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Intelligence management authorised professional practice

Professional guidance to analysis

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The responsibility for this document has transferred to the National Analyst Business Group (NABG). The NABG are currently reviewing the document.

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Contents

Understanding analysis	6
Role of analysis.....	6
Analyst’s role	7
Researcher’s role.....	8
Crime theories and approaches	8
Rationale choice theory	9
Routine activity theory	9
Problem analysis triangle.....	10
Getting started	11
Terms of reference.....	11
Identifying your customers	12
Identifying the questions to be answered.....	12
Identifying appropriate support	13
Agreeing parameters	13
Getting the information you need	13
Collection	14
Cognitive bias	18
Analytical techniques	20
Creative thinking and hypothesis generation	21
Key assumptions checks	21
Hypothesis generation	22
Structured brainstorming.....	22
Making sense of complex data	23
Pattern analysis	24
Comparative case analysis.....	25
Network analysis.....	26
Hypothesis testing.....	26
Analysis of competing hypotheses.....	26
Generating and evaluating scenarios.....	28
Quadrant crunching	28
Force field analysis	29
Cone of plausibility.....	30
Red teaming	30
Scenario evaluation	31

Back-casting	31
Other techniques.....	32
SWOT analysis	32
Crime script analysis.....	32
Team A/team B.....	33
Delivering effective analysis	33
Writing for impact.....	34
Accuracy, brevity, clarity (ABC)	34
Bottom line up front.....	35
4-3-3 principle	35
Writing clearly	35
Key findings and summaries.....	36
Visualisation.....	36
Communicating probability.....	37
Writing for action	40
Developing recommendations	40
Problem solving	41
Going beyond the descriptive	42
Quality review	42
Disseminating analytical output	44
Checklist for disseminating analysis	45
Evaluation and review.....	45
Self-evaluation and review.....	46
Reviewing effectiveness	46
Testing identified inferences	46
Organisational evaluation and review	47
Results analysis.....	47
Operational intelligence assessment	48
MoRILE.....	49
Tactical model.....	49
Thematic model	50
Evidence-based policing	50
Ladder of evidence	51
Analysis intelligence products	52
National intelligence model products	52
Other intelligence and analytical products	53

Subject analysis	53
Market analysis and profiles	53
Criminal business analysis and profiles	54
Risk analysis	54
Demographic and social trend analysis	55
Additional products	55
Tasking and coordination.....	56
Strategic tasking and coordination	56
Strategic tasking and coordination group.....	56
Control strategy	57
Strategic intelligence requirement.....	57
Tactical intelligence requirement	58
Tactical tasking and coordination.....	58
Tactical tasking and coordination group	58
Intelligence unit meeting	59
Daily management meeting	60
Operational review	60
Intelligence management references	60
Analysis guidance	60
Key resources and guidance notes on College Learn	60
Online resources.....	61
Further resources	61

Understanding analysis

Analysis is an important tool for policing. It is used to understand crime and disorder, and to provide insight, clarity and context to decision makers. This is an increasingly important function in an environment of:

- complex crime problems
- significant and diverse volumes of data
- limited resources
- maximising efficiency and effectiveness

Role of analysis

Analysis identifies patterns and inconsistencies in information. These enable the analyst to draw inferences, so that operational decisions can be made on actions to take. These actions might include:

- enforcement activity
- additional information gathering
- a crime and disorder reduction strategy

Analysis supports strategic decision making and the tactical deployment of resources to prevent, reduce and detect crime and disorder. It also identifies effective practice and lessons learned through reviews of tactical and strategic activity.

Analysis clarifies:

- what has happened and why
- why this is important
- context around the bigger picture
- what could happen next

An important part of the analyst's role is to move beyond simply describing what has happened and to add value through providing a richer interpretation of intelligence.

Analyst's role

Analysts are deployed across a range of functions in law enforcement agencies.

They provide support in:

- major crime investigations
- problem solving (for example, volume crime)
- intelligence development
- investigations into complex and serious organised crime and vulnerability across local, regional and national levels
- developing strategic insight for senior leaders
- live-time tactical situations during crimes in action

Rather than waiting to be tasked, analysts should proactively look for opportunities to inform colleagues by:

- identifying the problem
- completing the analysis
- negotiating with a customer, who should own the response

Analysts must be able to:

- plan and manage their own workload
- discuss and develop terms of reference (ToR) for an intelligence analysis product
- obtain and evaluate information for intelligence analysis
- apply analytical techniques to interpret information for intelligence analysis
- use inference development to make judgements based on intelligence analysis methods
- develop recommendations based on the results of these methods
- create an intelligence analysis product to support decision making
- disseminate this product
- review the effectiveness of this product

Every analyst should seek to become an accredited intelligence professional through completion and ongoing maintenance of their competency record.

For further information, see the [analyst role profile](#).

Researcher's role

The researcher is responsible for:

- searching and retrieving information
- synthesising intelligence and other material
- establishing facts
- compiling reports
- presenting their findings

Although research in itself can be a specialist skill, researchers can also provide significant support to the analyst function. However, it is not always possible or necessary to employ both an analyst and a researcher. While an analyst can undertake their own research, a researcher cannot undertake analysis.

Intelligence researchers must be able to:

- plan and manage their own workload
- obtain and evaluate information for intelligence analysis
- disseminate the intelligence analysis product
- research, prepare and supply information

For further information, see the [researcher role profile](#).

Crime theories and approaches

Academic study of crime and criminology seeks to identify factors that influence offending behaviour. This study considers how various factors, including biology, psychology, sociology and economics, affect different crime types and patterns of crime. A better understanding of criminal behaviour helps to identify and prevent offending.

There are a number of relevant theories and approaches, some of which are outlined in this section. Analysts and researchers need to be aware of these theories and other important concepts detailed in this guidance, such as analytical tools and techniques.

Rationale choice theory

This approach explains an offender's preference to carry out a crime that is easy, rewarding and safe. A potential offender makes a number of decisions when weighing up the costs and benefits of committing a criminal act. For example, they may consider the value of a particular commodity against the likelihood of being caught. (Cornish and Clarke, 1987).

A common acronym used to describe the desirability of items is CRAVED:

- concealable
- removable
- available
- valuable
- enjoyable
- disposable

This acronym helps to understand why one type of item may be stolen frequently or is more vulnerable than another.

Routine activity theory

Routine activity theory falls into the family of 'opportunity theories'. It generally relates to acquisitive crime. (Cohen and Felson, 1979).

This theory suggests that a person may choose to offend (out of choice, rather than need) if they have:

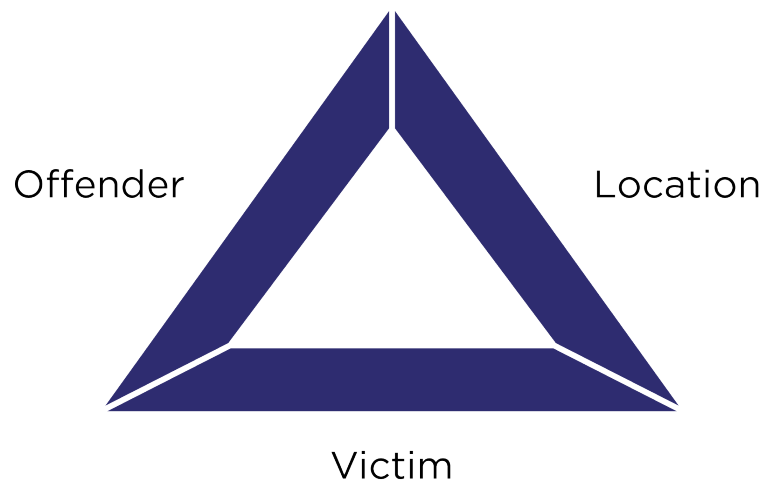
- the motivation to attack a target
- the right kind of target to attack
- a potential target without adequate protection

Crime types explained by this theory include stalking and harassment, employee theft and corporate crime.

By identifying and understanding these three elements of an offence or series of offences, it is possible to determine options for reducing crime, either by providing protection or removing the motivation and/or target.

Problem analysis triangle

For a crime or incident to occur, an offender and a suitable target must come together in a specific location without an effective deterrent. The figure below shows how these three elements – victim, offender and location – form the problem analysis triangle.



Analysis should consider each of the elements of the triangle when developing a description or understanding of a particular crime or disorder problem or individual.

When developing solutions to that problem, the three elements should again be considered as the focus for activity. Various approaches to this tool can be viewed online, including a more developed approach that includes consideration of a 'guardian' for the target or victim, a 'manager' for the place and a 'handler' for the offender.

This model is used to support problem-solving policing. The SARA model (Eck and Spelman, 1987) can be used to manage all problems, including crime, disorder and substance misuse. The four stages of SARA are:

- Scanning – identifying issues or problem areas using basic data.
- Analysis – identifying the nature of the problem, including identifying trends and series of crimes and disorder, as well as problematic locations. This also involves suggesting the potential causes.

- Response – developing a solution for the problem, with partners and the community.
- Assessment – reviewing the success of the solution and identifying learning.

See also: [Neighbourhood policing guidelines](#).

Getting started

Terms of reference

Effective analysis starts with the ToR. Time spent developing the ToR will help the analyst understand their customers and the questions they need to answer. Getting this part of the process right will help ensure that analysts are employed in the best possible way, providing value for money. This will help in identifying priorities and objectives that address the most significant causes of threat, risk and harm.

Before any analytical work is commissioned, a ToR (also known as an ‘analyst strategy’, ‘scope statement’ or ‘project initiation document’) should be agreed. The following questions will assist in developing a ToR:

- What work is needed?
- Why is it needed?
- What is the intended outcome likely to be?

Smaller tasks may require the ToR to be outlined in a simple email, while larger tasks may require a more detailed written document.

Content for consideration in a ToR includes:

- aims and objectives
- data sources
- scope and methods
- parameters and limitations
- timescales
- reporting mechanism and audience

A ToR can be generated by using brainstorming or mind-mapping exercises, such as structured brainstorming. This approach can help to identify all aspects of the issue to be addressed and can prevent areas from being missed.

