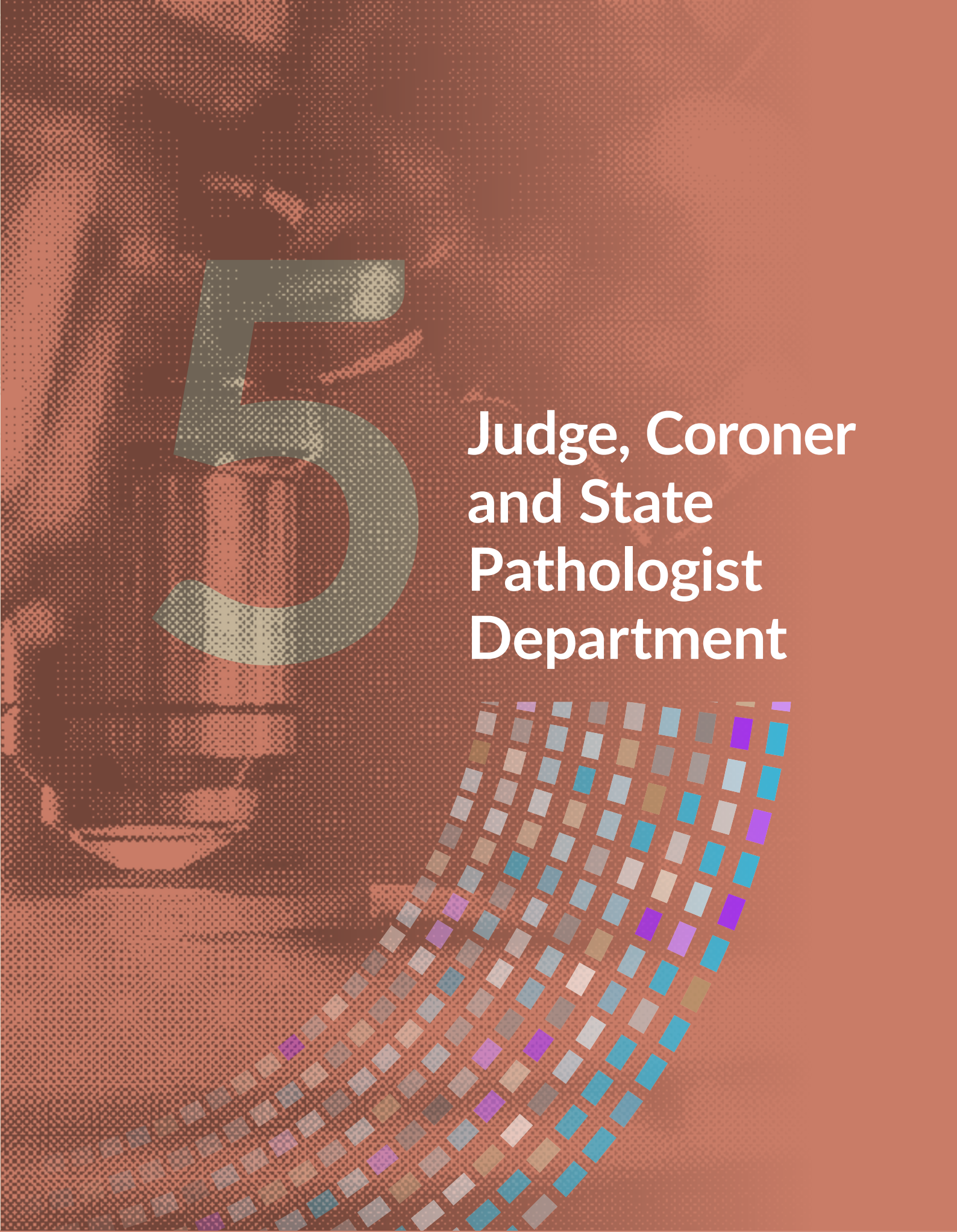
When discussing the future of forensics in Northern Ireland, one interviewee felt that its continued independence was paramount. Similarly, the structures currently in place allow for mistakes to be remedied effectively which develops confidence in the system. However, it was pointed out that steps must be taken to ensure Northern Ireland does not fall behind in terms of the challenges of responding to technology. For some however, as noted above, the only way forward is to streamline and broaden the services available and increase capacity to process cases in a timely fashion.



