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From Emergency Call to Crime Scene: Information Transference in the Criminal Investigation

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ABSTRACT

In the present study, how crime scene investigators are informed before going to a crime scene was investigated. In order to gain more insight in the flow of information from emergency call to crime scene, semi-structured interviews were conducted in three different police regions with six crime scene investigators, six forensic team leaders, and six crime scene investigators.

Results indicate that information that crime scene investigators receive before going to a crime scene is usually limited. Most information is provided on-site by the uniformed police officers, forensic medical examiner, and tactical investigation team. This information flow is underexposed, and there are no guidelines about how it is recorded.

Even though all parties are provided with limited information, incidents are quickly labelled by emergency call responders and forensic team leaders. The influence of the framing process that occurs as a result is underestimated. Furthermore, emergency call responders and forensic team leaders have different goals in the investigative process and hardly take into account the specific needs of the crime scene investigator. In order to better meet the needs of crime scene investigators, further research about the content of the provided information, as well as at what moment it should be shared, is needed. Also, in order to determine afterward what role information may have played in the decision-making at the crime scene the recording of information should be better safeguarded.

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Introduction

On March 10, 2010 a 12-year Milly Boele disappeared from her house in Dordrecht, The Netherlands. She had been talking on the phone to her mum. During the phone call she asked if she could call back later because a neighbor just came to the door. Ten minutes later she did not answer a phone call from her mother anymore. When her mother came home an hour later she was gone. Her parents reported her missing, immediately initiating a large police investigation. After six days she was found, only after a neighbor reported himself to the police. He had murdered her and buried her in his garden. It became a highly publicized case, also because the neighbor was a police officer.

In her initial call to the police the mother mentioned the aborted call with her daughter and told that Milly had mentioned that the "neighbor with the cat" was at the door. Then she was transferred to the police telephone operator handling more serious cases. They discussed several things, such as the girl's age, the time she last spoke to her daughter, and whether she could be with a friend. However, the information that the "neighbor with the cat" came to the door and was possibly the last person to see the girl alive, never came up during that second discussion, neither was it transferred by the first operator. Due to the miscommunication, the information about the neighbor vanished and never reached the investigating police officers. A committee that evaluated the police investigation of the case later concluded that the gathering of information at the start of the investigation deserves to get more attention (Leeuwen, Hulsenbek, and Velings 2011).

The Milly Boele case demonstrates the importance of properly gathering and transferring information right at the start of the investigation when an emergency call comes in. However, little is known about *what* information should be gathered in order to

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facilitate the criminal investigation, nor is there much known about *how* the information is being transferred from the initial emergency call to the crime scene investigator. To our knowledge studies thus far have mainly focussed on managing the work flow and processes in the emergency call centres instead of on the content of the information (e.g., Scholtens, Den Hengst, and Waterreus 2016).

Information and the investigation of the crime scene

Despite many technological and scientific advances, decision-making at the crime scene is still primarily a cognitive process. Information that is initially available plays an important role in the search for evidence by crime scene investigators and the subsequent decisions that they make. Information may come from the crime scene itself, but also from the public or other investigating officers. Usually a crime scene investigator is briefed by his superior before going to the scene. The superior in turn received information from the emergency call centre. At the scene itself, uniformed police officers typically provide additional information, for instance about the manner in which the body was found, who the victim is, and what neighbors have to tell.

The importance of information, also referred to as forensic intelligence, in the criminal investigation process has been stressed in the literature (e.g., Innes 2003; Resnikoff et al. 2015; Ribaux et al. 2010a, 2010b), but little is known about what information investigators search for and what information they need in order to reconstruct events at the crime scene. One study that investigated what type of information is required when reconstructing a crime found that people are mainly interested in person information (i.e., information about the victim, his or her family and the offender). Thus, obtaining information about the key "actors" is considered the most relevant information in order to reconstruct events (Van den Eeden, Ost, De Poot, and Van Koppen submitted).

Initial information may influence the hypotheses under consideration of the investigating police officers. And these hypotheses guide their investigation at the crime scene. That can be useful but also detrimental to the investigation. It may help when it is correct, but hinder when it is incorrect (e.g., De Gruijter, Nee, and De Poot 2017; Van den Eeden, De Poot, and Van Koppen 2016). A large body of research shows that contextual information can bias forensic trace analyses (see Kassin, Dror, and Kukucka 2013 for an overview). A recent study demonstrated that information crime scene investigators receive before they enter a crime scene impacts their interpretation of the scene (Van den Eeden, De Poot, and Van Koppen 2016).

