



Dismantling the Justice Silos: Avoiding the pitfalls and reaping the benefits of information-sharing between forensic science, medicine and law[☆]

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ABSTRACT

Forensic science is increasingly relied on by police and the courts to exonerate the innocent and to establish links to crime. With this increased reliance the potential for unjust outcomes increases, especially in serious matters for two reasons. The more serious the matter, the more likely that evidence mishandling can lead to wrongful imprisonment, and the more likely the personnel involved will be multi-disciplinary (police, medicine, law, forensic science), and multi-organisational (Health, Justice, private legal/medical, police). The importance of identifying effective multi-organisational interactions was highlighted in the recent wrongful imprisonment of an Australian male for a sexual assault he did not commit. One factor that led to this unjust outcome was the justice silo effect: where forensic practitioners from different agencies operate in isolation (rarely communicating or sharing information/knowledge). In this paper we discuss findings from the Interfaces Project designed to assess the extent of the justice silos within Australia. We interviewed 103 police, forensic scientists, lawyers, judges, coroners, pathologists and forensic physicians Australian-wide. Five main themes were identified in the data: the silo effect was only partial and in each jurisdiction some form of inter-agency communication was actively occurring; inter-agency meetings were more common in homicide than sexual assault cases; forensic physicians were semi-invisible; there had been considerable momentum over the past ten years for practice improvement groups, and; practitioners gain more benefits than pitfalls from inter-agency information-sharing. Based on these findings, five recommendations are made for improving practice.

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1. Introduction

The reliance on forensic evidence, be it science or medicine, has increased rapidly over the past 30 years. Many of the forensic sciences are highly influential in focusing police investigations, in exonerating the innocent and establishing links to crime [1]. With this increased reliance, the potential risk for miscarriages of justice increases, especially in serious matters such as homicide and sexual assault whereby the more serious the matter, the more likely that evidence mishandling can lead to wrongful convictions and the more likely that the personnel involved will be multi-disciplinary (police, medicine, law, forensic science) and multi-organisational (Health, Justice, private legal/medical, Police) [2,3]. Many of these personnel will have divergent work practices and

differing views on what their role is, or how and if they should meet during criminal investigations or court trials.

To reduce the risk of unjust outcomes more emphasis must be placed on how forensic experts communicate with each other and with law and law enforcement agencies. When there is an absence of meaningful and regular communication between the forensic sciences, forensic medicine, law and police this can be described as the justice silo effect. It is commonplace to think about the criminal justice system as a unified entity with agencies working effectively towards a single purpose [4]. However, a commentary by Ross painted a different picture of siloed agencies with a fragmented approach to collaboration [5]. Within the US similar fragmented interactions and siloed agencies have been noted [6].

The existence of silos is not unique to forensic services; it exists between forensic services, forensic medicine, law and law enforcement [5]. A clear example of how detrimental the silo effect can be occurred in Australia. In 2008, Farah Jama (FJ) was convicted of a rape he did not commit and sentenced to six years imprisonment. No circumstantial evidence was presented at trial and the jury's verdict rested solely on the basis of DNA evidence. In December 2009, it became apparent that there was a problem with

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the original DNA swabs (contamination of the swabs) and a prosecutor from the Victorian Public Prosecutions Office advised the Victorian Court of Appeal in Melbourne that a 'substantial miscarriage of justice' had occurred; FJ was acquitted immediately. In 2010, The Vincent report into the wrongful conviction of FJ was released detailing an extraordinary case of forensic evidence contamination combined with limited information flow between the medical, scientific and law enforcement practitioners involved. Justice Vincent considered that the Victorian criminal justice system had wholeheartedly let FJ down. Cases such as that of Farah Jama clearly show the importance of ensuring that criminal justice personnel interact and do not operate in isolation [7].

However, it remains unclear as to how justice agencies should interact so that their information-sharing is more beneficial than detrimental, and that practitioner professional boundaries and objectivity as expert witnesses are not undermined. After an extensive search of the literature, no empirical research could be located that had explored *how* the forensic sciences, medicine, law and law enforcement can communicate effectively. The literature that could be located was commentary articles [4] presenting the case for *why* agencies should collaborate, but not how they should collaborate.

1.1. Current research into inter-agency information-sharing

Information sharing presents in a number of forms. Recently partnership policing has come to prominence and has been shown to be effective in assisting police to manage complex police tasks, such as policing diverse communities and reducing crime in shopping centres, gun related offending and in domestic/family violence [8]. Partnership approaches are based upon the view that no single agency alone can be responsible for the complexity of managing community safety and reducing crime [8]. The complexity of crime problems requires knowledge to be shared across agencies and between various disciplines [9]. Whilst it is important for agencies to remain within professional boundaries and areas of responsibilities, Bartkowiak–Theron argues this does not need to occur in isolation and being aware of the various expertise of other agencies provides for fruitful cross-pollination of ideas [8].

