

## WMP Briefing Paper

### Crime Desk Project – Question Set

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Ethics Committee (12 June 2024)

This project is at the proposal stage and is presented to the committee ‘in principle’ so that any immediate concerns can be raised.

The finer details of the methodology, exact data to be used and mode of communicating the results will not be determined until after the exploratory data analysis (EDA) phase has been undertaken.

Once the analyses have been completed the project will be presented to the Committee again so that the data used, methodology, findings, intention for deployment and communication plans can be examined in more detail.

Legal opinion has been sought and the Data Protection Impact Assessment (DPIA) is being reviewed by the Force Data Protection Officer (DPO).

### Tasking

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This project was requested by a Senior Project Manager on behalf of Force Contact in March 2024.

The aim of the project is to identify any questions which could be asked by call handlers at the first point of contact, which could improve the likelihood of achieving a criminal justice outcome (known as positive outcomes) at the end of an investigation.

### Purpose

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The purpose of the project is to improve our service to victims through maximising investigative opportunities by identifying potential lines of enquiry at the earliest opportunity.

### Context

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This Data Analytics Lab (DAL) project forms part of a wider improvement programme. The ‘Crime Desk Project’ is re-designing some of the processes and functions which deal with the earliest stages of an investigation. The core aim of the wider project is to create a Crime Desk function within Force Contact to maximise desk-based investigations while streamlining working practices in order to improve our service to victims, both in terms of call handling and investigating crime.

This process starts with the call handlers in Force Contact who are the first point of contact for a member of the public reporting a crime. The DAL have been asked whether it is possible to determine which questions asked by call handlers lead to more ‘positive’ outcomes. The project team would want to identify the fewest questions that need to be asked to result in more positive outcomes.

## Positive Outcomes

Once a crime has been recorded and any lines of investigation have been pursued it will be closed with a specific outcome code. Table 1 shows the full list of possible outcomes (codes 1 to 22).

Outcomes Framework	
Outcome Code	Outcome Description
1	Charge and/or Summons
2	Caution - youths
3	Caution - adults
4	Taken into consideration
5	The offender has died (all offences)
6	Penalty Notice for Disorder
7	Cannabis warning
8	Community Resolution
9	Prosecution not in public interest (Crown Prosecution Service)
10	Formal action against the offender is not in the public interest (police decision)
11	Prosecution prevented – named suspect identified but is below the age of criminal responsibility.
12	Prosecution prevented - named identified suspect identified but is too ill (physical or mental health) to prosecute.
13	Prosecution prevented - named suspect identified but victim or key witness is dead or too ill to give evidence.
14	Evidential difficulties victim based - named suspect not identified but the victim declines or is unable to support further police action to identify the offender.
15	Evidential difficulties - named suspect identified and the victim supports police action, but evidential difficulties prevent further action.
16	Evidential difficulties victim based - named suspect identified - the victim does not support (or withdraws support from) police action.
17	Prosecution time limit expired - suspect identified but the time limit for prosecution has expired.
18	Investigation complete - no suspect identified. Crime investigated as far as reasonably possible - case closed pending further investigative opportunities becoming available.
19	National Fraud Intelligence Bureau field (NFIB only). A crime or fraud has been recorded but has not been allocated for investigation because the assessment process at the NFIB has determined there are insufficient lines of enquiry to warrant such dissemination.
20	Further action, resulting from the crime report, will be undertaken by another body or agency subject to the victim (or person acting on their behalf) being made aware of the action to be taken (from April 2015).
21	Further action, resulting from the crime report, which could provide evidence sufficient to support formal action being taken against the suspect is not in the public interest - police decision (from January 2016).
22	Diversions, educational or intervention activity, resulting from the crime report, has been undertaken and it is not in the public interest to take any further action (Voluntary from April 2019).

**Table 1:** Crime outcomes in England and Wales: Technical Annex 20 July 2023. 'Positive outcomes' are highlighted in green. [Crime outcomes in England and Wales 2022 to 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118117/crime-outcomes-in-england-and-wales-2022-to-2023.pdf)

The outcomes framework<sup>1</sup> provides information about the sanctions applied when an investigation achieved a successful or 'positive' outcome, for example charging the suspect or giving them a community resolution. A positive outcome only refers to police processes up to a charge. **It does not reflect the outcome of any court proceedings.** Codes 1 to 9 and 22 are deemed to be positive outcomes.

In addition, the framework also provides a nuanced understanding of the many reasons why the police were unable to proceed with a criminal justice sanction against an offender, for example due to evidential difficulties.