A proposed solution to the damaging effect of context information is analyzing "blind" (i.e., without context information; e.g., Dror 2013). While that indeed may be an effective strategy in forensic laboratory work, the work of a crime scene investigator is quite different. Information is essential to guide the search at a crime scene. A scene can be extensive (e.g., a large house, a forest) and prior information helps to find and interpret traces. Furthermore, crime scene investigations can never be totally blind as the scene as a whole entails contextual information as well.

Thus, removing contextual information is not only impossible, but even counter-productive to crime scene management. Lessening contextual information would reduce the efficiency of processing the crime scene. Therefore, some researchers have been focussing on managing rather than eliminating contextual information in a forensic setting (e.g., Osborne, Taylor, and Zajac 2016). However, in order to effectively manage and evaluate information at the crime scene, it must be clear what information is gathered and shared before the crime scene investigators entered the scene. To do so, the flow of information must be recorded at all times. It is therefore vital to record what information is gathered and who provided what information at what time.

The present study

The goal of this study is twofold. The first is to gain more insight in the information flow (i.e., *how* information is gathered and transferred) from the initial emergency call to the crime scene investigator at the scene. The second is the content of the information that is gathered and transferred (i.e. *what* information is considered relevant) by the various parties involved from the emergency call to the crime scene. Lastly, we vetted whether the police use a protocol for the collection of information and how information is recorded.

Method

Given the absence of earlier research in this particular area, we decided to conduct an interview study,

probing police officers involved in the information process we described above.

Participants

Based on exploratory interviews we identified three key positions for information exchange, namely the emergency call responder, the forensic team leader, and the crime scene investigator. Six crime scene investigators, six forensic team leaders, and six emergency call responders were interviewed. Hence, a total of 18 interviews were conducted. The participants came from three out of ten police regions in The Netherlands. Participants were recruited via their team leaders and the researchers' network. Participation was voluntarily.

Procedure

The interviews were conducted by two interviewers and were semi-structured. For each position a separate questionnaire was designed that contained both questions that matched the particular activities of the interviewees position and general questions that were asked to all participants. In order to systematically study *what* kind of information the interviewees considered necessary we based our questions on a scheme that was previously used by Oxburgh, Ost and Cherryman (2012) to measure investigation relevant information in police interviews. The elements in the scheme can also be used as a framework to reconstruct a crime. This PALIT-scheme includes questions in the following categories: Person information; Action information; Location information; Item information; and Temporal information. We added the category Motive information.

We asked the interviewees to keep the emergency call of the discovery of a death body in mind when answering the questions. In these cases the role of information is particularly important compared to other types of cases in which crime scene investigators are involved, as the victim cannot be questioned and context information may be crucial to reconstruct what has happened.

Questions were as open-ended as possible. The interviews were semi structured because in some cases the order in which the questions were asked varied, depending on the flow of the interview. Also, if participants brought up a subject they considered relevant for the interview that was not on the list of questions, they were not interrupted and free to share their thoughts. All of this was done to give the interviewee the feel of a conversation in order to encourage the participants to be as open as possible. Furthermore, supplementary questions were asked if answers needed clarification or raised new questions. The interviews were conducted at the workplace of the participant in a quiet area or separate room. It took approximately one hour per interview to be completed and the interviews were recorded with a voice-recorder.

All the recorded interviews were transcribed and were analyzed thematically based on the proposed research questions. The analyses were conducted manually, thus without qualitative analysis software.

Results

How information is gathered and transferred

The incoming emergency call

The interviews gave an overall impression of the flow of information from emergency call to crime scene (see Figure 1). If someone dials the emergency number the call is answered in at the emergency call centre. Depending on the kind of emergency the call is transferred to ambulance, fire brigade, or police. When the death of a person is already established the call is usually transferred to the police. There is often one emergency call responder who communicates with the caller and one who communicates with the emergency services. The main task of the responder who