Recently several reviews from the UK, US, Canada and Australia have identified the elements that have underpinned successful interagency information-sharing. These reviews have come from a range of different areas including family violence initiatives [10,11], from effective working partnership projects between police departments and parole agencies [12] and assessing successful training programme development between the defence forces [13]. This research has found that for inter-agency information sharing to work a multi-faceted approach is needed that is underpinned by five key elements.² These are:

- A joint known purpose for the group,
- Motivation of skilled group leaders (a clearly defined well trained group leader),
- Organisational support,
- Value to the organisation, and,
- Clear dissemination of information and decisions made in the groups.

1.2. Potential pitfalls of justice agency collaborations and information sharing

To reduce the risk of agency silos contributing to miscarriages of justice, such as in the case of Farah Jama, information sharing

between criminal justice agencies appears beneficial. The research above details the key elements that need to be in place for partnership and information sharing between agencies to be successful. However, despite the benefits there are numerous pitfalls that can occur when justice agencies work *too* closely together. The main pitfalls are decision making errors, such as groupthink, social conformity, tunnel vision and context bias.

Groupthink manifests as a strong compulsion within certain groups to reach unanimous decisions. Although reaching a unanimous decision may be seen as advantageous, it is problematic when the desire to reach consensus comes at the expense of an increased likelihood of poor-quality and quicker less rational decisions as fewer alternative solutions are explored, with dissenting opinions in the group minimised [14,15]. Groupthink has been shown to occur in jury deliberations and represents a risk for wrongful convictions [15] and also appeared to be one of the major contributing factors that led to the Space Shuttle Challenger disaster in 1986 [16].

Another problem that occurs within groups is conformity and obedience to the social influence of others. Group conformity refers to the thoughts and feelings people have in groups, such as feeling intimidated, wanting to be accountable, wanting to fit in. Certain people within groups have been shown to exert more influence and pressure than others [14]. It is not unreasonable to expect to see this problem occurring in justice groups where junior police, lawyers, and scientists conform to the authority of older or more experienced practitioners who present an assertive opposing view to their own.

A pervasive contributor to wrongful convictions is tunnel vision. Tunnel vision refers to seeing an incident or series of events from a personal perspective through a narrow lens. It can result in investigations zoning in on a single cause and/or focusing on a single suspect, whilst ignoring or suppressing alternative explanations or evidence that contradicts the circumstances of the case or perceived guilt [17]. Tunnel vision can occur, for example, in mistaken eyewitness identifications and it is suggested that this is one of the most common cause of wrongful convictions [18].

Etter suggested that one way to minimise tunnel vision is to ensure that justice practitioners engage in critical thinking and look at all the alternatives [19]. Research has also suggested that strong group leadership qualities are important in minimising groupthink, tunnel vision and conformity in decision making groups. Although these risks cannot be eliminated, reducing them may be achievable with a group leader who is participative rather than directive/authoritarian in style combined with high level skills in recognising and managing negative group dynamics [20].

Finally, contextual bias describes how decisions can be influenced by knowledge of circumstantial information that is in excess of what is needed to carry out a scientific analytical task [21]. In the criminal justice system, the context information surrounding traces can often be of an emotive origin (semen slides from a vicious child rape; knife from the scene of an elderly victim of a violent home invasion). Research has continually demonstrated that contextual information does influence a person's decision making [22].

The effects of context bias can be managed in laboratories and be minimised through carefully designed analytical processes, case management and blind testing. Research by Byrd has suggested a number of steps to reduce the risk of context bias influencing expertise. These include: participating in proficiency testing (including scientific reasoning), accepting that bias exists, seeking to disprove opinions and not relying on hunches, remaining objective and limiting background information that is not strictly necessary [23]. Another model that is suggested to have the ability to reduce bias (and could potentially minimise tunnel vision and group think), is the case assessment and interpretation (CAI) model

² A more comprehensive review of the review studies into effective interagency communication and interactions can be obtained from the first author on request.

currently applied in forensic science laboratories in The Netherlands, Ireland, parts of the UK and Sweden [24]. However, criticism of CAI suggests that this changes the role of forensic scientists from impartial expert to more involved instrumental player in the investigative process. [25].

1.3. Purpose of the current study

Reviews into successful inter-agency collaborations have suggested that effective information sharing is necessary to avoid the silo effect. The current study (known as the Interfaces Project) was devised to explore current forms of communication and practices and to identify if these interactions could be more effective in shielding four professional groups from the silo effect during the investigation and trial of homicide and sexual assault matters. The Interfaces Project had two primary aims, which were: first, to conduct interviews with practitioners from a range of relevant disciplines and identify areas of good practice related to their interactions (e.g., communication patterns), and second, to develop recommendations to maximise the benefits of interactions between the four professional groups whilst maintaining their integrity, and reducing the risk of social influence and cognitive biases.