Once the ToR has been agreed, it should be retained. It can then be referred to, amended as required, and reviewed on completion. A ToR can be useful at debriefings, as it can enhance organisational learning and knowledge.

Identifying your customers

All products start with one or more identified key stakeholders who will agree the parameters of the work. At this stage, it is good practice to identify other stakeholders who could benefit from using the end product. This could range from response officers for a volume crime product, to counsel and juries for any products supporting an investigation. Considering your customers will ensure that the ToR meets the needs of the intended audience.

Identifying the questions to be answered

Effective analysis is based on specific requirements or questions that need to be answered or met, as opposed to a more general request for a predetermined product or type of report.

Analysts must identify the specific requirements for each task that they undertake. They can make use of techniques such as refining or classifying the question or redefining the issue.

For further information, see 'Structured analytic techniques for intelligence analysis' and 'Quick wins for busy analysts' (available via the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users).

These techniques help the analyst understand the problem and what is needed. This is important to help determine whether they are best placed to support this work and, if so, to select the appropriate data, structure and techniques to support the task.

Identifying appropriate support

Part of the value of the analyst role is in diagnosing the customer's actual requirements, and in using professional skills and knowledge to prescribe the specific support that is needed.

Agreeing parameters

In addition to the core questions that need to be answered, there are a number of other parameters that need to be agreed by the analyst and customer. These may include:

- date of the tasking
- details of the customer or stakeholder requesting the work
- justification for the tasking
- details of the analysts who will complete the task
- deadline and milestones set for the task
- purpose and objectives of the analysis
- overall scope and methodology of the work
- details of the audiences for the work (and the implications for format and delivery)
- details of any other people critical to completing the task
- timeframe to be covered by the analysis
- operational name or any other relevant names or reference numbers
- the likely security classification
- sources that have (and have not) been consulted – see [collection plan](#)
- follow-on tasks that may be required, such as assessment of results
- intended outcomes, what success looks like and how it can be measured

Getting the information you need

Analysis is based on an extensive variety of data, information and knowledge from police, partners and other more widely available sources. This range grows continuously as new sources are identified, and as understanding of the causes and context of crime and disorder increases.

Collection

Analysts must be able to identify sources of information to support their analytical work. Collection involves identifying information from open and closed sources that are relevant to the ToR.

- Closed sources of information are those with restricted access – for example, police crime recording systems and information available through sharing agreements with partners.
- Open sources of information are those that are widely available, including through the internet. Some may require the user to register or pay a small fee – for example, online news media, academic research and the electoral roll.

Local procedures

Analysts should be aware of local procedures for approaching sources, including information-sharing protocols and single points of contact (SPOCs) for data from partners and regular sources. Communication SPOCs have established information-sharing agreements with communication service providers and are able to request information securely and accurately through the appropriate processes with the respective authorities in place. This ensures that the information is appropriately sourced and the process is fully audited. If there is no established local procedure for accessing information from a source, analysts should ensure that sources are contacted a minimum number of times.

Data from customers

Analysts may also collect data from their customers – for example, capturing their assumptions about the issue they are addressing, or identifying their hypotheses about what has happened or what is going to happen. This may involve analytical tools and techniques such as:

- [key assumptions check](#)
- [expert judgement capture](#) (available via the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users)
- [hypothesis generation](#)

- **analysis of competing hypotheses**

5WH

One tool that can assist in developing a collection plan is 5WH. This tool involves simply organising data into the categories of what, when, where, why, who and how. This matrix can be used to structure the collection of information and intelligence, and helps to identify what is already known and where there are gaps in information.

5WH template

Question	What is already known	What is not yet known
What?		
When?		
Where?		
Why?		
Who?		
How?		

Environmental scanning

Environmental scanning may also be used to help organise your information collection in preparation for your analysis. This may be organised under various mnemonics, including:

- PESTELO (political, economic, social, technological, environmental, legal and organisational)
- STEMPLE (social, technological, economic, military, political, legal and environmental)

Collating information on relevant political, economic or technological developments will assist in determining which elements are significant to your analysis. Some might prove to be a driver behind a particular issue or an indicator as to how events might

develop. This approach may also be used to capture any questions that you or your customers might seek to answer within the document.

To gather information from control strategy leads, plan owners, subject matter experts or others, analysts may use:

- **expert judgement capture** (available via the Knowledge Hub **Criminal Intelligence Analysis Community**, which is an OFFICIAL online tool with access limited to registered PNN and GSi users)
- structured brainstorming
- their own research of available material

Open sources may be particularly valuable in this regard, while analysts may also use existing force, regional, national assessments that might be available to them.

Collation table

Stage	Activity
Reading	Develop understanding of information and annotate material for future use. Use a corporate standard where this exists or develop a task-specific unique referencing standard.
Categorisation	Helps to manage large amounts of information electronically and in paper copy. Again, a corporate standard may exist, but it is likely to be different for each task.
Evaluation	Record initial evaluation with relevant information, along with an accurate description of the source, the justification for use and method of collection.
Labelling	Add the appropriate: <ul style="list-style-type: none"> ▪ Government Security Classification (GSC) grading ▪ document version ▪ author's details ▪ date

Stage	Activity
	<ul style="list-style-type: none"><li data-bbox="459 286 943 320">▪ any relevant operational name<li data-bbox="459 349 659 383">▪ weed date<li data-bbox="459 412 608 445">▪ source

Version control should be put in place during collation in order to:

- provide an audit trail of product development
- record what facts the analyst is aware of at any given point in time
- ensure that officers have the most up-to-date information on the right document
- maintain good document housekeeping procedures

Collated information needs to be stored safely, both physically and within electronic systems. It also needs to be accessible to the analyst and colleagues. All documents must be stored according to the GSC (see also [APP on information management](#)). This means that documents may need to be stored in locked cabinets or within password-protected or restricted areas on electronic storage systems. The analyst must also consider the appropriate storage of documents that may be displayed on walls to support briefings.

Documents produced by analysts must be stored in line with appropriate legislation, such as the Data Protection Act 2018. Force policy may dictate that all work is stored on a shared drive. Access to that drive may be restricted. When constructing a system to store a volume of documents, using folders and a naming convention can prove useful.

Documents can be password-protected to ensure that they are not amended by anyone other than the author. Analysts may wish to consider converting documents to pdf format to minimise storage space required and to reduce the likelihood of documents being altered.

Origins of information

Analysts must know where information used for analysis has come from. This helps to understand the purpose for which the information was originally collected and the

likely impact on its accuracy. New information should be compared with information that has already been collected. This will confirm whether it corroborates other information or identifies anomalies. The analyst should also consider whether the new information is worth collating by asking how it contributes to the analysis.

The timeliness of the information is also important in evaluation. An assessment will have to be made that considers the impact of the information's age against the value of waiting for new information. This will depend on the potential delay to the analysis and whether it fits with the time period stated in the ToR. Old information, such as census data, is useful. It can be used as an indicator or to identify long-term patterns and trends on which a prediction of future crime and disorder can be based. It can also be used to provide a context for the current situation.

Analysis must be based on the best possible information available within a defined timeframe. Any issues identified with the information must be captured in the introduction to the final analytical report.

Cognitive bias

The impact of bias

The impact of bias on analysts' ability to deliver objective, accurate assessment has been widely studied (Haselton, Nettle and Andrews, 2005). Various cognitive biases come into play when analysts embark on a piece of work. These biases also influence customers and partners across roles and ranks.

Cabinet Office guidance from the professional head of intelligence analysis (PHIA) recognises that:

“cognitive limitations cause people to employ various simplifying strategies and rules of thumb to ease the burden of mentally processing information to make judgements and decisions”.

Examples of bias, as defined by the PHIA, include:

- Confirmation bias – the tendency to search for or interpret information in a way that confirms preconceptions.
- Anchoring effect – the tendency to rely too heavily, or 'anchor', on one trait or piece of information when making decisions.

- Loss aversion effect – the tendency for people to strongly prefer avoiding losses rather than acquiring gains.
- Bandwagon effect – the tendency to do (or believe) things because many other people do (or believe) the same.
- Congruence bias – the tendency to test a hypothesis exclusively through direct testing rather than attempting to disprove it by indirect testing in competition with alternatives.

We all make assumptions and we tend to act on information that we assume to be true. Effective analysis recognises this and seeks to identify those assumptions held by ourselves and perhaps by our customers as well. Routinely identifying and testing these assumptions can help to avoid analysis from going in the wrong direction.

The role of effective analysis in mitigating bias

Cognitive bias cannot be mitigated simply by being aware of its existence. These cognitive biases can be mitigated to some extent by applying effective structured analytic techniques.

Many analytical techniques are considered to be structured analysis (or alternative analysis). Their processes follow a logical, transparent and coherent structure, allowing analysts and customers to easily interpret what has been done and what is being said. Analysts can help to mitigate the impact of bias by embedding good analytical practice into their daily work. One methodology for this is to adopt the ‘five habits of the master thinker’ (Heuer and Pherson, 2015).

1. Challenge key assumptions

2. Consider alternative explanations

There will rarely be one potential explanation for what has happened, but people often try to find one. Effective analysts should therefore seek to generate alternative options or explanations for the issue that they are analysing, and they should seek to challenge these hypotheses.

3. Look for inconsistent data

4. Identify key drivers

We can sometimes embark on analysis without having an effective understanding of what it is that we are looking for, particularly when we are pressed for time. When seeking to explain why something has happened or what might happen next, a key element might be identifying those factors that are potentially driving them. These vary from task to task, but effective analysis would consider these and the outcomes that they might drive.

Often, we might want to find what we consider the most likely explanation, then might not seek to question it. It is important to generate and subsequently test alternative hypotheses to mitigate the potential for the analyst to build their work around one particular hypothesis and fail to consider alternative options or explanations. Effective practice is to challenge each hypothesis, rather than to seek to support it.