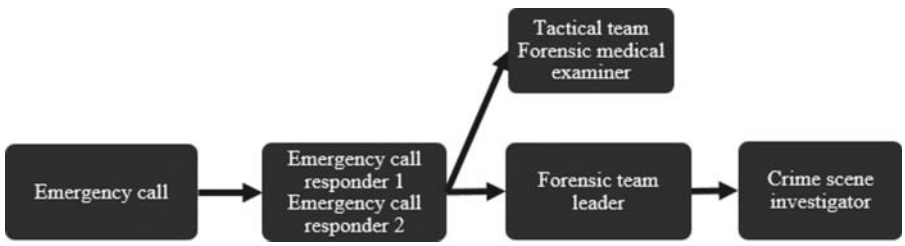

Figure 1. Schematic overview of the information flow.

communicates with the caller is to try to find out what has happened and where the police should go. The responder who then communicates with the emergency services manages which parties should be informed about the incident (e.g., forensic investigation, tactical investigation, medical examiner) and should be sent to the scene.

One of the parties that is informed when a body is discovered is the forensic investigation unit, usually the forensic team leader. He or she decides which crime scene investigators go to the scene and usually briefs them with the latest information. This is done either in person or by telephone, depending on where the crime scene investigator on duty is at the time.

During the evenings, nights, and weekends the transference of information is done slightly differently. In some police regions the crime scene investigator on call is contacted directly by the emergency call responder instead of through the forensic team leader, as they are mostly not on duty outside office hours. Once on the spot, the crime scene investigators start with an orientation round to form a first impression of what may have happened and start the investigation of the scene in order to recover forensic evidence.

What information is gathered and transferred

Emergency call responders

The emergency call responders were quite unanimous that their primary task is to supply aid to the victim and the caller and to detect potential dangers (such as toxic substances) for the police officers. Three interviewees explicitly mentioned that they were aware of the criminal investigation that may follow and therefore give, for instance, instructions about protecting the crime scene. The others rely on the professionalism of their colleagues and assume they know how to handle the situation and thus do not provide additional guidance and instructions. When the situation permits, emergency call responders try to gather more information from the caller, most often personal information about the victim. However, that is always secondary to providing aid and guaranteeing safety for the police.

All emergency call responders mentioned that people who discover a dead body are often badly affected by what they have seen. Therefore, the first contact often generates little information. Despite the fact that the emergency call responders often have little information to base their judgement on, they indicated that they generally consider calls about recovered bodies reliable. If there are any doubts about the authenticity of the call based on gut feeling, more critical questions will be asked.

The protocol

On the Dutch Police intranet a questioning protocol can be found, available to all Dutch Police employees. That "work instruction" gives a schematic overview of what kind of questions may be asked by the emergency call center when a call comes in. The questions are based on the seven golden criminalistic Wh-questions—who, what, where, when, with what, in what way, and why—that are used as a framework to reconstruct a crime (Gross 1893; De Poot et al. 2004). However, the protocol is quite concise and is presented as a tool to help the emergency call responders, rather than as a fixed checklist that should be completed before actions can be undertaken.

We asked the emergency call responders if they used a protocol in their work. Four out of six clearly stated that they did not. They were of the opinion that their main priority is to get the right people at the right place as quickly as possible. They knew that the protocol exists, but they indicated that the protocol was "in their heads" and that they left the more extensive questioning to the emergency responders at the crime scene. Also, someone responded that police work is difficult to describe in protocols as every situation is unique. Therefore, experience and gut feeling should be the most important guidelines in police work.

> "I always try to have an open mind and listen to callers. A policeman should have a sound suspicion. That is not to be summarized in a protocol, you must have a little instinct. Knowledge makes power, but knowhow means more."[1]

Important information according to the emergency call responder

We asked all emergency call responders what information they at least want before they can transfer the call to uniformed police officers and other investigative parties. They replied that they at least want information about the location. That is the main priority, because without an address there is no report. It must also become clear whether colleagues have access to

the location. Furthermore, they want information about safety.

Emergency call responders ideally also want information about persons and times. Person information mainly involves the caller (e.g., who is the caller? What is his or her relationship to the victim? Does the caller know whether the person has died? Is there still first aid that has to be provided? Is the caller still in the proximity of the body?) and the victim (e.g., who is the victim? Is there medical data or data from the police systems available about this person? Who else are registered to this address?). Temporal information may for instance be when the victim was last seen.

Transferring information

We asked the emergency call responders whether they recorded and transferred all or just a selection of the information they received. The answers differed on this topic. One emergency call responder initially said that he logged and transferred everything, but later realized he did make a selection.