Key Observations

The analysis of interviews with prosecutors produced a range of themes and the following observations are worth noting:

- The expanding definition and range of evidence that falls under the label of forensic science, caused in part by **new technological developments, has led to a broadening out of service providers**. There also appears to be a greater role for the police in conducting forensic examinations, with forensics often being conceived as a mix of 'old' and 'newer' methods with the 'older' methods (blood, DNA etc.) considered the preserve of FSNI.
- It is also important to **acknowledge the enhanced role of experts in the debate around the public value of forensics**. This has created some challenges for the maintenance of the independent status of forensic services and the high standards underpinning it, although it should be noted that FSNI still carry out the majority of forensic science work in the jurisdiction. In that regard there was a desire for FSNI to be resourced appropriately so that their independent services could be maintained or utilised for a broader range of disciplines, and in those cases where specialist applications and novel technological approaches are required.
- The popularity of crime dramas and films that focus on the work of forensic scientists such as CSI, Silent Witness and the Trial of OJ Simpson have resulted in **the public often holding unrealistic or overly simplistic expectations of forensics**.
- **Forensics is valued highly by prosecutors** and forms an important part of their considerations, particularly in corroborating other types of evidence. However, public judgements of the value of forensics are normally based on whether they feel justice has been served and it can be difficult for prosecutors to explain the complex and often sensitive materials held in reports to victims and families. Ultimately, from the public perspective the value of forensics is measured in terms of whether the case is concluded in a manner which meets their stated expectations.
- While the detailed and independent nature of the reports was recognised as being paramount, their complexity on a particular aspect can make them difficult to understand without additional support. For one respondent, the complexity of a report was not an issue as the forensic scientist will clearly state for the court if they are convinced of the value of a particular piece of evidence. There is also a relatively good relationship between prosecution and defence that helps to foster a climate of fairness and due process in the relaying of evidence, especially in relation to forensics.
- Attempts to streamline the efficiency of forensic services or increase capacity in criminal case management will often struggle amidst a culture, by the defence, of placing a non-guilty plea until the last possible moment.



5

Judge, Coroner and State Pathologist Department



Structured interviews were conducted with a judge, a coroner and a state pathologist. All interviewees have significant experience on the application of forensic services within the Criminal Justice System in Northern Ireland.

Analysis of these interviews revealed five key themes:

Theme 1: Defining and understanding forensics

When asked about their understanding of the term forensics, the respondents gave a variety of responses with the common theme being investigative processes that are underpinned by a process of scientific analysis. Moreover, those interviewed described how their definition of forensics had remained relatively constant despite broader changes to the sorts of activities that could be considered as forensics. Two interviewees spoke in positive terms about the extent of public knowledge and the ability to understand quite complex evidence.

In relation to the use of forensic terminology, all respondents described how they felt more comfortable using their own language, as they believed this better suited the audience, and allowed them to find a way to get across core ideas, often to non-specialist audiences.

Theme 2: The value of forensics

Each of those interviewed spoke at length about “the inherent contribution that forensic services bring” to the cases they are involved in. While there was some variation in opinion in terms of how vital or important forensics are in particular cases, each interviewee agreed that forensics will normally comprise an important component of any case. It was noted that a case can be detrimentally impacted if forensics are not available, particularly those involving physical or sexual contact.

Public confidence in forensic services was a particular focus in the interviews. In this regard, there is a balancing act between providing a thorough service that is accurate and one that is conducted within a reasonable period of time.

All three of those interviewed acknowledged that the length of time taken to complete forensic investigations could cause considerable frustration on the part of victims and families and described at length measures for communicating effectively why it takes a relatively long time in some cases. It was explained that “delay” is not a helpful term to use in that regard as an investigation needs to be given the necessary time to ensure it is carried out properly.

Theme 3: Applying forensic services effectively

All participants discussed the impact of television shows in contributing to engendering unreasonable public expectations with respect to what forensics can achieve. Similarly, social media poses challenges wherein accusations or versions of events are being put forward and discussed openly in the public realm with exaggerations and distortions presented as factual commentary.