5. Understand the context

Effective analysis should consider the overall context of the work. Factors such as time pressure, the manner in which the work was tasked and competing priorities might lead to individual tasks not being considered within their own context. Instead, analysts might unintentionally reach back into their previous experience in what they judge to be similar tasks, then apply their methodology and even their findings to any fresh task.

Using structure to guide questions asked at the outset of the task, data collection and the structure of the report itself can help the analyst consider each task on its own merits. Employing techniques to help identify and test assumptions, alternative hypotheses and so on will also enable the individual task to be identified within its individual context. There will therefore be a better chance of delivering what is required.

Analytical techniques

There are many techniques to consider when conducting analysis. These can be used to understand and predict threat, harm, risk and opportunities. Analytical

techniques include traditional and emerging techniques, alongside thinking products that encourage effective analysis. This section covers some of the techniques available but is not exhaustive.

When determining the most appropriate techniques to use, the analyst should not be constrained by the outcome or the end analytical profiles. More and more analytical products are the result of several techniques being combined in one product.

The techniques fall into five groups, defined by the function they perform within the analytical process:

- creative thinking and hypothesis generation
- making sense of complex data
- hypothesis testing
- generation and evaluation of scenarios
- other techniques

Creative thinking and hypothesis generation

Key assumptions checks

Our assumptions affect virtually every perception we have and every assessment we make. In most cases, they are subconscious. In some cases, they are based on fact and may prove correct. Our assumptions are often key uncertainties. It is essential to identify our key assumptions so that we are aware of them and do not allow them to influence our analysis.

Key assumptions checks (sign-in required) are used after a most-likely scenario has been established. The process involves identifying all the assumptions behind the likely scenario, then making judgements about how important and well supported those assumptions are. This allows the analyst to check their own analysis or that of another analyst for hidden (unconscious) assumptions that may have gone unchallenged over time. This technique is extremely important for analysts who routinely have to make assumptions to fill in the gaps in the information they receive, where information is incomplete or ambiguous.

Key assumptions checks may work better as a group activity, rather than in isolation, as it may help to have more perspectives than just those of one person. Those

involved in the process should identify the analytical line to be tested and then list all the assumptions that they believe support that line. Once the list has been created, it should be critically examined to assess how the assumptions affect the analytical line. For example, if the information was false, would it undermine your analysis? This process can help to identify areas where further research is required, to ensure that the analysis stands up to rigour.

Hypothesis generation

A hypothesis is a tentative statement about the relationship between two or more variables, which can be tested to be proven or disproven. Although the data that analysts can access is not always high-quality, an analyst should still test their hypotheses by applying high standards, in the same way as experimental sciences.

Analysts should create and propose hypotheses so they can be discussed and tested, not seen as the only explanation. It is important to generate multiple hypotheses, as this ensures that a wide range of possibilities are considered, not just what seems the easiest explanation as to why something is occurring. There are different techniques that can be used to help with hypothesis generation, some of which are detailed in this section.

Structured brainstorming

Structured brainstorming is a useful technique when generating hypotheses. It is most commonly used as a group creativity technique designed to generate a large number of ideas and concepts, to help better understand or solve a problem or tackle a challenge. This technique should be carried out by analysts and key stakeholders, to generate explanations for certain events.

There are two stages of brainstorming. The first is the divergent thought stage, which helps to generate new ideas. The second is the convergent stage, whereby ideas are organised and, where appropriate, removed (discarded). When performing this technique, the question to be answered should be clarified in advance of the session to ensure that the session is effective.

The technique is usually carried out with six to eight participants. It takes around an hour to complete, depending on the subject.

Facilitating brainstorming

Structured brainstorming requires a facilitator to ensure that the session runs effectively, who should set the ground rules at the start of the session. Participants should be given a few minutes to think and should write down their own ideas. There are a variety of ways of doing this. One of the most common and easiest to facilitate is to use sticky notes, with no more than one idea on each note. This part of the process should be done alone and will give each participant time to think about some hypotheses dependent on their ideas. The facilitator should then collect the ideas, read them out loud, seek clarification where necessary, then place each idea on a whiteboard or wall where everyone can see them. This part of the session will often generate some new ideas, which participants are able to add at this stage. This stage is only for recording the ideas. There should not be any criticism or debate. Only one person should speak at a time and everyone should be given the opportunity to voice their ideas.

Convergent stage

The convergent stage involves reducing the ideas. Only the remaining ideas are then taken forward. The facilitator should help the group to go through each idea and order them into groups or themes, removing any duplication and irrelevant ideas. Sometimes, further ideas will be generated at this stage, which should be included. There is often a large amount of discussion at this stage, which the facilitator should ensure is focused.

This technique is useful for generating the key drivers for scenario generation techniques, such as the cone of plausibility, and also in scenario evaluation techniques, such as [back-casting](#).

Making sense of complex data

Information that is subject to analysis often contains a series of events or describes the relationships between entities such as people, locations and businesses. There are many techniques that allow analysts to visually present this information to:

- clarify their own thinking
- assist with formulating hypotheses

- make the information clear to customers

These techniques are analytical, rather than solely data presentation. Decisions will be required in terms of which aspects of an offence are incorporated into the comparative case analysis (CCA) and how potentially linked offences are identified.

Pattern analysis

Pattern analysis (also known as crime pattern analysis) is a technique that allows the analyst to identify:

- emerging and current trends
- linked crimes or incidents
- hot spots of activity
- common characteristics of offenders or offending behaviour

There are many ways in which this type of analysis can be done. Often, maps, charts, graphs and tables are the best ways of displaying the patterns. Pattern analysis allows the analyst to make predictions about what they believe is occurring and what is likely to occur in the future if the criminality continues without intervention.

Timelines and sequences

Analysts can produce timelines and sequence of events to portray the chronology of events that have taken place. These will usually consider themes, such as:

- people
- vehicles
- groups
- addresses
- communications data
- CCTV
- automatic number plate recognition (ANPR)
- any other types of events that are relevant to the operation

Dependent on the time frame and the type of information to be included, this type of analysis may be displayed using software such as i2 Analyst's Notebook. For large datasets, Microsoft Excel would be more appropriate.

Producing a sequence of events allows the analyst to understand the bigger picture of what is going on, and who is in contact with whom at any point in time. This technique will also allow the analyst to identify patterns in behaviour (such as patterns in telecommunications data or travel) and will help to identify any gaps or discrepancies in accounts.

Comparative case analysis

CCA allows similar crimes or incidents to be identified as part of a series that are likely to have been committed by one offender or a group of offenders. They will be linked through similarities in:

- modus operandi (MO)
- signature behaviour
- intelligence
- forensic evidence

CCA is usually carried out using a chart or table, which allows the analyst to organise data in a format where descriptive details of the crime or incidents are displayed in one place. Details may include:

- people
- objects
- locations
- events
- language used
- MO
- vehicles

These details would then enable the analyst to identify any potential linked series. CCA allows the analyst to find patterns in the detail of an incident and crime that are

distinct enough to separate them from other incidents that are not likely to be part of the series.

Network analysis

Network analysis is usually managed through creating association charts. These show the links between people, groups, companies, vehicles, communications data and addresses. The aim of this type of analysis is to highlight the nature of the associations and to help with identifying intelligence gaps, disruption opportunities and intervention points. As new information is received, the charts can easily be updated, allowing the analyst to evaluate the associations on a regular basis.

This technique allows the analyst to provide a detailed picture of the roles played by individuals and can identify the hierarchy within a criminal network. This includes the roles that each individual plays and any links outside the network that is being investigated.

Analysts may also develop 'social network analysis', employing software applications to support a sophisticated visualisation and assessment of the role, relationship and influence of individuals within a network.

Hypothesis testing

Once a hypothesis has been generated, it is important to test it to establish whether valid interpretations have been made. To test the hypothesis, the question being answered needs to be closed-ended and in the present (not future-focused). While testing hypotheses, it is important to keep conducting key assumptions checks. Techniques such as the analysis of competing hypotheses (ACH) may be useful.

Analysis of competing hypotheses

The ACH is a technique used to test hypotheses that have already been generated. ACH involves identifying a list of potentially relevant pieces of information, then assessing their consistency with the existing hypotheses. This ensures that all pieces of evidence are considered and allows the analyst to overcome common analytical pitfalls, such as cognitive biases and limitations that they may have.

This technique provides an audit trail of what the analyst has considered, and how they have arrived at their conclusions and recommendations. If ACH is applied in the

early stages of hypothesis testing, it can be done fairly quickly by one analyst. However, it can be more effective when done in a group of analysts (with a maximum of eight analysts). Where ACH is applied to a long-standing problem, it can be very labour-intensive. It can be revisited at any stage of the analysis when new evidence or information is received.

Alternative explanations

ACH allows the analyst to generate alternative explanations. This ensures that all information and arguments are considered and evaluated, and that information that may affect an investigation is not missed. This technique ensures that all reasonable alternatives are identified and have competed against each other, rather than being looked at in isolation.

Creating a matrix

To carry out ACH, the analyst would need to create a matrix and write the hypotheses along the top, one per column. Down the vertical axis, the analysts should list all relevant evidence being used to evaluate the hypotheses. The evidence could include known facts, assumptions, arguments and the absence of things that would be expected if the hypothesis were to be true.

The analyst should then work their way down the list of evidence and assess it against the hypotheses. For each hypothesis, ask the following question: “If this hypothesis were true, how likely would this evidence be?” The analyst will then assign a score to each piece of information. At the end, they will add up the score for each of the hypotheses.

Where evidence and arguments are consistent with all the hypotheses, they should be deleted, as they add no value. When the analysts have narrowed their hypotheses down, they should consider how strong their lead hypothesis is and whether the judgement would stand if the evidence was incorrect. They should then use their conclusions to improve their analytical assessment and determine what information needs further development. See ‘Quick wins for busy analysts’ for more information (available via the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users).

Where ACH is to be done in large groups, the group should include managers and analysts to identify the hypotheses using structured brainstorming. Small groups of analysts should load the data onto the ACH matrix. The larger group should then reconvene to compare the matrices, to explore which data emerges as the most discriminating. This process will identify key findings as part of the analysis.