> "I have the idea that I record everything. But things I consider to be non-information I do not record. I do not take the time to note every word a caller says. I select the things which I think are relevant, a concise story. If they [the caller] have a comment in between, which turns out to be very important afterwards, that might be possible. Unconsciously, you make a selection."

Another emergency call responder reported to transfer everything, because you never know what information can be relevant later on.

> "I think that depends on the emergency call responder, but I just record all the information I get about the incident. The information may not be relevant now, but it may become important later on. Or something really needs to be said which is totally irrelevant to the incident or a repetition, but basically what is called in, I'm recording."

It should be noted that the speech of all emergency calls is recorded by default. However, in practice, this is hardly ever played back. The written information that is entered in the system by the emergency call responder is therefore the primary information used in the investigation.

Forensic team leader

The forensic team leader is informed about an incident by the emergency call responders. The team leader then contacts the uniformed police officers that were already sent to the scene by the emergency call responders to gather more information about the incident. When they have gathered the information, they contact the crime scene investigator that will go to the scene.

Selection of information

All forensic team leaders stated that they pass on all the information they have to the crime scene investigators. They give two main reasons: (1) they want the crime scene investigators to decide for themselves what information is relevant and what not once they are at the scene; and (2) often, information at that stage of the investigation is limited so there simply is not that much to select. However, when we asked follow-up questions, it became clear not all information was passed on and that at least some team leaders did make selections. They tried, for instance, to distinguish between relevant and irrelevant information, even though it is difficult to decide beforehand what information is relevant and what is not.

> "When it comes to information about what has happened, I'm trying to pass it on exactly as it was given to me. However, I do, of course, decide what is interesting for the crime scene investigators and what is not."

Presumed cause of death

We also asked if the presumed cause of death (if stated) is shared with the crime scene investigators. A number of forensic team leaders explicitly passed on the presumed cause of death (e.g., "murder/suicide" instead of "the recovery of a body or a body hanging from a rope").

> "If I have received a call of a suicide, that's what I tell the colleague [crime scene investigator]. While I'm not sure of that, of course. But well, that's the information I've received. The emergency call centre says it is a suicide, so that's how I formulate it to the colleagues. I assume that every colleague realizes that this is suggestive information. At the crime scene you have to leave that information behind you and just look at it with an open mind."

Also, some of them shared the "gut feelings" about an incident, based on the information and their experience. As most of the forensic team leaders explicitly said at some point during the interview (with or without the researchers asking) such information can

guide the investigation, we asked if sharing gut feelings did not entail the risk of bias. The most common answer was that such may be true, but that they rely on the objectivity and the "forensic vision" of the crime scene investigators, which should protect them against the influence of this kind of information on their perception and decision-making.

> "I don't guide. The only thing I guide is that I tell them if I have doubts about the story, or if I think it's a little different than what the message is, I ask the crime scene investigator to give feedback immediately after arrival at the scene. I want to have weighed that through our eyes. That's how I try to guide… I assume the crime scene investigator is properly trained and can assess what has happened correctly."

Once the crime scene investigators arrived at the scene, the forensic team leader keeps in touch. He is contacted, usually by phone, about the preliminary findings of the crime scene investigators. The team leader can then decide whether more people and resources need to be made available for the investigation. The forensic team leader often also asks more in depth questions to the crime scene investigator, knowing that "forensic" eyes assessed the crime scene. The uniformed police officers are often focused on the body, while the crime scene investigators also have eyes for the bigger picture at the scene, such as the situation in the home (e.g., it is poorly maintained, are there any indications for alcoholism or other issues as this may give information about the victim and what may have happened). Afterward, the forensic team leader writes a report in the journal, stating who was sent where and when and what steps were taken. How extensively that is done differs across team leaders.

Important information according to the forensic team leader

We asked what information the team leaders want before they can send the crime scene investigators to the scene. They first want information about the location. What is the address? Is the scene indoors or outdoors? Is it a public or a private place? Then they want information about safety, such as whether there are any notifications of drugs or violence at the address or information about the presence of hazardous substances. Also, they want information about practical issues, such as whether the tactical investigation team and the forensic medical examiner have already been contacted. Next, they need the contact information from the uniformed policers officers who are already present at the scene and from the officer in charge. Forensic team leaders also want information about the nature of the call. Are there any ideas about the presumed cause of death? That information is important in order to send the right investigators to the scene in terms of certification and mental resilience.