In order to assess effectiveness of conducting investigations, police forces are monitored nationally by the 'positive outcome rate'. This is the proportion of investigations which result in outcome codes 1 to 9 or 22; in essence those where a criminal justice sanction has been possible, or where a diversionary activity has been undertaken (usually for those under the age of 18).

In the reporting year 2023/24, West Midlands Police (WMP) recorded a positive outcome rate of 8.45% across all offence types, ranging from 33.2% for drug trafficking to 2.74% for vehicle crime. A key priority for the Force is to improve the quality of investigations and to increase the proportion of positive outcomes in order to serve victims better.

In the course of an investigation, there are a number of teams which may have an impact on the final outcome. In most cases, the first of these will be call handlers in the Force Contact centre who take the initial call or visit from the member of the public wishing to report a crime.

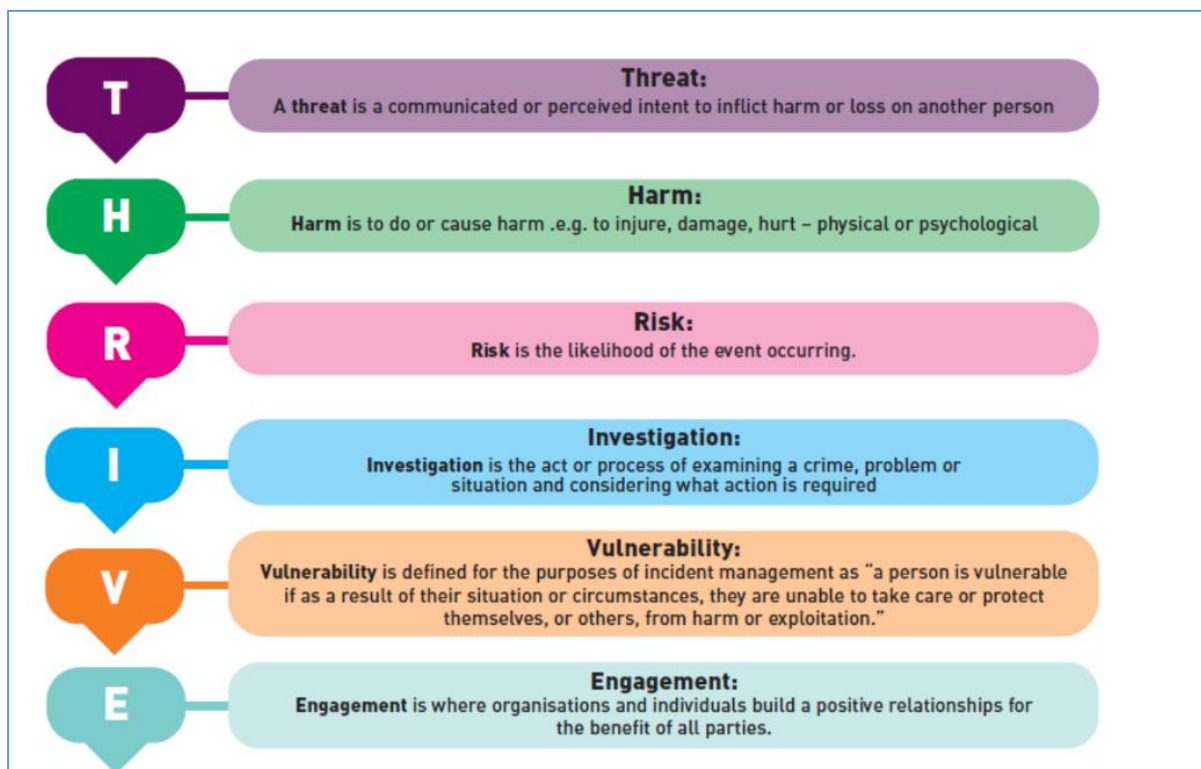
Therefore, **this project will focus on identifying any ways in which call handling staff can maximise the likelihood of achieving a positive outcome for the victim by asking the right questions at the first point of contact.**

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<sup>1</sup> [Police Recorded Crime and Outcomes: Open Data Tables User Guide \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/100000/policing-outcomes-framework-2022-23.pdf) and [Crime outcomes in England and Wales 2022 to 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/crime-outcomes-in-england-and-wales-2022-to-2023)

## Initial Call Handling

When answering a call from a member of the public, the primary concern of call handlers is to assess whether there is an immediate threat to life or a person's safety such that police attendance is required. In order to do this, they ask questions focused on the **Threat – Harm – Risk** elements of the THRIVE assessment model:



**Table 2:** THRIVE risk assessment model used by call handlers

Therefore, initial questions assess whether there is any immediate threat to life, ascertain the location where officers should be sent and who the victim is. Other risk factors to be established include any requirement for ambulance, any weapons present and whether the suspect is still present. This may result in an immediate, priority or scheduled response by officers. **This project is not concerned with this element of the call handling process.**

Once the need for police attendance has been determined and actioned if required, the call handler moves on to questions which begin the **investigation** process. This includes asking for names, date of births or vehicle registration. This information can be provided by the caller or by interrogating our systems for information previously recorded.