Generating and evaluating scenarios

Scenario generation techniques are used when considering how a situation or subject area might look after a given length of time. Using structured techniques to generate scenarios helps the analyst to identify plausible future scenarios that can be justified by a clear line of reasoning.

Scenario generation assists in supporting contingency planning and allows decision makers to know that the predictions made by the analyst are plausible, even those that may be unlikely to occur. These techniques allow decision makers to have a range of plans in place, in case a situation changes or develops.

When using scenario generation techniques, the analyst will identify a number of indicators that can act as early warning signs. Their customer can then make policy decisions on what action to take if any of these indicators were to occur, which could prevent an event from taking place. This can help the analyst to move into the estimative stage of analysis, allowing their customers to be aware of what may happen next. It is important to note that the complexity of some situations means that it is difficult to identify what angle of the threat the analyst should focus on. Analysts cannot consider every eventuality that might occur in the future.

There are four techniques to be considered:

- [quadrant crunching](#)
- [force field analysis](#)
- [cone of plausibility](#)
- [red teaming](#)

Quadrant crunching

[Quadrant crunching](#) is a useful technique that allows the analyst to consider a broad set of alternatives when they are provided with limited data and a high level of

uncertainty. It enables analysts and decision makers to identify their priorities, as well as the factors that may have an impact on ambiguous threats.

To carry out this technique successfully, there needs to be a well-established hypothesis, which can be broken down into sections that focus on the 5WH. The analyst should use a matrix to generate examples of how they think factors may affect one another.

Force field analysis

Force field analysis is a structured technique that allows analysts to examine the key drivers that are acting on an issue, organisation or individual. This technique was developed by Kurt Lewin, a social psychologist. Lewin said that an issue, organisation or individual is held in a dynamic balance or imbalance by a combination of forces, which compete to drive the issue, organisation or individual in a variety of directions.

This technique should be used to focus on what is driving the activity that is taking place. It should not be used as a way of identifying pros and cons for dealing with the activity. Force field analysis enables the analyst to work to a structured, auditable framework. This framework then allows the analyst to identify the strength of the drivers that are being examined, to see what changes any potential movements are likely to bring about.

Force field analysis allows the analyst to identify the current balance of the forces acting on a particular basis. It also enables them to understand how this balance might change over time, meaning that the potential future development of these changes can be examined. It is particularly useful in identifying potential opportunities to change the development, such as through intervention (including changes in policies). This can help the analyst gain an insight into how the drivers stabilise or destabilise an issue.

This technique should be used at the beginning of the analysis, to identify the key drivers that will provide greater understanding of the issue being considered. As a situation develops over time, it can also be revisited to gain an insight as to how the strengths of key drivers change, or how new drivers that have appeared can affect potential future developments.

Once key drivers have been identified, they should be assigned a score between 1 and 5 (with 1 being the weakest intensity and 5 being the strongest). Each driver should be considered individually, which can result in several drivers having the same score. This process will identify the drivers that have the most impact. It can also inform the analysis as to where the biggest impact would be if certain drivers were removed.

Cone of plausibility

The **cone of plausibility** is a scenario generation technique. It is used to generate a range of plausible scenarios that describe how a particular subject area may look after a given timeframe. Generating key drivers relating to a subject area can provide some insight into what factors are most important in shaping future events. This technique can be carried out in groups or by an analyst on their own. See 'Quick wins for busy analysts' for more information (available via the Knowledge Hub **Criminal Intelligence Analysis Community**, which is an OFFICIAL online tool with access limited to registered PNN and GSi users).

Once this technique has been completed by the analyst, it provides a useful framework for structuring and producing a product quickly. It also enables the analyst to present the results effectively.

Red teaming

Red teaming is a technique whereby the analyst puts themselves in the shoes of another person or group to understand the potential threat that they may pose. The technique involves modelling the behaviour of an individual or group by trying to replicate their behaviour, viewpoints and intentions using critical thinking skills. It is essential that those involved have a good understanding of the subject being considered, otherwise it will be difficult to carry out.

When carrying out red teaming, those involved need to develop first-person questions, such as the following:

- If I were the subject, how would I react to this?
- What concerns would I have?
- How would I mitigate these concerns?

This allows the analyst to develop a broader understanding of the subject, without introducing their own biases into analysis. It can also lead to them identifying new vulnerabilities that had not previously been considered. This technique can help to reduce the threat posed by the subject or group and can help to fill some of the intelligence gaps that may be present.

Scenario evaluation

Scenario evaluation techniques help to raise awareness of the indicators for a high-impact event occurring, even where it is very unlikely. These techniques help to identify intelligence gaps and some of the limitations of using intelligence for particular problems. The main structured scenario evaluation technique to consider is back-casting.

Back-casting

Back-casting is most appropriately used for closed-ended, future-focused questions. It can be used where there are early indicators that something is going to happen, so that measures can be put in place that will reduce the threat. Back-casting allows the analyst to consider specific scenarios, to identify any warning indicators and key points. In some situations, the analyst will have an idea of what may lead to particular scenarios occurring. However, back-casting will help to identify warning indicators that the analyst may miss, intelligence gaps and early intervention points that could prevent an event from occurring. This technique can be done in groups or alone.

The analyst needs to:

- consider specific outcomes and timeframes for the event to occur
- consider key assumptions (what is essential for the event to occur)
- plot a timeline (using key assumptions), showing plausible events and trends that would lead to the outcome

This technique should allow the analyst to provide their customer with the precursor events that will lead to something to occur.

See 'Quick wins for busy analysts' for more information (available via the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users).

Other techniques

SWOT analysis

SWOT analysis provides a framework for analysing the strengths, weaknesses, opportunities and threats related to the problem being considered. Strengths and weaknesses are internal to the organisation, while opportunities and threats are generated by the external environment.

When conducting SWOT analysis, the analyst needs to be aware of the objective of the analysis, and then generate the analysis around that. This technique provides an understanding of the available strengths and opportunities, which can then be built on to develop recommendations for tackling the issue at hand. In addition to this, the technique helps to identify threats and weaknesses, which should be examined when deciding how to approach the issue.

SWOT analysis can be applied to a range of different situations and can be used throughout analysis, including at the recommendations stage. This technique can be carried out by an analyst on their own or as part of a group.

Once each area has been identified, options can then be considered. Analysts can identify strengths to be exploited, or ways to improve on weaknesses that have been found.

Crime script analysis

Crime scripting is a type of analysis that breaks down information into logical steps in an organised sequence. When committing a crime, there are often four stages that the criminal will go through to carry out the offence.

- Preparation – the offender identifies the opportunity in which they can commit their crime.
- Pre-activity – the logistical or transactional precursors that may need to occur (for example, reconnaissance at the location to be targeted).

- Activity – how they are going to commit the offence.
- Post-activity – the logistical or transactional steps required to leave the scene (for example, having a getaway driver waiting with their engine running).

Script analysis allows the analyst to build a profile of criminal activity, to identify and answer questions around the 5WH. It is useful when data is limited, as it helps to provide a greater understanding of the problem and can help to identify opportunities for preventing and detecting crimes.

Crime script analysis follows a process similar to an analytic technique formerly defined as the ‘criminal business profile’ or ‘criminal business analysis’. This forms more of an intelligence product, where the specific aim is to determine how a criminal group or enterprise operates.

For example, crime scripting would allow a criminal group to be viewed in a similar way to a business. The analyst could determine how the group sources their commodity, how they process and distribute it, and how they disseminate the profits.

For further information, see [Crime analysis for problem solvers in 60 small steps](#).

Team A/team B

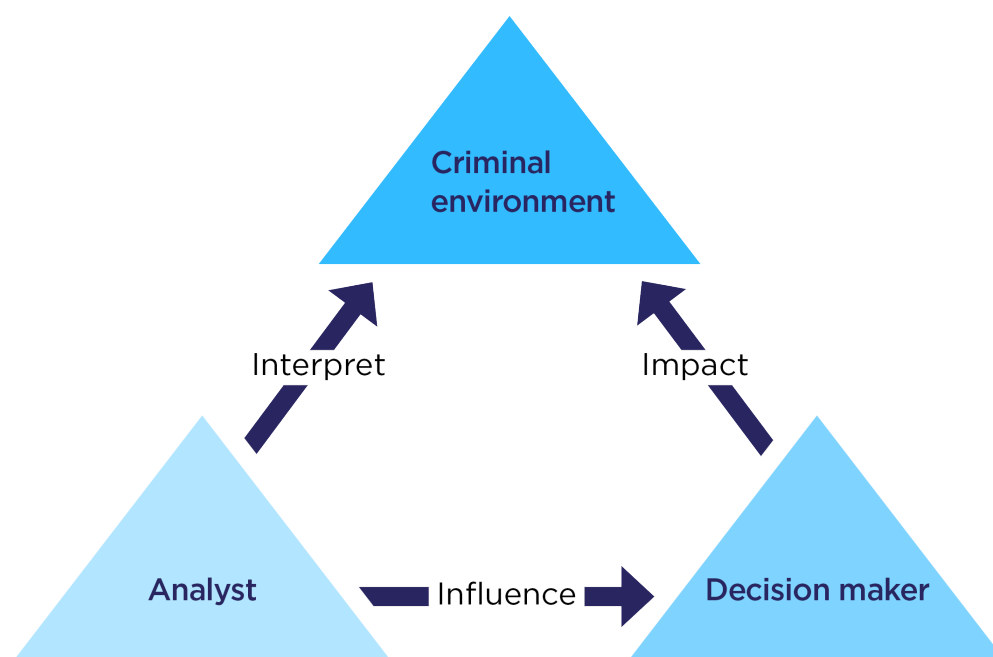
The [team A/team B technique](#) is used where there is no clear answer to a problem but action still needs to be taken.

Analysts will work as part of a team to research one viewpoint or another, and then argue their case for it. The decision maker can then decide what action to take, based on the best available assessment at that time.

Delivering effective analysis

To assist decision makers, analysts must carry out effective analysis that can be understood and acted on.