2. Materials and methods

2.1. Participants

The participants were 103 practitioners from four professional groups who on a regular basis play a role in the investigation/criminal proceedings of homicide and sexual assault matters. The four professional groups were: forensic medicine, forensic science, law enforcement and law. The number of people and the types of disciplines for each professional group can be seen in Table 1.

The age range of the sample was 21–80 years. The participants were drawn from seven Australian States and Territories: Victoria, Australian Capital Territory, Western Australia, Queensland, New South Wales, South Australia and Tasmania.

2.2. Procedure

The data from the 103 participants was collected during digitally recorded focus groups ($n = 19$ focus groups) or one-on-one in-depth interviews ($n = 52$ interviews). Most of the interviews and focus groups took place at the participants' places of work. The interviews and focus groups ranged from 40 min to just over 2 h. The format for the interviews and groups was the same, commencing with a general discussion about each practitioner's employment and place of work and then moving to the focus of the study. Each of the practitioners was asked six structured questions. However, in many instances the practitioners expanded the focus of the questions as to their profession and additional unstructured questions were asked in over 50% of the interviews and focus groups.

Document analysis was also carried out to assess the structure and formality of any inter-agency groupings identified during the data collection. Where applicable, agencies were asked to provide documents such as procedural manuals, memoranda of understanding, meeting agendas and prosecutorial guidelines.

Table 1
Type and number of practitioners interviewed.

Type of participant	Number	
Forensic Medicine	Pathologist	5
	Forensic Physician/Forensic Nurse	10
Forensic Science	Lab Science (biology and chemistry)	25
	Field Sciences (crime scene, ballistics, fingerprints)	19
	Other (senior fire investigator)	1
Law Enforcement	Senior Police Forensic Managers	3
	Senior Homicide/Sexual Assault Investigators	9
Law	Senior Judiciary	3
	Chief Magistrates/State Coroners	5
	DPP and prosecution counsel	8
	Legal Aid and private bar defence counsel	14
	Victims support advocate	1
Total interviewees	103	

2.3. Qualitative data analyses

All group and interview recordings were transcribed into word documents. Recordings were erased following transcript verification. The word documents were uploaded into Nvivo 8, data analysis software which can be used to organise both structured and unstructured qualitative data and documents. The narrative content analysis was carried out using a sequential idiographic approach [26]. During the analysis a theme list was created providing a system to identify the major and minor subthemes contained within the narrative. As qualitative analysis is open to bias, it is essential that themes identified are verified and inter-coder agreement assessed [27]. In this project data was analysed separately by two coders.

2.4. Triangulation of method

To ensure this research was methodologically sound and rigorous, three triangulation methods were employed. Triangulation is a technique that ensures validation and reliability of qualitative data through cross verification [28]. First, data triangulation was achieved by gathering the same information using different methods and populations (focus groups and interviews in four different professional groups, and organisational policy documents). This ensured that much of the interview narrative was verified through organisational documents. Second, investigator triangulation was achieved by ensuring two experienced interviewers carried out the interviews and focus groups; thus collecting high quality data. Third, theoretical triangulation was achieved as the data was analysed using various fields of study and literature including; business and forensic management, applied social science, organisational and social psychology, cognitive science and police studies.

2.5. Ethical approval and considerations

The study received ethical approval from the Social Sciences Human Research Ethics Committee at the University of Tasmania. Consent to participate in this study was freely obtained and no rewards were offered/provided. The procedures followed and complied with the National Health and Medical Research Council (NHMRC) guidelines for ethical research carried out in Australia. All participants were offered the opportunity to receive a copy of their transcript and offered the opportunity to clarify any points. Only two participants asked for transcripts. No participants withdrew from the study. To provide confidentiality to the participants, names, place of work and gender are not presented here; names are replaced with a random code (such as SA23) that is used in the key findings presented below.

3. Results and key findings

Five main themes were identified in the data. These main themes are presented and discussed below as key findings. To enrich the findings and add clarity, where appropriate, narrative from the interviews or focus groups is provided.

3.1. The silo effect was only partial and in each of the jurisdictions some form of inter-agency communication was actively occurring

The first aim of the project was to identify existing patterns of communication. The first finding was that all 103 participants stated that at some point in their current position they had been involved in inter-agency information or knowledge sharing.

Inter-agency meetings or information sharing occurred in three ways: investigative case conferencing (during the investigative/brief preparation stage), case briefings (post brief/pre and during trial) and, practice improvement (multi-agency networking meetings, inter-agency professional development groups). The analysis revealed no instances of any participants being completely isolated from other justice agencies. This is not to say that silo effects were not present, but rather if present, in 2012, they appeared to be partial with agencies not sharing as much information as they could, rather than agencies working in social vacuums and not communicating at all. This partial silo effect is discussed in more detail below in Section 3.3.

3.2. Inter-agency meetings were more common in homicide than sexual assault cases

One pattern evident from the data was that face-to-face investigative and briefing meetings were more common, almost

routine, in homicide matters. However, it was extremely rare for face-to-face meetings to occur, either at the investigative or briefing stages during sexual assault matters.