Main priorities of the forensic team leader

We asked all forensic team leaders what the main priority of their duty is or should be. The most common answers were that they determine the dangers and get the investigators at the scene as soon as possible. Therefore, there is often no time for extensive questions and information transferal. However, when there obviously is a crime committed (e.g., multiple gunshot wounds), forensic team leaders ask much more details to the uniformed police officers at the scene and they advise the officers on how to keep the crime scene as "clean" as possible to protect possible forensic traces.

Crime scene investigator

The crime scene investigator is not the only party present at the scene. When he or she arrives, there is usually already a uniformed police officer present who was initially sent to the emergency call and who protects the scene. As the uniformed police officers are usually the first ones at the scene they have to most "pure" story of what the scene looks like and what, for example, witnesses have said. Almost all crime scene investigators told us that they prefer to be briefed by these uniformed police officers first. In the case of a dead body there is usually also a tactical team present as well as a forensic medical examiner. The tactical investigation team often has additional information based on witness statements and the databases of the police. The medical examiner may have obtained information from the victim's general practitioner. Before the crime scene investigators start the examination of the scene usually the tactical team and the forensic medical examiner share their preliminary findings with the crime scene investigators.

The preferred practice of crime scene investigators we interviewed differs greatly and does not always correspond with reality. It varied from someone who would like to be informed extensively before entering the crime scene to someone who preferably receives no information at all before assessing the scene for the

first time. However, it seems difficult to express their preferences once present at the scene. The first discussion with the uniformed police officers and tactics starts more or less immediately when the crime scene investigators arrive and once people start talking it is difficult to stop the flow of information even though it makes some crime scene investigators uncomfortable due to the risk of bias.

> "When you enter a scene and you get a lot of information, for example that the person is in the living room and he is a bit shaky on the legs or he is a heavy drinker, you will be biased. Then you see a bruise and you think 'that's because he bumped in to something'. You don't want that kind of information, but it happens…. You enter the scene and people start to inform you. It just happens…. But actually you should say 'stop!'."

Other crime scene investigators do prefer to receive all information available before they enter the scene. That variety in preferences is possible because there is no standardized procedure on how to gather and share information at the start of the crime scene investigation. All crime scene investigators did agree that the crime scene itself should be the main source of information.

During the crime scene investigation there is room for further consultations with all parties to discuss questions or new incoming information. Once the crime scene investigation has been completed, forensics, tactics and the forensic medical examiner usually get together again and share their findings. When the crime scene is investigated, all evidence is secured and there is consensus on the presumed cause of death (e.g., accident, suicide, murder) the examination of the crime scene is finished.

Important information according to the crime scene investigator

We asked all crime scene investigators what information they would ideally have before they start with the examination of the crime scene. The information investigators want before they drive to a scene and information they want at the scene slightly differs. Initially crime scene investigators want information about how the call came in and the nature of the call (i.e., are there any ideas about the presumed cause of death). In addition to a number of practical issues, such as which tools to carry to the scene and make a plan of action, all crime scene investigators said they also want information about the nature of the call, in order to mentally prepare themselves for what they may find. This is in line with findings by Sollie, Kop, and Euwema (2017), who interviewed crime scene investigators about mental resilience, and found that such information is used to visualize the crime scene prior to the investigation in order to mentally and physically prepare themselves. Furthermore, crime scene investigators want information about the location. They want to know whether it is inside or outside and if the crime scene is already protected. And, lastly, they want to know some practical issues such as which other investigative parties have already been warned and if there is already authorization to enter the premises.

At the scene they preferably want additional information about actions. Who have already been at the crime scene? What actions did they take? Is the crime scene still intact or have items been moved or taken away? Also, they want person information, for instance who is the victim? When was the victim last seen? Is there medical data or data from the police systems available about this person? And possibly information about who else is registered to the address.