One model that illustrates the role of analysis in policing is the ‘3i model’ (Ratcliffe, 2004).



The value of analysis within this model is in:

- the analyst interpreting the criminal environment, through analysing the problem
- the analyst influencing decision makers by producing work that can be understood and acted on
- the decision maker having an impact on the criminal environment, informed by translating the work that the analyst produces into action

Writing for impact

The presentation of an analyst's product is important. The quality and standard of production will make an impression on those who receive it. It is important that all products aim to achieve the best standard so they command respect, foster trust and have the analytical work acted on.

Accuracy, brevity, clarity (ABC)

- Accuracy – analysis should be accurate. Factual errors are not acceptable and will undermine analytical products.
- Brevity – analysis should be clear, short and to the point.
- Clarity – the reader should be able to understand the facts that are presented.

Bottom line up front

Bottom line up front (BLUF) is a good technique to use when producing written and verbal assessments. This is a technique whereby the analyst leads with their analytical conclusion to ensure that, if the customer does not have long to read the product, they will still get an understanding of the key message.

Analysts should follow their conclusion with the supporting evidence, from the strongest to the weakest, ensuring that it contains the 'what', 'so what' and 'what's next' where necessary. Writing in this format ensures that the customer does not need to read the whole document to understand the main message.

Analysts must believe their bottom line. If not, they should write a new argument.

4-3-3 principle

When writing, analysts should consider using the 4-3-3 principle (commonly used by the FBI). This should be used as guidance rather than as a fixed rule, as it is not always possible to follow. This principle states that:

- no sentence should be longer than four lines
- no paragraph should be longer than three sentences
- no section should have more than three paragraphs

This style of writing ensures that paragraphs are structured in a way that results in analysts using concise language that is easy to read and understand.

Writing clearly

When writing reports, analysts should:

- use clear and unambiguous writing
- not make assumptions about the reader's previous knowledge
- focus reports on the agreed scope of the ToR
- establish confidence in the inferences made by showing the quality of the information sources used
- maintain unambiguous and objective reporting (avoiding adjectives such as 'huge' or 'lacklustre')

- invite colleagues to read the report critically to check that it is fit for purpose
- ensure that enough time remains to finish the report, so that it does justice to the amount of analysis and so that conclusions are completed

See [checklist for report writing](#) for more information.

Key findings and summaries

Key findings should be within the scope of the original ToR for the analysis. There should only be six or seven key findings. Each statement should be clear, relevant and unambiguous. The analysis that supports the key findings should be visible in the text of the final report.

Products such as maps and charts need to be easily understood. The customer should be able to interpret the key elements being presented without having to read any supplementary materials.

Visualisation

Graphs, tables, pictures, maps, infographics and other visual methods of presentation can all enhance a product. For example, they can illustrate the relationship between key actors.

It is important to include such visualisation only where it adds value, and to consider the impact in each instance. There will be occasions where an image or other visual aid will be more effective in communicating a message to the reader than text.

Tables, spreadsheets and matrices are a useful tool for arranging large amounts of information. They can be used in the collation process and to develop complex charts at a later stage in the analysis. This might include using a table to illustrate sequences of events over a long period, where visual illustration requires too much space or creates too much complexity for the message to be understood.

Maps can help to illustrate patterns of movement or demonstrate the relationship between different events. Various forms of data can be overlaid onto maps to support this, such as:

- cell-site data
- ANPR data

- points of interest, such as home addresses
- locations of other key sites

Hot spot analysis relies on using maps to illustrate patterns of crime. In this context, it is important to choose the right type of visualisation in analysis and subsequently to illustrate the message. Examples could include point data, kernel density estimation, choropleth mapping or a mixture of these.

Infographics can be an attractive and engaging medium for communicating analysis, with key points reinforced by impactful visuals. They can be highly effective in communicating a message and can provide a high level of creative licence to the analyst.

There are many different types of infographics. It is a good idea to research examples to identify ideas for a style suitable to the subject matter. By setting out the key message or argument of the analysis (possibly as a strapline) and building the rest of the infographic to support this, an analyst can set out their work in a clear and persuasive manner.

Depending on customer requirements, an infographic could accompany a formal written report, or replace it altogether. In the latter case, it becomes even more important to design a way of capturing research and analysis that does not appear on the infographic, in case it is needed to answer questions about the work or in the future.

Communicating probability

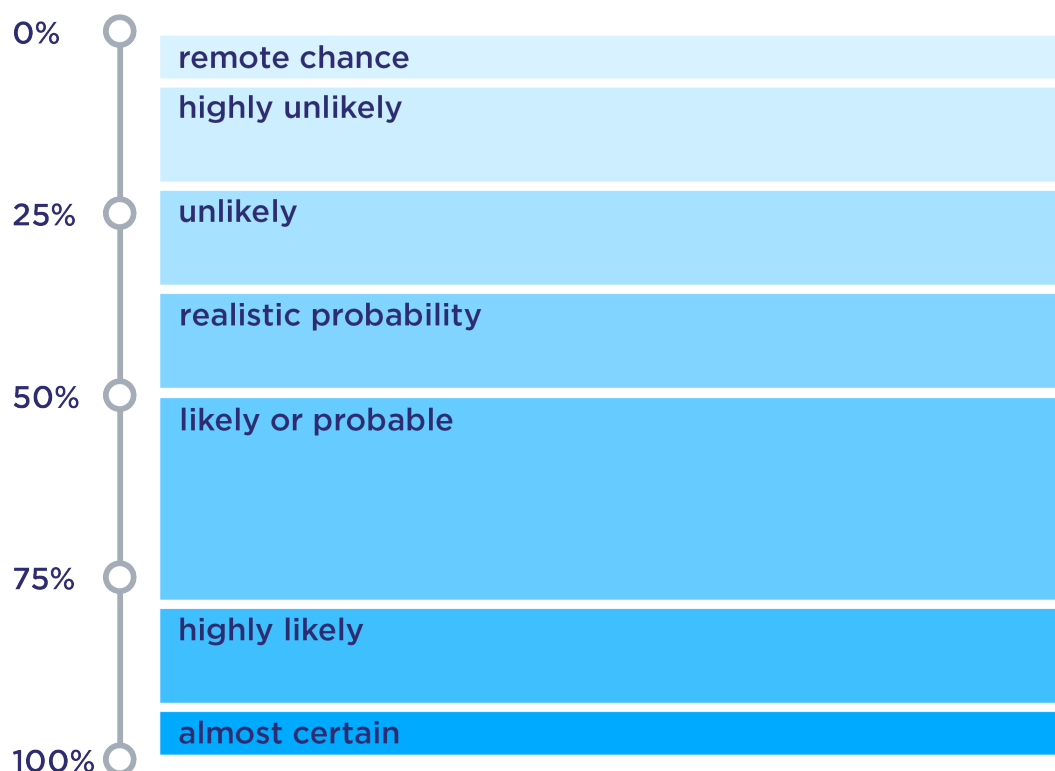
Accurately communicating probability is an important element of good-quality intelligence assessment. The agreed standard for conveying probability in intelligence analysis in the UK is the PHIA probability yardstick. This is a scale of probabilistic language developed by Defence Intelligence and latterly adopted by the PHIA for use across the government intelligence community. The scale comprises accepted intelligence terminology at a national level.

This scale demonstrates broad ranges of certainty or uncertainty that can be translated into consistent language. This language is then used in intelligence products in the context of any assessment, accompanied by the scale as an appendix to support interpretation.

Probability range	Judgement terms	Fraction range
Less than or equal to approximately 5%	Remote chance	Less than or equal to approximately 1/20
Approximately 10% to approximately 20%	Highly unlikely	Approximately 1/10 to approximately 1/5
Approximately 25% to approximately 35%	Unlikely	Approximately 1/4 to approximately 1/3
Approximately 40% to less than 50%	Realistic possibility	Approximately 2/5 to less than 1/2
Approximately 55% to approximately 75%	Likely or probably	Approximately 4/7 to approximately 3/4
Approximately 80% to approximately 90%	Highly likely	Approximately 4/5 to approximately 9/10
More than or equal to approximately 95%	Almost certain	More than or equal to approximately 19/20

Professional head of intelligence assessment

In effect from March 2018



This consistent terminology also follows the national intelligence model (NIM) approach to common terminology and operating principles. End users can expect to pick up an intelligence product from any individual in any force or agency, and reliably know what the assessment is seeking to communicate around the certainty, or otherwise, of any judgements.

The scale was developed in response to two key challenges to effective intelligence assessment:

- Misinterpretation – a lack of consistency in the use of language means that the same terms can be used to describe very different things. This means that the findings of any assessment could be wrongly interpreted and therefore improperly acted on.
- Misrepresentation – vagueness through a lack of consistency can lead to an intelligence assessment being accidentally or deliberately misrepresented by the

end user. This is especially true if the work is quoted in, or collated into, another product. This can potentially lead to inappropriate action.

Writing for action

Developing recommendations

A clear set of recommendations should be included in analytical reports. These should be based on the analysis and should focus on key findings or information gaps relevant to the issue being analysed.

Recommendations should be written as directional statements and should be limited to perhaps six or seven of the key issues. Recommendations should follow a structure like SMART:

- Specific – recommendations should be clear, detailed and unambiguous.
- Measurable – recommendations should make it clear exactly what needs to be achieved. They should help to set operational objectives, as well as objectives for results analysis.
- Achievable – all recommendations should be achievable and should focus on what can be done with available resources.
- Realistic or relevant – the recommendations should be within the scope of the original ToR for the analysis and should be realistically achieved if adopted.
- Timely – recommendations should be presented as short-term, medium-term or long-term options. Alternatively, they could be prioritised and given a schedule.