In homicide matters, investigative and briefing meetings between forensic medicine (namely pathology), forensic science, law and law enforcement had been occurring across Australia for over 10 years. However, there was no uniformity across the country as to the formality of the groups, the procedures followed at meetings, or which practitioners would be invited to attend. Over the past 5 years three of the States had restructured the manner in which investigative case meetings proceeded and the meetings had become less ad hoc and more formalised. One of these States had also formally restructured case briefing meetings and formal procedures were in place prescribing the interactions between forensic science, medicine, police and the prosecutors.

Investigative meetings in homicides were usually held a few days to three weeks after the incident. The meetings were held in offices during the day and were always attended by the detectives and crime scene personnel. Forensic scientists and pathologists were asked to attend most, but not all, of these meetings. The purpose of the meetings was different for each State. In some States the meetings were for forensic sample triage purposes; to discuss priorities in what would be analysed. In other States the meetings were more inclusive, and could be described as context rich, involving discussions of case circumstances, forensic samples collected and where the investigation was heading. In two States the meetings had become more formalised, detailing who would attend, and when these meetings would be called. In most instances these meetings were called by police investigators. As mentioned there was no national uniformity.

Pre-trial briefing meetings in homicides matters were far more ad hoc in nature. During the interviews it became apparent that what lawyers refer to as 'meetings' were considered 'passing brief discussions' by other practitioners. When forensic scientists, medical practitioners and police were asked how often they met with lawyers prior to court, the most common response was: "I hardly see lawyers, maybe five minutes before court or just outside the courtroom door before I am called in". These brief encounters were seen as frustrating for the experts who wanted to spend more time with lawyers pre-trial. The response from lawyers was that they did meet with most of the important expert witnesses before each trial. This misunderstanding between these professional groups (about what constituted a 'meeting') was illustrated by the following comment from one lawyer:

CD9 "Huge benefits in meeting experts. There wouldn't be someone that an opposing party calls, an expert, who I wouldn't ask the prosecutor to have them, if we're resuming at 2.15, there at 2.00 so I can sit down and sound them out".

To CD9, the 15 min before court was a meeting. They went onto to explain that they work on one brief at a time. They initially get a brief, spend a few hours making sure everything is in place then put it aside until closer to the court date. According to this participant, lawyers become enmeshed in a brief while at court, then move onto the next, finding it difficult to switch between briefs in any given week.

The opposite was found for sexual assault matters, where very few inter-agency investigative meetings were held. Although some briefing meetings were held, this often depended on the seriousness of the matter and what the contested facts were. The difference between homicides, where agencies often communicated, and sexual assaults where there was limited inter-agency communication was suggested to occur for several reasons. First, there was an apparent lack of trust between the police and lawyers towards forensic physicians and nurses and a lack of knowledge of

what these physicians could offer. The police and lawyers questioned forensic physicians' ability to be objective and not to identify overly with the victim. The second reason, according to several police officers, was that the vast number of sexual assault matters are historical in nature before the investigation begins (where assaults are reported weeks or years later and physical evidence lost), or where the victim was seen by a physician, but a forensic examination did not take place (often at the victim's request) meaning that in many cases the forensic sciences and medicine cannot play a significant role. When practitioners in this study were asked if it would be beneficial for them to attend more investigative or briefing meetings the main response was no, as illustrated below:

K3 "Look sex assault is pretty specific in terms of the disciplines that are involved. Homicides are dealt with individually; sex assault does not need to be dealt with like that all the time. We've got a (practice improvement) group that deals with sex case issues that are raised".

3.3. The partial silo effect and the semi-invisibility of forensic physicians

An interesting finding was that forensic physicians and nurses overwhelmingly believed that they had important knowledge and experience that could enrich investigations and could clarify contested facts prior to court. They believed their knowledge was underutilised. It is noteworthy that during the Farah Jama investigation, when the possibility of DNA contamination was very briefly raised by one police officer to their superior, neither the police officers nor the forensic scientists who discussed possible contamination contacted the forensic physician who had undertaken the examination of the victim (it was at the hospital that the DNA contamination in this case occurred). During the interviews it was apparent that even post Farah Jama, forensic physicians can remain an invisible and underutilised resource by other justice agencies.

Although forensic physicians and nurses were on the whole siloed in the investigative and pre-trial process, interviews with other practitioners revealed that this invisibility was not always deliberate. In some instances it was more an omission by the police, forensic science and lawyers who did not remember to invite them to meetings; they appeared to be not on the radar. This was exemplified by one forensic scientist who had been involved in the investigative and briefing stages of a complex homicide matter.

G568 "We didn't really have much to do with XYZ (the forensic physician) and we didn't call them in for the forensic pre trial conference either. Really it would have been not a bad idea to use them more but we didn't at the time".