Bias

One of the topics we discussed during the interview was the potential biasing influence of information. Although we did not pose a specific question on that subject it is so intertwined with the transference of information that the subject came up during the interviews with most of forensic team leaders and crime scene investigators. As described in the introduction of this article there has been a lot of attention for these biases in the forensic sciences. Almost without exceptions forensic team leaders and crime scene investigators mentioned that they were aware of the risk of bias and tunnel vision caused by information. However, when asking more in depth questions, or sometimes spontaneously, they showed little true understanding of this topic as the following statements by a crime scene investigator and forensic team leader demonstrate. In response to the question whether there are any things he would rather not want to know a crime scene investigator answered, among other things, the following:

> "You need some information to start an investigation. But at the moment you get overloaded with information, you may be pushed to a certain direction. You have to be aware that you do not get lost in a tunnel."

The same crime scene investigator, when asked if he actively asks questions to the forensic team leader before going to a scene reports the following:

> "We can never get too much information. We filter ourselves what we do and do not need."

Similar responses were given by forensic team leaders, as illustrated by the statements of one of them:

> "The experience also teaches you to be objective. And you should not assume that something is, for instance, a suicide when someone already has a history in that area. You just have to do your investigation to determine how and what."

Later in the interview:

> "Often, when a call comes in, it is a single incident and nothing is known about the person or address before the investigation starts. Unless it is a person known as suicidal. Then I'll get such kind of information. And then you're already assuming it's a suicide."

We are not sure how to explain this discrepancy. There might be some tension between theoretical knowledge and what it implies for the crime scene investigator's work in practice. Or it might be expected that being aware of the existence of bias is a protective factor against it, even though it is the fact that it is difficult to be truly aware of the mental processes in our heads, that makes cognitive biases so difficult to address and remediate.

Recording of information

One of the other topics we discussed during the interview was the recording of information. At the emergency call centre all speech and written statements are automatically recorded and logged in a system. Hence, the storage of information is well ensured. However, there appeared to be a great variety in how investigative information is recorded later in the process, especially by the crime scene investigators. The documentation and registration of trace evidence at the scene is well ensured and there are guidelines both nationally and internationally on how this should be done (e.g., Technical Working Group on Crime Scene Investigation 2013; Van Amselsvoort and Groenendal 2013). However, what is lacking are guidelines on the documentation of all other information that is used during decision making at the crime scene. As recording other information that may contribute to decision making is not one of the core tasks of the crime scene investigators there is no protocol on what information should be recorded in their written report and how this should be done. As one investigator stated:

> "Writing down information I leave to tactics. Their core business is to gather and process information."

The previous statement can be discussed. In the introduction of the paper it is thoroughly explained why gathering and processing information is a vital and integral part of examining a crime scene. Without information it is impossible to effectively search for evidence and assess and interpret a crime scene.

Most crime scene investigators take notes at the scene. What they write down and how extensive these notes are, differs from investigator to investigator. One crime scene investigator explicitly said never to take notes. He trusts on his memory. However, people become less accurate in their recollections of events over time even when the event is unique (e.g., Talarico and Rubin 2003).

Information that crime scene investigators have gathered before and during their investigation should be noted in their written report. Usually that report is written the same day as the investigation or several days after the investigation, but it can also be months later. There are no guidelines about the content or length of the report.

Discussion

From the interviews it gradually became apparent that crime scene investigators receive limited information before they head to a crime scene. The largest amount of information they receive is provided at the scene by uniformed police officers and, potentially, tactical investigation team and a forensic medical examiner. That is at odds with the overview in Figure 1, that is based on the exploratory interviews and information provided in protocols. We therefore did not interview these other parties that may provide contextual information. Also, the contact of the crime scene investigators with the uniformed police officers, tactical team and forensic medical examiner was not included in the figure. However, here are more moments of consultation and two-way interactions between these parties than we initially expected (see Figure 2 for a more correct overview). Hence, there appears to be an

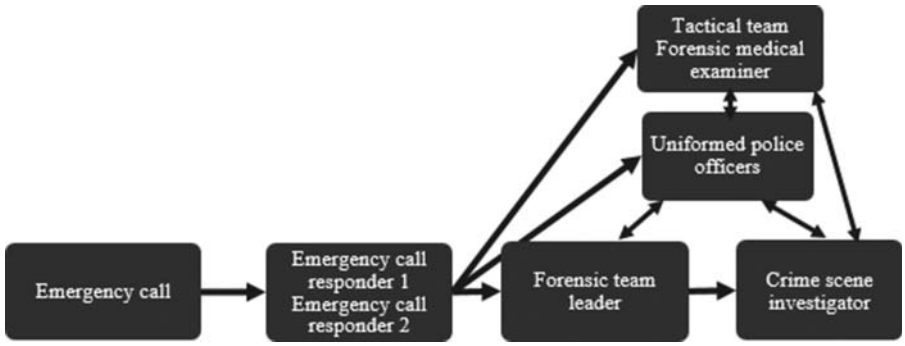

Figure 2. Schematic overview of the information flow.

overlooked important information flow that was revealed through the present study.