Analysts may make recommendations across a range of issues. This stage of the analysis may require analysts to engage, and jointly deliver recommendations, with:

- other analysts, researchers and other intelligence professionals
- operational specialists
- subject matter experts

Checklist for report writing

The key points to consider when developing a report are:

- Only develop key findings, information gaps and recommendations once the analysis is completed.
- Write up the analysis before developing the key findings, information gaps and recommendations, to ensure that they follow a standard and logical order of presentation.
- Once the analysis is written up, highlight the points that are to be communicated as key findings, and where the analysis suggests further action.
- Discuss the analysis with an experienced colleague, who may assist in identifying the most important findings from the analysis.
- Use the collection plan to identify the information that was not received or found. Assess the impact of that gap on the findings.
- Consider what should be added to the ToR – or should have been done if there was more time or information – and whether this would improve the task that was set or operational activity. If so, consider including the information as recommendations.
- Write recommendations in the analysis as a first step, to ensure that they are supported by the analysis and evidenced in the text. They can then be moved to the appropriate section of the report.
- Use the review process to check that the key findings, information gaps and recommendations are unambiguous, clear and directly relevant to the ToR.

Problem solving

Analysts within certain functions may take a direct role in operational activity related to their work, particularly in areas relating to volume crime or anti-social behaviour. This might include taking part in problem-solving activity.

Problem solving is supported by analysis and is best achieved by adopting a collaborative approach. Collaboration should include:

- subject experts (in crime prevention, neighbourhood teams, forensic staff, analysts, investigators, intelligence staff and partners)
- where relevant, a trained facilitator or someone outside the group to run problem-solving meetings or workshops

Prior to meeting, all those involved must have read the analysis report or intelligence product. Researching best-practice resources, such as the [College of Policing website](#), for possible responses prior to the meeting can also be beneficial in understanding what has previously been used to counter similar problems. Also consider using organisational memory databases in force and results analysis reports. Any collaborative sessions may also benefit from using appropriate analytical techniques, including hypothesis generation and hypothesis testing, [SWOT analysis](#), structured brainstorming or [key assumptions checks](#).

Going beyond the descriptive

The value of analysis will most often be realised when the product provides an assessment that delivers insight, clarity and context. The purpose of the product will have been established through the ToR stage. Where a product is required to go beyond the descriptive, to explain why something has happened, to evaluate what something means or to estimate what might happen next, the analyst must add value (Pherson and Sullivan, 2013).

Value may be added by using appropriate analytical techniques to make inferences, to generate and test hypotheses or to develop scenarios as required. It is important to communicate these, as well as subsequent findings and conclusions, effectively. Going beyond the descriptive should increase the potential for action to be taken by identifying actionable lines of enquiry, intelligence gaps or intelligence indicators.

Quality review

Once the product is complete, review is a key step to establish that the product is clear and concise, and that it responds to the original ToR. Reviews can take different formats, including:

- peer review by a colleague
- formal or informal quality review by an analyst manager
- stakeholder reviews by those commissioning the work

The review might represent a planned milestone in producing the work or may be done prior to accepting the completed work. Stakeholders might include partners such as:

- the Crown Prosecution Service (CPS) for work presented in court
- partner agencies for joint strategic or tactical products
- government agencies that have tasked work out to forces.

Analysts should confirm that:

- the ToR have been achieved
- the inferences and key findings are correct
- findings are supported by the report text

When planning the timescale for producing analysis, adequate time should always be built in for review. It is important to provide the reviewer with the ToR, so that they are aware of what the analysis is trying to achieve and can check that any specific questions are fully answered. When seeking peer review, the analyst should choose a colleague who is able to provide an objective view.

Examples of the questions that the reviewer should answer include the following.

- Are the key findings clear?
- Does the work add value – for example, by providing insight, clarity, context or direction?
- Does the document make sense?
- Does it read well?
- Does the reviewer agree with the findings based on the content of the document?
- Do the arguments make sense?
- Do the key findings support the inferences and the core arguments?
- Did the analyst make use of appropriate analytical tools and techniques?
- Do the recommendations flow from information gaps and key findings?
- Are relevant minimum standards complied with?
- So what? What does this work achieve? What does it say, enable or inform?

The reviewer should give honest, constructive feedback, and the originating analyst should receive the feedback in such a light. If the answer to any of the questions listed is 'no', then the originating analyst may like to consider amending the way the information is presented. The most effective way of exchanging feedback is to ask

the reviewer to brief the originating analyst directly, enabling clarification of any feedback and discussion of changes suggested. Any changes can then be made immediately without delaying dissemination of the product and without altering the authorship and analytic line of the product.

Disseminating analytical output

Dissemination should be agreed and set out in the ToR. Consideration should be given to who needs the information and the most appropriate format for dissemination. The amount of information disseminated will vary, depending on the audience. For one audience, it may be appropriate to provide detail of the analysis. For others, it may be more appropriate to provide only the intelligence gaps and give direction on how they might be filled.

The analyst is responsible for producing and disseminating appropriate material. They should ensure that products are version-controlled and comply with the corporate style, as well as any minimum requirements. This ensures a professional approach and supports continual improvement of future work.

Specifically, the analyst must ensure that:

- the correct [GSC grading](#) is considered and properly shown
- the document is being disseminated in accordance with the GSC
- the most appropriate media for dissemination is chosen
- the recipient is able to access the report and has the software necessary to read attached charts or maps
- the recipient is aware of any restrictions on the storage of the report
- the original report is stored correctly and is easily accessible in the future

Briefings and presentations are often used by analysts to supplement written reports.

They may also be used in the place of written reports to disseminate results to some audiences. Good presentation and briefing skills are an important part of an analyst's skills and abilities. Some key elements to remember for preparing and giving briefings and presentations are:

- know the material and be prepared for questions

- keep it brief and keep to the allotted time
- focus on three or four key messages
- keep supporting slides to a minimum (do not read them)
- use charts and maps to support the content
- know the audience and pitch accordingly
- use open body language – avoid fidgeting, folding arms or standing with hands in pockets
- maintain eye contact, breathe and smile

Checklist for disseminating analysis

The key points to consider when disseminating analysis are:

- identify barriers to dissemination early on in the analysis process and assess the risk of not removing them
- follow the dissemination requirements set out in the ToR
- check that the GCS is correct, and that it is appropriately displayed on the report and supporting media
- keep a list of the recipients of the report and consider asking them for feedback if this is not done automatically
- ensure that deadlines are adhered to, by leaving time to check that the customer has received the report and that any consultation processes have been followed

Evaluation and review

With the demands placed on intelligence analysis, time for review and evaluation can be limited. However, the benefit of the learning achieved can be significant. Despite demand, this should therefore be an area for investment for analysts and their managers.

Analytical evaluation and review should take the form of two areas:

- self-evaluation and review
- organisational evaluation and review

Self-evaluation and review

Analysts are responsible for their own professional development. This includes:

- reflective practice and learning from each piece of work completed
- quality review and peer support
- seeking constructive criticism from colleagues and analyst managers, to identify learning opportunities and address weaknesses

Analysts should undertake continuing professional development and should be able to demonstrate learning and development in the role.

For more information, see [intelligence professionalisation programme \(IPP\)](#).

Reviewing effectiveness

Reviewing the effectiveness of products is one of the key skills required by an analyst. This review may include:

- assessing the analysis against the ToR
- identifying differences between the analysis product and the ToR
- confirming the evaluation method
- identifying what could have been achieved by using a different methodology

Based on the results of the evaluation, an analyst can outline potential improvements to the product. This will be achieved in consultation with the customer by:

- collecting information on the impact of improvements
- assessing the effectiveness of improvements

Testing identified inferences

Once the analysis has been disseminated, any subsequent action should test the identified inference. The inferences that have been included should be reviewed to establish whether they were correct and whether resources are being deployed effectively. Once they have been tested, options will be based on the outcomes.

- Inference is assessed to be correct but the problem persists – further direction may be required to address the issue. The intelligence cycle may need to start again.

- Inference is correct and the problem no longer persists – the next stage is to end operational activity and begin a review of all activity to date.
- Inference is assessed to be incorrect and the problem persists – further information collection will need to be initiated. Additional analysis will also need to be tasked.

Direction regarding how information should be communicated to the analyst, to allow for a final review, should not be overlooked. This direction needs to be clearly provided, agreed in the ToR and communicated at the time of dissemination to those required to provide feedback and to inform a final review. The plan owner and analyst must agree a timescale for this review, prior to dissemination, with the first intention being to determine the accuracy of the inference.

Analysts should ensure that their analytical products are available to their colleagues through appropriate means, as a source of good practice and to share knowledge.

Organisational evaluation and review

Analysts have a key role in contributing to an agency's organisational memory, whether this is through formal review or a more informal process, such as an operational debrief. The information captured needs to be fed back into the continuous learning and development that takes place in forces and partner agencies.

Results analysis

Results analysis is a structured review of action that should be tasked at the outset and documented in the ToR. This enables the development of an efficient system of information collection required for results analysis.

Results analysis evaluates the effectiveness of resource deployment, and identifies good practice and issues that hindered the outcome. Once a final review has begun, whether formal or informal, it should concentrate on:

- the value of the information gathered
- the processes used to obtain information
- the contribution of colleagues who collaborated on the work
- the final content of the analysis

Results analysis is a critical evaluation of all aspects of the operation or initiative.

This includes:

- enforcement tactics
- intelligence gathering
- impact of prevention activity cost benefit analysis
- cause and effect analysis

It also includes whether the crime or incident levels have changed in the way expected as a result of the operation or initiative.

For this type of analysis to be successful, the operation or initiative must have specific objectives and a process to measure them by, which are agreed at the outset. Results analysis should be considered in the ToR and may be most useful where:

- a new crime or disorder area is being addressed
- a new approach or techniques are likely to be used
- the threat posed by the problem or group of individuals is assessed to be high

Any results analysis carried out before a trial or appeal is subject to the rules of disclosure.

Operational intelligence assessment

Operational intelligence assessment (OIA) is a method of ensuring that medium-term to long-term investigations remain focused on their original objectives. It is not solely the analyst's responsibility to complete an OIA.

An operational intelligence assessment:

- helps to prevent mission creep
- identifies priorities for the intelligence effort involved in the investigation or operation
- focuses decisions about resources
- guides investigative activities
- verifies that protocols, such as the correct authorisations, are in place

- highlights diversification from agreed objectives
- aids the review of compliance with the [Human Rights Act 1998](#), [Regulation of Investigatory Powers Act 2000](#) and other legislation

[See further information on OIAs.](#)

MoRILE

One of the major challenges of analysis is in trying to compare and prioritise different types of problem, and to do so consistently.