In a few instances where forensic physicians were utilised by lawyers and the police this occurred as a result of these physicians placing themselves on the 'radar' of other justice agencies and practitioners; it was no accident that these self-motivated practitioners became part of the justice agency community. The manner in which these practitioners made their professional knowledge known and visible was often through developing networking and practice improvement groups; discussed below (refer Section 3.4).

3.4. Considerable momentum over the past ten years for practice improvement groups

An unanticipated finding was the growth over the past ten years of non-case specific information and knowledge sharing groups,

especially informal and semi formal groups across most of the States/Territories. The aims of this study had been to discover effective forms of communication and information-sharing during the investigation and trial stages of homicide and sexual assault matters. It became apparent during the interviews that for many practitioners attending non-case specific working groups was an important mechanism for them to share knowledge, to promote what their disciplines could offer and to network. The rationale for starting many of the practice improvement groups (PI groups) was to meet colleagues from different agencies, to improve forensic and policing practice and to share knowledge in general; they are not case specific meetings, although sometimes certain aspects of cases are discussed to facilitate practice improvement.

The genesis of these groups was often due to the initiative and leadership of one or two practitioners within an agency; for example where a practitioner became aware of certain practices by one agency that impacted negatively on forensic/police practice, and where this was in part a manifestation of the silo effect. This practitioner, rather than ignoring the problem or assuming that someone else would deal with the problem, decided it would be more beneficial if all personnel involved in certain type of cases met to discuss the practices used by each agency that were helpful or problematic for the others. Another way in which these groups formed was during the aftermath of a parliamentary or judicial inquiry into negative forensic practice resulting in unjust outcomes.

The PI groups discussed in detail in this report are not the professional associations to which many forensic scientists and lawyers belong, such as the branches of the Australian and New Zealand Forensic Society (ANZFSS), or the Australian and New Zealand Society of Psychiatry, Psychology and Law (ANZAPPL). However, for some practitioners, especially lawyers, developing knowledge and networking with other professionals from other justice agencies often occurred informally at the evening seminars organised by professional industry associations.

3.4.1. Characteristics of PI groups by formality level

Similar to the homicide groupings (see Section 3.2) three formality levels were apparent in the way that PI groups were formed and operated. To enhance the data analysis, the PI groupings identified were assessed using the five key elements of successful inter-agency groupings to determine their potential effectiveness. These were:

- A joint known purpose for the group (all members of the group are committed, know the purpose of the group and have clearly defined roles/responsibilities),
- Motivation of group leaders (a clearly defined well trained group leader),
- Organisational support (staff have the resources to fulfil their role/responsibilities),
- Value to the organisation (firm commitment from the organisation, especially senior managers, to ongoing partnerships and to implementing any changes as evidenced by signed MOUs),
- Clear dissemination of information and decisions made in the groups.

Informal groups usually developed after a problem was identified and there was no mechanism to deal with it. For example, a practitioner identified the potential for contamination to occur at homicide scenes where deceased persons were collected from scenes by newly appointed private undertakers who had not been adequately briefed on the procedure for the collection of bodies for forensic post-mortem. This lack of knowledge was creating problems in the morgue. Rather than ignoring the problem or sending an email, this practitioner decided

it would be more beneficial if all personnel who attend homicide scenes within a given geographical area, met to discuss each others' roles and what practices each agency used that were helpful or problematic for the others. As U67, one of the participants who had initiated a similar group commented, "*You don't get things fixed by sitting down in your office thinking someone else will do it*".

Meetings of these informal groups were voluntary; people came because they wanted to and often there was a representative from all organisations. The meetings were task and solution-focused, with the solutions ideally involving forward thinking. These groups typically met either during working hours (lunch times) or out of hours, for example for dinner. When assessing these groups, it was apparent that the members knew the purpose of the group was to improve practice and solve problems. The groups were managed by motivated and committed leaders albeit limited organisational and limited dissemination of knowledge. Although the groups appeared beneficial their longevity could not be assured due to lack of organisational support. As C89 commented with reference to a PI group they had run for over 8 years, "*If we weren't doing it, it would fall in a heap*".

Semi-formalised groups were also organised by individuals who took the initiative to foster better practice. The aim of these groups was similar to informal groups: to be forward thinking, to be solution focussed and to improve inter-agency working relationships. However, they were more formalised in their mechanism for information sharing, there was a stronger degree of organisational support, and in all instances agencies had signed MOUs which detailed how they would share information. Most of the MOUs documented a clear purpose, such as to improve the experience of victims of sexual assault when accessing services and progressing through the criminal justice system. However, not all groups were this clear in their purpose, as exemplified by T21, "*I am not really sure what the point of the group is, something about getting written protocols set up, something like that*".

Semi-formalised PI groups were also given time to attend and prepare for meetings during work hours. This resulted in more group members receiving agendas and minutes creating role clarity. The main negative aspect was the limited dissemination of information or feedback. One practitioner (PM6) whose colleague sat on a PI group commented:

PM6 "To be honest, I don't really know what they discuss.... Because although I hear bits and pieces from XXX, it's only if she happens to tell us...., particularly if they come up with some recommendations, or guidelines.