Each of those interviewed spoke of the connection between resources and the subsequent effectiveness of forensic services with some frustration voiced as to the balance that needs to be struck, as well as increases in the cost of accessing forensics, possibly to the detriment of the extent of forensics available in particular cases.

Theme 4: Coping with the complexity of modern forensics

A critical issue in terms of the complexity of forensic investigation is the difficulty in determining if a death was accidental. It was felt that many deaths from excess drug intoxication were being classified as someone taking their own life when, in fact, some of these cases were likely to be accidental deaths. A range of other matters were described as 'bringing heightened complexity' including those involving shaken babies, complex road traffic accidents, and cases in which there is a wealth of mobile phone and CCTV data. Together, these led to discussions on the difficulty in bringing certainty to any such case. This issue becomes more severe in historic cases where there may be limited access to forensic evidence and no ability to ask for further analysis. Despite these difficulties, it was felt that juries were able to decipher the complex information available.

Respondents spoke positively about how forensics are operationalised in Northern Ireland. Interviewees also gave their opinion on the potential introduction of pre-trial protocols similar to that in operation in England and Wales. Under this protocol, forensic evidence would be established in advance of court to determine its relevance, its scientific robustness, the qualifications of the witnesses, what can be agreed or not agreed and why, with only areas of contention being examined further in court. One interviewee felt this would assist in a more efficient system while another interviewee felt that the key priorities in reforming the forensic service were speeding up the process and reducing backlog.

Theme 5: Independence and the future of forensics

The independence of the forensic service in Northern Ireland was recognised (so too were complexities with this in relation to funding and operational familiarity). When asked about the challenges posed in the future, respondents focused on:

- The need for adequate resourcing and upskilling of existing services in order to respond to the challenges posed by new technology.
- The need to improve communication and working practices between key departments in the criminal process.
- Building trust with the public.
- Improving efficiency in order to speed up services.
- The need for independence and maintenance of the high-quality service.

Importantly, it was highlighted that achieving such objectives will prove difficult in the current circumstances with Covid-19 but the process of putting measures in place to return to some form of normality has already begun.

Key Observations

The analysis of interviews with a judge, a coroner and a state pathologist produced a range of themes and the following observations are worth noting:

- **Forensics is accepted as being a ‘broad church’** with an ever-expanding range of activities involving scientific analysis now described as constituting forensics.
- While this has resulted in an **increased use of experts** and other practitioners outside of the FSNI umbrella, **respondents spoke positively of their contribution** and saw them as necessary in a small jurisdiction where increased capacity or specialist expertise is not always available. However, there was general agreement that evidence produced by FSNI engenders the most confidence and as a consequence, FSNI should be adequately resourced to maintain and enhance current services going forward.
- **Forensics** is something that is inherent to the working practices of the judge, coroner and state pathologist and **brings value to a range of different interventions by helping to provide certainty in the accuracy of a decision or judicial outcome.**
- However, **services need to be streamlined in some areas to prevent excessive delay and maintaining a high-quality service is paramount to ensuring public confidence is maintained.** The independent nature of forensic services is seen as vital to this process with resistance to any move to the privatised model adopted in England and Wales.
- **The popularity of crime dramas and films that focus on the work of forensic scientists and state pathologists have led to unrealistic expectations on the part of the public, jurors, and even the police.** However, they have also had the effect of increasing the capacity of members of the public to understand complex scientific information.
- **The complexity of modern forensics raises a series of challenges around cost, resourcing and the need to prioritise certain cases.** The use of experts has been found to satisfactorily respond to shortfalls but there is a need to properly upskill and effectively resource forensic services to respond to a range of challenges posed by technological advancements and an expanding number of forensic techniques.



Analysis of selected cases from the Northern Ireland Courts and Tribunals Service



Researchers analysed the use and impact of forensic evidence at court within Northern Ireland. This is a significant and unique piece of research which clearly demonstrated the value of forensics to the court and the wider Criminal Justice System.