[Management of risk in law enforcement \(MoRiLE\)](#) (sign-in required) has been developed by a wide range of practitioners as a structured methodology to support prioritisation. It provides a consistent approach to identifying tactical and strategic policing priorities across law enforcement agencies.

MoRILE methodology assesses:

- an organisation's capacity and capability to address a threat
- impact
- physical, psychological and financial harm to individuals
- the community
- public expectation
- environmental impact
- likelihood
- confidence

Tactical model

Two models of MoRILE currently exist:

- tactical model
- thematic model

The tactical model is a tool to enable law enforcement agencies to understand their operational and tactical risk. This model should be used regularly in daily and weekly tasking processes.

As well as the tasking process, this could also be included in evaluation and review. For example, what was the initial tactical score, and what was the score at the conclusion of the operation?

Thematic model

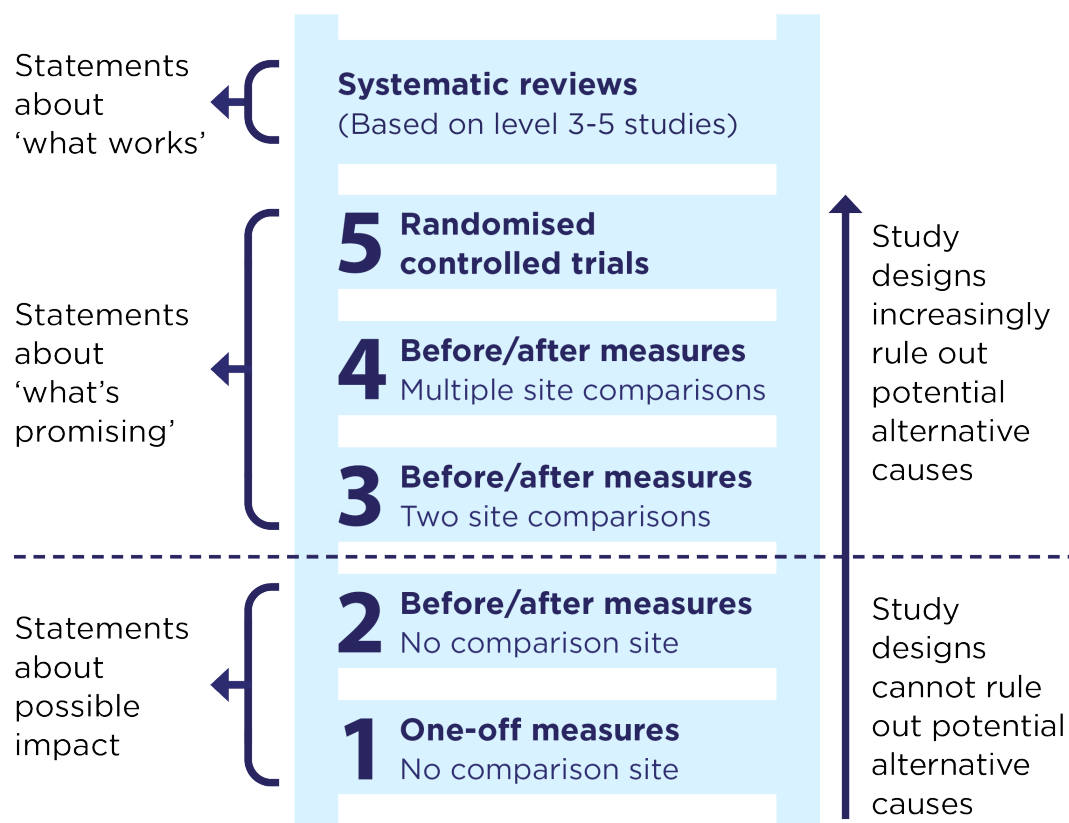
Thematic MoRILE is a tool that enables law enforcement agencies to understand their strategic risk. It should be used to inform the strategic assessment process.

All law enforcement agencies in the UK use the MoRiLE tactical model. The thematic model will therefore facilitate interoperability, as well as the movement of operational and tactical work between law enforcement agencies, while prioritising those agencies' use of resources. This ensures that agencies target the issues causing them the greatest risk. Using the thematic MoRILE, it will be possible to establish a national picture of harm.

Evidence-based policing

Analysts have a key role in evidence-based policing, which uses the best available research techniques to understand what works in policing. Evidence-based policing places emphasis on targeting, testing and tracking law enforcement activity. Analysts can contribute to the scientific approach required without subjectivity, to inform decision makers on what works (and what does not), and to examine the causes.

How can we be confident our activity makes a difference?



Ladder of evidence

The Maryland scale indicates the different levels of study that can be conducted to inform an evaluation where we want to know what impact our activity has had – for instance, in reducing crime or reoffending. The previous graphic shows the ‘ladder of evidence’. The scale of a study is not a guarantee of quality – there can be poor studies at level 5. This scale helps to define how certain analysts can be of their conclusions.

- **Level 1** is a one-off measure with no comparison site. If there was change, we cannot say whether the intervention had anything to do with it.
- **Level 2** introduces a before-and-after measure. This is a baseline to compare against. Although we can conclude that there is change, we cannot determine whether it is related to the intervention. The influence of other factors cannot be ruled out.

- **Level 3** includes a before-and-after measure across two sites, one where activity was implemented and another that remains business as usual. Any change is likely to result from an intervention being introduced, rather than other factors.
- **Level 4** is an extension of level 3, with multiple test and control sites. This gives some management over variables that cannot be controlled, such as sickness, leadership and culture, different sociodemographic characteristics and different crime or demand profiles. The evidence is consistent that the introduction of an intervention led to a positive effect.
- **Level 5** is the gold standard with randomised controlled trials. Use of an intervention directly resulted in outcomes, as alternative explanations for the change can be ruled out.

The [What Works crime reduction toolkit](#) is a useful tool to identify what works (and does not work) to reduce crime. The toolkit summarises all existing systematic review evidence on a range of crime-related topics.

Analysis intelligence products

Although there are specific intelligence and analytical products, there is a need for these to be more fluid and flexible. Products can be tailored to consist of several techniques used together to properly answer the question posed. A flexible approach is less likely to restrain the thinking of an analyst. Analysts will be able to consider how to best use various techniques available, to develop an analytical profile response that is fit for purpose.

National intelligence model products

The four core intelligence products outlined in the NIM are:

- subject profile
- problem profile
- tactical assessment
- strategic assessment

These products are produced collaboratively. They will be based on the ToR and will make best use of varying analytical tools and techniques.

Other intelligence and analytical products

Subject analysis

Subject analysis aims to provide a comprehensive picture of the intelligence and analysis relating to an individual (a victim, suspect, offender or witness). It is used to initiate or support an ongoing investigation, to aid decision making and to develop further lines of enquiry. Subject analysis is likely to form part of a subject profile.

The profile is likely to combine techniques and products to describe the subject's history, including their:

- criminal activity
- lifestyle (for example, geography, communications, financial)
- associations
- strengths and weaknesses
- risks posed

The profile should:

- identify intelligence gaps
- indicate how resources may be deployed against the individual
- assist in prioritising targets
- focus intelligence gathering

There must be an appropriate legal basis and rationale to commission any subject profile. Consider legislation like the Data Protection Act 2018 and General Data Protection Regulation (UK GDPR), which local data protection officers will be able to advise on. Other relevant policies, guidelines and APP should also be consulted. Authors must only include information that is directly relevant and proportionate to the objectives set for the product within the ToR.

Market analysis and profiles

Market analysis aims to identify the market around a commodity or service. It can be used to describe any market at any level. These can be criminal markets, such as drugs or organised immigration, or legitimate markets. These profiles detail how active the market is, the price and availability of commodities and services, and the

key players in that market. The legitimate markets may provide lifestyle or motive information that assist the investigation.

Market profiles can be combined with other analytical techniques, including pattern analysis, network analysis and criminal business profiles. They can be used to:

- identify potential new sources of material
- emphasise emerging trends and key players
- focus intelligence gathering
- aid decision making
- help understand the wider picture surrounding an incident.

Market profiles will require access to every available source of material, including multi-agency and partnership data. Advice may need to be sought from specialists.

Criminal business analysis and profiles

Criminal business profiles aim to detail how criminal operations or businesses operate. A criminal business can be described in the same way as a legitimate business. The only difference is that with a criminal business, there is always a victim. This technique breaks down the criminal process into stages, focusing on key elements of the business process. This helps to identify the key stages that cannot be achieved without completing another, thereby indicating areas for disruption. Criminal business profiles should highlight weaknesses in systems or procedures that are being exploited. They should also identify intelligence gaps and new lines of enquiry.

Flow charts can be used in a criminal business profile to show business and financial processes. Crime script analysis is also a useful analytical tool to support this technique. Criminal business profiles are often used in conjunction with market and subject analysis, to provide a comprehensive picture of criminal activity and the people involved.

Risk analysis

Risk analysis can be applied to a range of different situations to identify the likely impact of law enforcement action or inaction, and to predict criminal activity. Risk analysis supports the assessment of the scale of risk posed:

- by individual offenders, organisations or crime types
- to potential victims, the public, the law enforcement agencies or the criminal justice system

Risk analysis can be used to identify the risks posed by a particular type of offender. It can also be used to assess whether apparently isolated incidents are part of a larger pattern or trend to which greater importance needs to be given. Alternatively, risk analysis can determine the prioritisation of individuals or groups using a scoring matrix – for example, individual gang members involved in criminality.