Formalised groups were clearly distinguishable from the informal and semi-formal groups, in that the manner in which the group conducted business was prescribed. Several of the groups identified were created following parliamentary enquiries or by the directive of a government minister. MOUs, policies and procedural manuals were in place. Of importance, all five key elements of successful inter-agency partnerships were present. An example was a fire and explosive investigative group. This group formed following a major incident where the crime scene or the investigation was not handled effectively. The multiple agencies involved (fire brigade, homicide, arson and fraud police squads, forensic sciences, ambulance service, electricity and gas providers and insurance companies) came together and formed a working partnership that was initiated by senior practitioners, although at grass roots level (bottom up rather than top down). The formal policy documents took 18 months to develop and to be signed off by the heads of agencies. The policy adopts a team approach and sets out the roles and procedures to be carried out by every agency that attends serious residential and commercial fires. It is

supported by the criminal and coroner's courts in the jurisdiction where it is based. Although it details a collegiate team approach to conducting fire investigations it also provides for clear separation of professional boundaries. The policy is supported by annual joint training exercises involving international speakers and local experts in fire investigation. All new personnel spend several weeks working with personnel from other agencies. The policy works according to SD2 because:

"This is built on trust, and respect, this policy. It's respect for each party's abilities. The skills, knowledge and attitudes people bring to an investigative process. And everyone does it the same way. That builds trust".

3.5. Practitioners gain more benefits than pitfalls from inter-agency information-sharing

3.5.1. Beneficial aspects

Most of the practitioners who participated in this project said they found it beneficial to meet with personnel from other agencies. Five main benefits were discussed with most participants regardless of profession stating they found meeting people face to face more beneficial than restricting their communications to telephone calls or emails.

The five benefits comprise:

- An understanding of what other personnel do and what their roles and responsibilities are,
- The ability to put a name to an email,
- The benefit of knowing someone from another agency or discipline personally making it easier to ask the type of 'questions' that people may not like to ask strangers,
- Having an actual point of contact for discussion when something looks 'potentially wrong' (this benefit inter-relates with the first three) even if there is a feeling of being over cautious, and
- Finally, having a more comprehensive understanding of the intricacies involved in specific cases. This benefit was overwhelmingly of interest to the lawyers.

Differences were also apparent in that although defence lawyers were in favour of meeting forensic experts they believed they had to be guarded in what they said to prevent 'showing their hand', as illustrated by one lawyer in terms of meeting with a pathologist:

GR7 "So I'd be trying to be fairly careful about giving them a bit of an indication of what I was thinking, I would try to conduct that sort of meeting on the basis that I'm just going through your report and trying to understand myself what it is you're actually saying".

Although most participants stated that at some point they had interacted face to face with other justice personnel, several participants noted that "forcing" or "suggesting" that justice personnel meet in every serious matter to discuss aspects of the case was not practicable and would further overload an already overloaded system. Several participants stated that in less complex cases sometimes a phone call would suffice to clarify an issue.

3.5.2. Recognition of the pitfalls

The pitfalls of investigative case meetings or group briefing meetings were discussed by many of the participants, some of whom talked in depth about the potential for diminished professional boundaries. Although these participants did not mention group conformity, social influence and bias directly, it was in the essence of the narrative. The comment below from IZ9

relates to the question of whether police, and investigators, forensic experts and lawyers (primarily crown prosecutors) should meet during the investigative stages of serious criminal matters:

IZ9, "I think there are some real dangers in them (case meetings). One doesn't really want to have the scientists and the doctors and others perceiving themselves too much to be part of a criminal investigation process ... That's not to say there shouldn't be dialogue between the informant, the main investigator and the pathologist for instance to understand what they can and can't say and what the meaning of it is".

The comments from one of the judges (D93) were in relation to the pros and cons of combined briefings between crown prosecutors and expert witnesses prior to trial (as described above in Section 3.2). The essence here was that such meetings could undermine professional boundaries and that there should ideally be open and transparent meetings pre-trial to discuss evidence. D92, although not mentioning it by name raised the problem of groupthink:

D93 "That's an extremely dangerous thing. That harmonisation, the self confirmation of each other really threatens the individual expertise. ... The expert's role has to be independent".

The possibility of context bias was raised in a

F20 "I accept that there is contextual bias and I think it's something we all need to be educated about and aware of and I think we should all try to have mechanisms in place to try and prevent it from creeping in. To suggest that we should sit in our silos and not interact because we're incapable of handling information, I actually find that quite professionally insulting".