To ensure a cross-section of cases was fairly reflected, cases were selected at random by the Northern Ireland Courts and Tribunals Service and provided to researchers. From this sample a further sub-sample was taken and analysed with a focus on details of the forensic evidence provided in each case, the role forensic evidence played in the proceedings, as well as the value of forensic evidence to the prosecution, defence, and/or judge. **Audio recordings of 19 cases mostly covering the period 2005-2010 were researched.** The selection of the cases ensured that a wide variety of crime types are included in the analysis such as: terrorism offences; kidnapping; perverting the course of justice; murder; murder – joint enterprise; grievous bodily harm; wounding with intent; rape; theft; criminal damage; illegal possession of a firearm; as well as the possession, supply and dealing of illegal drugs.

The forensic evidence in these cases included examples of the use of pathology, fingerprint analysis, palmprint analysis,

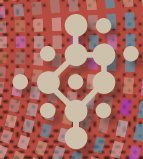
biology, blood splatter analysis, DNA (including DNA transfer evidence) analysis, fibre analysis, debris analysis, explosive and ballistics analysis, forensic imagery analysis, CCTV analysis, handwriting analysis, tyre print analysis, plastic analysis, cell site analysis, forensic data analysis and electronics analysis. The evidence may be used by either or both the defence and the prosecution.

Although the focus is on the contribution of forensic evidence to the judicial decision-making process in court, this is just one aspect of the value that forensic science brings to the Criminal Justice System. Forensic science also adds value in many ways at the criminal investigation stage, including through the provision of clues, identifying, or eliminating suspects, providing intelligence and preparing a file for the Director of Public Prosecutions. Moreover, strong forensic evidence can be influential in encouraging an early guilty plea, either at court or before a case enters the courtroom.

Key Observations

The analysis of forensic evidence used in court cases produced a range of themes and the following observations are worth noting:

- **Forensic evidence can sometimes be necessary to establish that an offence has been committed.** In cases involving toxicology analysis, the forensic evidence established that a crime had been committed by confirming the quantity and classification of illegal drugs. Pathology reports are similarly found to be used to confirm that the crime of murder has been committed, as well as providing evidence as to the extent of injuries.
- **Forensic evidence** is often useful not only in establishing that a crime has been committed, but also in **providing evidence as to the severity of the offence.** Establishing the severity of the offence has been found to impact upon judicial sentencing decisions. For example, in one case, a pathology report along with forensic blood splatter evidence confirmed the extent of injuries and the viciousness of the attack which impacted upon the sentencing decision.
- **Forensic evidence has been found to be useful in linking defendants to crimes (either a crime scene, a victim, or a weapon).** Sometimes forensic evidence provides a link between co-accused defendants. For example, forensic evidence in a case linked the accused and his car to the crime scene. Another case provided an example where forensic science was used to identify the murder weapon and linked the defendant to that weapon using DNA.
- **In some cases, forensic evidence was sufficient, without other evidence types, to support a guilty verdict.** One case provided an example where judicial decision making was supported by the existence of DNA, along with CCTV, character and eyewitness evidence in establishing the guilty verdict. Another provided an example of the credibility of an otherwise unreliable eyewitness being supported by DNA and tyre track analysis.
- **Forensic evidence can also be useful in encouraging an early guilty plea. This can ensure substantial savings in terms of court time and money.** In one case, the early guilty plea, following the commencement of the trial, was noted by the presiding judge to have occurred subsequent to the presentation of strong forensic evidence.
- **Innovations in forensic techniques have also been shown to have been useful in providing evidence and ensuring conviction in a historical case.** In a case, enhanced DNA analysis techniques were applied to DNA blood samples two decades after the crime was committed. The new evidence enabled the court to link the defendant to the murder.



Published By:

The Centre for Public Administration

About:

The Centre for Public Administration is housed within the School of Applied Social and Policy Sciences. It is an internationally leading research institute, recognised for its local as well as global impact in policy and public administration. The work of the Centre is interdisciplinary in nature, coalescing expertise from a range of disciplines including social policy, public administration, sociology, education, conflict studies, social work, political science, criminology etc. We are committed to high-quality, impact driven research to enhance policy and public administration.

Centre for Public Administration

School of Applied Social and Policy Sciences**University of Ulster**

Jordanstown Road
Newtownabbey BT37 0QB
Northern Ireland

E b.payne@ulster.ac.uk

T +44 28 9036 6437