Although emergency call responders and forensic team leaders give relatively little information to the crime scene investigators most of them rather quickly label an incident. Presumably in an attempt to help the crime scene investigators a presumed cause of death is quite easily shared. Forensic team leaders do acknowledge the difficulty of being truly open-mined once an incident is labelled, but there still is heavy reliance on the forensic vision as a protective tool to objectively assess a scene. However, previous work by (Van den Eeden, De Poot, and Van Koppen 2016) demonstrated that even experienced crime scene investigators can be biased by initial information and there is ample evidence in the field of forensic trace analysis that expectations can bias expert decisions (e.g., Dror, Charlton, and Péron 2006; Dror and Hampikian 2011; Osborne et al. 2014). Choice of words can define how a case is handled and words should therefore be weighed with care.

There also seems to be a lack of true understanding of the concept of bias and danger of contextual information. Almost all participants said they were aware of the biasing influence of contextual information. Yet, during the interviews various statements demonstrated otherwise and in practice little action is undertaken in an attempt to guard against biasing influences. Although conversations with the instructors at the Police Academy and the syllabus used in the introduction course for crime scene investigators show there is some attention for the topic of contextual information and bias during the training for crime scene investigators, that training should be extended and intensified in order to create true understanding of the topic.

Another challenge is that it is currently unclear what kind of context information is the most biasing. The crime scene investigator needs additional information in order to conduct the investigation, but does not know what information is safe to receive and what information should be received with caution. Future research should be conducted in order to effectively manage information at the crime scene.

A potential limitation of the present study includes the small sample size. Only 18 interviews were conducted in 3 police regions. Furthermore, the study was designed to investigate the flow of information in the Dutch criminal investigation process. We do not know how the process is arranged in other countries. The generalizability of the findings should therefore be carefully considered.

Our study reveals that although all three parties we interviewed are part of the same criminal investigative process, they have different goals and core tasks. These differences make working in a chain difficult. Emergency call responders are focused on getting the right people at the right place quickly. One of their other concerns is safety of the uniformed police officers and other emergency services. Although they are the first persons to gather information in an investigation, the criminal investigation is not their core business. The same more or less holds for the forensic team leaders, their main priority also is to get the right people at the right place, although they do show more awareness of the crime scene compared to emergency call responders and try to think along with the crime scene investigators.

There are major differences in need for information between all participants, both between and within the different roles. As there are little guidelines in gathering and sharing information, especially for the forensic team leaders and crime scene investigators, these differences persist. These differences are undesirable as they may cause arbitrariness and influence the consistency of how similar cases are handled.

There are no guidelines for recording investigative information crime scene investigators get in the initial stage of the investigation. As a result, crime scene investigators record information at their own discretion. That, again, means great variety in working methods and also means that not all information is given in their report. Incomplete or even missing information may impact the interpretation of the report in the ongoing police investigation, because you only know which information was relevant in hindsight. Research by De Keijser et al. (2012) in which different police investigators were asked to write a report of the same interrogation showed a large variety in the reports and also in the conclusions based on the reports. Different recordings of information during the crime scene investigation may similarly influence the interpretation of those reports by other parties in the criminal investigation. More guidelines on how information is recorded is therefore crucial. Also, the source of information and the influence the information may have had on decision making at the scene is not present by default. This makes it difficult to reconstruct decision making at the crime scene in hindsight. It is crucial that all parties, but crime scene investigators in particular, feel more responsible for properly recording information as it is an integral part of their job. It is also important that reports are written as soon as possible after the incident has taken place in order to prevent the loss of information from memory over time. Without properly recording information it is impossible to trace back why certain decision regarding trace evidence and the crime scene investigation have been made at a certain time in the investigation. That is vital in order to learn from mistakes and prevent them in the future.

Note

1. All quotes from interviews are translated from Dutch by the authors.

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