3.6. Conclusion and recommendations

There appears to be a trend towards more formalised investigative case meetings, especially in homicide matters. The more formalised the meetings the more likely that certain practitioners will be 'required/invited' to attend, including police, forensic scientists (primarily pathologists) and prosecution lawyers. All of the participants in this study who had attended investigative meetings said they gained a lot from these meetings. None of the participants felt these meetings were negative. From a practitioner's perspective, investigative meetings were beneficial as it allowed them to understand the bigger picture, what the investigators were thinking and what other circumstantial evidence had been gathered. It allowed practitioners to see where their analyses either fitted or conflicted with the direction the investigation was taking. Furthermore, the practitioners said the ability to narrow down the type of analyses was most helpful. In essence, the more formalised the meetings the more likely it was that they were attended by a diverse range of practitioners and that these meetings became more context rich.

Are more context rich meetings problematic? Although forensic practitioners were aware of context bias they appeared to have limited knowledge of other biases that are just as pervasive. Many practitioners believed their own professionalism would make them immune, or that training could eliminate risk. Many practitioners felt that to be informed they could be influenced by these biases was in some way insulting. Some practitioners also appeared overconfident in the infallibility of their internal peer review processes, believing reviews were sufficient to remove bias. At present the 'message' provided by researchers such as Dror [22] on context bias is not being accepted by forensic practitioners who are unconvinced and defensive. Similarly, most practitioners were not willing to

accept that social influence and groupthink were just part of everyday human interactions and behaviour.

Although policies are in place in many forensic laboratories and forensic medical facilities to comply with recommendations to reduce context bias it was apparent very little has been done to protect practitioners from social conformity, group pressure or tunnel vision in the context rich meetings they attend. Some forensic medical and legal practitioners raised concerns about how professional boundaries can be diminished by practitioners getting too close during the investigative stage of criminal matters. They felt this could be overcome by having more open and transparent with the meetings being recorded to provide defence lawyers the opportunity to hear what occurred, or with more extensive pre-trial committal hearings (not a 15 min brief pre-trial hearing) where all the evidence that was contested would be debated with the aim to decide on agreed facts. Of interest, most of these solutions placed the role of gatekeepers of justice within the court. As noted in the NAS report, the courts are not always the best gatekeepers of justice in that justice effectively rests on the competency of individual lawyers [6].

An important finding related to PI groups is that they have gained momentum and provide criminal justice personnel with the ability to network and to put a name to an email. Group members understand the roles of others in the justice system, how their practices impacted upon others, and how to prevent overlap of tasks, or assumptions that others knew what their role should be. Of importance, police officers, forensic scientists, medical practitioners and lawyers who attended these groups all gained similar benefits; no-one saw these groups as a waste of time. However the lack of organisational support impacted in two ways. First, many of the personnel who lead the groups managed the running and arranging in their own time (after work or in lunch hours). Second, outcomes of group discussions were not passed to other practitioners (only the people who attended gained full knowledge). Also PI groups may not be immune to the problems of social influence, group conformity and tunnel vision. Influential or senior people would still be able to exert influence over junior members.

As this is a new area of research, very little empirical evidence exists that demonstrates how reductions in tunnel vision, group conformity and social influence can be achieved in investigative, case briefing or PI group meetings. This is certainly an area for future experimental psychological research. However, this does not suggest that meetings should not occur until we have gained this knowledge. Rather, as we do know how beneficial inter-agency meetings are if well structured, it would seem beneficial for agencies to put effort into achieving the five key elements that underpin inter-agency information-sharing.

Based on these findings, five recommendations for practice are made.

Recommendation 1

- That forensic, medical, law enforcement and legal practitioners become more knowledgeable of the pervasive nature and potential impact of context bias, social influence, conformity and groupthink.

Recommendation 2

- The message on context bias and social influence provided by cognitive science researchers such as Dror is not being accepted by forensic practitioners. Careful consideration must be given to how this knowledge is presented to practitioners.

Recommendation 3

With respect to justice driven group meetings ensure that:

- Meetings are open and transparent,
- All personnel who attend investigative and briefing meetings are skilled in critical and lateral thinking,
- Attention is paid to maintaining professional boundaries, and
- Group leaders are participatory, not directive in style, and are skilled in recognising negative group dynamics [17,20].

Recommendation 4

With respect to maximising multi-disciplinary interactive benefits there must be:

- A clear purpose for any group to meet,
- Members having defined roles and responsibilities,
- Organisational commitment and support at senior management level backed by formal inter-agency agreements, and
- Clear and adequate recording and dissemination of information.

Recommendation 5

- That further experimental social psychological and evaluation research is undertaken to determine how to maximise the effectiveness of inter-agency groups.