Demographic and social trend analysis

Demographic and social trend analysis (DSTA) examines how demographic and social changes in an area or demographic group can affect levels and types of crime and disorder. This product can support strategic analysis and tactical operations. It may be used in conjunction with other analytical products. DSTA:

- is used to make decisions about resources at a strategic level
- highlights likely future pressures on resources
- identifies current or emerging problems
- improves knowledge in relation to partnership working
- aids planning for seasonal or tactical operations, in response to emerging social phenomena or movements of people
- highlights preventive, reduction or diversion opportunities
- helps to focus intelligence gathering
- predicts criminal activity

Most information to support DSTA will come from multi-agency and partnership sources. Academic and open-source data may also be used.

Additional products

Organisation evaluation and review provides some detail of two further products that are routinely employed: **results analysis** and **operational intelligence assessments**.

Tasking and coordination

The tasking and coordination (T&C) process provides managers with a mechanism for operational decision making at strategic (ST&C) and tactical (TT&C) levels. Proactive leadership is essential in this process. To enable managers to prioritise the deployment of resources, decisions should be based on a thorough understanding of the problems. Forces should have a system for recording all T&C decisions, operational plans and results.

Strategic tasking and coordination

ST&C is part of police governance and planning. The ST&C process enables senior managers, through a **strategic tasking and coordination group** (ST&CG), to consider and agree strategic direction and align resources to priorities. The ST&C process operates at various levels, depending on force structure and governance. For example:

- where a force has basic command units (BCUs), they may all run a strategic process
- where a force has no BCUs, the ST&C process may only occur at force level

The force should have a T&C policy that states the frequency of ST&C meetings, as determined by the force business needs. Where ST&C meetings are held less frequently, it may be advisable to hold interim reviews.

Strategic tasking and coordination group

Senior police managers make up the ST&CG. Partner agencies and community safety partnerships can make an important contribution to the ST&C process and should be included by mutual consent. A joint **strategic assessment** may be written, with **control strategy** objectives agreed between partners. The ST&CG should be chaired by someone with the authority to set strategy and to allocate the resources being considered within the remit of the meeting – for example, the force chief constable or deputy chief constable.

The purpose of the ST&CG is to:

- consider the operational priorities recommended in the strategic assessment

- set and amend the control strategy, where necessary
- approve a strategic [intelligence requirement](#)
- consider prioritisation of resources

The ST&CG can commission further development or analysis to find out more about an issue described in the strategic assessment. This can be used to inform the control strategy and to assist the next ST&CG in making decisions. The decisions made by the ST&CG provide the context in which the [tactical tasking and coordination group \(TT&CG\)](#) works.

A record should be kept of the decisions made at the ST&CG, as well as the rationale for them.

Control strategy

The control strategy sets out and communicates the operational priorities for the force or command area and sets the long-term priorities for crime prevention, intelligence and enforcement. It may also include reassurance opportunities. The control strategy provides senior management with a framework, to enable them to implement decisions on prioritising the allocation of resources.

The control strategy does not capture every issue. While issues that are not captured can still be dealt with, control strategy issues should be given priority when resources are allocated.

The content of the control strategy must be set at the ST&CG, and should be determined by a prioritisation process. This process justifies why an issue is – or is not – included in the control strategy. Each priority has an owner who is responsible for its delivery plan, and the priority should be communicated to appropriate staff and partners. Once set, the priority can be amended only by the ST&CG, which should also hold to account those responsible for activities.

Strategic intelligence requirement

The strategic intelligence requirement outlines the information required, or questions that need answers, to fill gaps in police knowledge. An intelligence requirement:

- is a dynamic document that focuses not only on priorities, but also on other key threats identified in the [strategic assessment](#)

- is published with the **control strategy** (set by the S&CG)
- should be communicated to all staff when approved
- needs to be continually reviewed and updated by either the ST&CG or the TT&CG
- may need collection strategies to be aligned to it – for example, a covert human intelligence sources strategy – which will influence the activity of the dedicated source unit

Tactical intelligence requirement

The tactical intelligence requirement outlines the information required, or questions that need answers, to fill gaps in an investigation or operation.

Tactical tasking and coordination

TT&C is part of the police response to operational priorities. The process enables senior managers, through a TT&CG, to consider and agree tactical options and align resources to priorities. It operates at various levels depending on structure and governance. For example:

- where a force has BCUs, they may all run a tactical process
- where a force has no BCUs, the TT&C may only occur at force level

The force should have a T&C policy that states the frequency of TT&CG meetings, as determined by the force business needs.

Tactical tasking and coordination group

Operational police managers and support services make up the TT&CG. Partner agencies and community safety partnerships should be included by mutual consent. The TT&CG chair should have the authority to determine priorities, allocate resources and coordinate activity.

All decisions made by the TT&CG must be recorded to provide an audit trail and ensure accountability. It is good practice to have an action manager who, with the authority of the TT&CG chair, oversees progress against delivery plans. **Results analysis** should be used, where appropriate, to measure the impact and success of delivery plans.

The TT&CG should:

- consider the **tactical assessment** and create operational delivery plans
- apply the **control strategy**
- ensure that decisions about priorities and resources are based on the best available threat assessments
- manage competing demands
- establish a rational basis for decision making
- review **intelligence requirements**
- commission further development of analysis, to find out more about issues described in the tactical assessment
- decide on prevention, intelligence, enforcement and reassurance actions
- allocate resources and assign plan owners
- consider tactical recommendations from the **intelligence unit meeting**
- consider escalation where an issue is beyond the capability of the resources available to the T&CG
- commission **operational review**
- review whether plans and intervention work are still meeting objectives

Intelligence unit meeting

Intelligence units meet to develop the **tactical assessment** and consider options for tactical recommendations prior to the TT&CG. These meetings usually include input from analysts and others – for example, plan holders, neighbourhood policing teams, crime investigators, crime management units and response policing.

The meetings are designed to keep the activity of intelligence units in focus. They also enable units to review progress in relation to established priorities and any newly emerging issues.

Intelligence units also meet on a daily basis to provide relevant information to the **daily management meeting**.

Daily management meeting

This is an integral part of the T&C process, but is not a T&C meeting. It links the priorities and objectives set by the TT&CG to the day-to-day business of policing by exception, taking into account incidents over the last and next 24 hours.

The daily management meeting is chaired by the senior operational officer or deputy and provides a way of making fast-track decisions within the T&C process.

Operational review

Operational review is commissioned by the TT&CG. It evaluates the effectiveness of tactical activity on identified problems and subjects through [debriefing](#), [results analysis](#) and review where appropriate.

The aims of an operational review are to:

- assess the impact of tactical activity on a problem or subject
- identify the lessons learned and good practice
- draw conclusions and make recommendations
- update policy, knowledge, the menu of tactical options and training

Objectives of the review should be stated before the operation begins. The TT&CG must decide whether the review is designed to cover all aspects of the operation, or just specifics, such as tactical performance or the impact on crime levels or partnership capability.

Intelligence management references

Reference documents and good practice information are available on the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users.

Analysis guidance

Key resources and guidance notes on College Learn

- [Quick wins for busy analysts](#)
- [Analysis of competing hypotheses analysis guidance note](#)

- [Analysis of policy implications analysis guidance note](#)
- [Back-casting analysis guidance note](#)
- [Cone of plausibility analysis guidance note](#)
- [Expert judgement capture analysis guidance note](#)
- [Force field analysis guidance note](#)
- [Key assumptions check analysis guidance note](#)
- [Pattern analysis guidance note](#)
- [Quadrant crunching analysis guidance note](#)
- [Red teaming analysis guidance note](#)
- [SWOT analysis guidance note](#)
- [Team A/team B analysis guidance note](#)

These guides were produced by Defence Intelligence and the Joint Intelligence Organisation professional head of intelligence analysis.

Online resources

The following online resource is also available via the Knowledge Hub [Criminal Intelligence Analysis Community](#), which is an OFFICIAL online tool with access limited to registered PNN and GSi users.

- [Guidance on structured analytic techniques](#)

Further resources

Further resources are also available on the internet or through commercially available books and other resources, which include the following:

- Beebe SM and Pherson RH. (2012). 'Cases in Intelligence Analysis: Structured Analytic Techniques in Action'. Washington, DC: CQ Press
- Centre for Problem-Oriented Policing. (2005). [Crime Analysis for Problem Solvers in 60 Small Steps](#). Albany: Centre for Problem-Oriented Policing. (Viewed on 28 August 2024)
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- Cornish D and Clarke R. (1987). 'Understanding crime displacement: An application of rational choice theory'. *Criminology*, volume 25(4), pages 933-947
- Eck J and Spelman W. (1987). 'Problem solving: Problem-oriented Policing in Newport News'. Washington, DC: Police Executive Research Forum
- Haselton MG, Nettle D and Andrews PW. (2005). 'The evolution of cognitive bias'. In Buss DM. 'The Handbook of Evolutionary Psychology'. Hoboken, NJ: John Wiley & Sons Inc, pages 724-746
- Heuer RJ, Jr and Pherson RH. (2011). 'Structured Analytic Techniques for Intelligence Analysis'. Washington, DC: CQ Press
- Heuer R and Pherson RH. (2015). Second edition. 'Structured Analytic Techniques for Intelligence Analysis'. Washington, DC: CQ Press, pages 33-36
- Pherson RH. (2008). 'Handbook of Analytic Tools and Techniques'. Reston, VA: Pherson Associates, LLC
- Pherson RH and Kaiser LM. (2013). 'Analytic Writing Guide'. Reston, VA: Pherson Associates, LLC
- Pherson KH and Pherson RH. (2013). 'Critical Thinking for Strategic Intelligence'. Washington, DC: CQ Press/Sage Publications
- Pherson K and Sullivan R. (2013). [Improving the quality of analysis in fusion centres: Making the most of the nation's investment](#). *Journal of Strategic Security*, volume 6(3), pages 309-319. (Viewed on 28 August 2024)
- Ratcliffe JH. (2004). 'Strategic Thinking in Criminal Intelligence'. Sydney: Federation Press

About the College

We're the professional body for the police service in England and Wales.

Working together with everyone in policing, we share the skills and knowledge officers and staff need to prevent crime and keep people safe.

We set the standards in policing to build and preserve public trust and we help those in policing develop the expertise needed to meet the demands of today and prepare for the challenges of the future.

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