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References

- [1] R. Julian, S.F. Kelty, J. Robertson, Get it right the first time: critical issues at the crime scene, *Curr. Issues Crim. Just. Special Issue: Forensic Science and Justice: From Crime Scene to Court and Beyond* 24 (2012) 25–38.
- [2] S. Gross, K. Jacoby, D. Matheson, N. Montgomery, S. Patil, Exonerations in the United States 1989 through 2003, *J. Crim. Law Criminol.* 95 (2005) 523–555.
- [3] K. Roach, Wrongful convictions: adversarial and inquisitorial themes, *N.C.J. Int'l L. Com. Reg.* 35 (2010) 387–446.
- [4] M. Carter, *The Emergence of Collaboration as the Preferred Approach in Criminal Justice*, Centre for Effective Public Policy, Silver Spring, MD, 2005, pp. 1–10.
- [5] A. Ross, Commentary: forensic science in Australia: where does Australia sit in relation to trends and issues in the international context? *Curr. Issues Crim. Just. Special Issue: Forensic Science and Justice: From Crime Scene to Court and Beyond* 24 (2012) 121–130.
- [6] National Academy of Sciences, *Strengthening Forensic Science in the United States: A Path Forward*, National Academy of Sciences, National Academies Press, Washington, DC, 2009.
- [7] F. Vincent, *Inquiry into the Circumstances that Led to the Conviction of Mr Farah Abdulkadir Jama*, Victorian Government Printer, Melbourne, Australia, 2010.
- [8] I. Bartkowiak-Theron, Partnership policing for police organisations, in: P. Birch, V. Herrington (Eds.), *Policing in Practice*, Palgrave Macmillan, South Yarra, Australia, 2011, pp. 180–204.
- [9] C. Roux, F. Crispino, O. Ribaux, From forensics to forensic science, *Curr. Issues Crim. Just., Special Issue: Forensic Science and Justice: From Crime Scene to Court and Beyond* 24 (2012) 7–25.
- [10] J. Mulroney, *Trends in Interagency Work, Australian Domestic and Family Violence Clearinghouse*, The University of New South Wales Sydney, Australia, 2003.
- [11] C. Murphy, J. Fanslow, *Building Collaborations to Eliminate Family Violence: Facilitators, Barriers and Good Practice*, New Zealand Family Violence Clearinghouse, The University of Auckland, Auckland, New Zealand, 2012.
- [12] J. Jannetta, P. Lachman, in: Office of Community Oriented Policing Services (Ed.), *Promoting Partnerships Between Police and Community Supervision Agencies: How Coordination Can Reduce Crime and Improve Public Safety*, US Department of Justice, Washington, DC, 2011, pp. 1–56.
- [13] D. Twitchell, R. Bodrero, M. Good, K. Burk, Overcoming challenges to successful interagency collaboration, *Perform. Manage.* 46 (2007) 8–15.
- [14] E. Aronson, *The Social Animal*, Worth Publishers, New York, 2010.
- [15] D. Mitchell, D. Eckstein, Jury dynamics and decision-making: a prescription for groupthink, *Int. J. Acad. Res.* 1 (2009) 163–169.
- [16] J.K. Esser, J. Lindoerfer, Groupthink and the space shuttle challenger accident: toward a quantitative case analysis, *J. Behav. Dec. Making* 2 (1989) 167–177.
- [17] J. Dempsey, L. Frost, *An Introduction to Policing Delmar* Cengage Learning, Clifton Park, NY, 2010.
- [18] K.A. Findley, Tunnel vision, in: B. Cutler (Ed.), *Conviction of the Innocent: Lessons from Psychological Research*, APA Press, Washington, DC, 2010, pp. 303–323.
- [19] B. Etter, Changing the way we think about justice! Dealing with miscarriages of justice: shifting boundaries and changing lives, in: *The Australian and New Zealand Critical Criminology Conference*, University of Tasmania, Hobart, Australia, 2012.
- [20] R. Baron, N. Kerr, *Group Process, Group Decision, Group Action*, Open University Press, Philadelphia, PA, 2011.
- [21] M. Page, J. Taylor, M. Blenkin, Context effects and observer bias: implications for forensic odontology, *J. Forensic Sci.* 57 (2011) 108–112.
- [22] I.E. Dror, G. Hampikian, Subjectivity and bias in forensic DNA mixture interpretation, *Sci. Justice* 51 (2011) 204–208.
- [23] J. Byrd, Confirmation bias, ethics, and mistakes in forensics, *J. Forensic Ident.* 56 (2006) 511–525.
- [24] R. Cook, I.W. Evett, G. Jackson, P.J. Jones, J.A. Lambert, A model for case assessment and interpretation, *Sci. Justice* 38 (1998) 151–156.
- [25] C. Lawless, A curious reconstruction? The shaping of 'marketized' forensic science, Discussion Paper no: 63, Centre for analysis of risk and regulation at the London School of Economics and Political Science, London, 2010.
- [26] J.A. Smith, Semi-structured interviewing and qualitative analysis, in: J.A. Smith, R. Harré, L. Van Langenhove (Eds.), *Rethinking Methods in Psychology*, Sage Publications, London, 1995, pp. 9–27.
- [27] M.B. Miles, A. Huberman, *Qualitative Data Analysis*, Sage Publishing, Thousand Oaks, CA, 1994.
- [28] N.K. Denzin, *The Research Act in Sociology*, Aldine, Chicago, 1970.