Any potential **vulnerability** of the victim is determined by direct questioning but can also be detected by completing intelligence checks, for example whether they are a repeat victim in our system. This is also down to the skill and experience of the call handler who will use their professional judgment to identify the potential for hidden vulnerabilities.

Finally, **engagement** opportunities are considered such as whether a neighbourhood resource should be allocated in slower time, scheduling for investigation, referrals to appropriate departments / agencies or resolution by the call handler.

There is no set script for this process, which relies on the professional skill of call handlers to provide reassurance and elicit the required information to make a resourcing decision, given that calls are largely made during times of crisis.

## ControlWorks

Call handlers record the details of the incident in a command and control system called ControlWorks. The log they create can be viewed by relevant teams and by officers attending the scene, if a deployment is required.

Initial details that will later be required for crime recording are captured in ControlWorks whilst undertaking the 'Investigation' element of the THRIVE assessment. If officers attend the incident, they will gather further pieces of information which may also be added to this log as the incident progresses. Call handlers will consider the VOWSIO principles of investigation which requires anyone involved in recording or investigating a crime to consider specific issues relating to the **V**ictim, the **O**ffender/Suspect, **W**itnesses, **S**ecuring the scene, conducting **I**ntelligence searches and **O**ther considerations.

## Connect

When a call handler, attending officer or investigator determines that a statutory offence has been committed and that they need to record a crime, they create a crime record in a different system called Connect. This system houses all subsequent information about the investigation of the crime. Some of the information which has already been captured by the call handler in ControlWorks will now be inputted into Connect. Once all the necessary information has been captured, the Connect system produces a crime reference number which is provided to the victim.

When a crime record is created in Connect, the system uses a decision tree process to guide the inputter through the process. This is to ensure that they record the correct offence in line with Home Office Crime Recording rules (HOCR)<sup>2</sup>, that nationally mandated questions are answered and that certain crimes are flagged appropriately. Much of the information already recorded in ControlWorks as a result of the call handler's conversation with the caller is now also recorded via the Connect decision tree.

Table 3 shows the question set the inputter works through as the precursor to recording a crime in Connect.

Connect decision tree – example questions	
1	Is there more than one victim?
2	Are you recording multiple offences?
3	Has someone been killed, had their life endangered or been subject to human trafficking/ slavery?
4	What is the ControlWorks reference number?
5	Has a report of rape/ attempt rape been made?
6	Has someone been unlawfully kidnapped, abducted or falsely imprisoned?
7	Has the victim been threatened with violence or assaulted, stalked/ harassed / coercively controlled?
8	Is this a sexual offence?
9	Has something been stolen or has someone been blackmailed?
10	Any threat of force made?
11	Theft via fraud or computer hacking?

<sup>2</sup> [crime-recording-rules-for-frontline-officers-and-staff-march2024.pdf \(publishing.service.gov.uk\)](#)

12	Has the IP been blackmailed?
13	Has a vehicle been taken without consent, stolen or anything inside/ on it or an attempt to do so?
14	Is this a burglary?
15	Vehicle being used as a dwelling?
16	What has been taken? Vehicle, something in/ on the vehicle or nothing?
17	Is this theft of letters, parcels or packages from a courier/ postal delivery vehicle?
18	Is it a mechanically propelled vehicle made, intended or adapted for use on the road?
19	Any metal stolen? Infrastructure / non-infrastructure / neither
20	Is this a hate crime?
21	Was the suspect motivated by hostility towards the victim's sex?
22	Is this domestic abuse?
23	Is this child abuse?
24	Is the victim a vulnerable adult?
25	Is this honour-based abuse?
26	Is this offence, suspect or the victim linked to modern slavery?
27	Does the incident relate to the victim or suspect's mental health?
28	Is the victim a Police officer/ staff who was subjected to an offence during course of duties?
29	Was any element of this offence committed online or through internet-based activities?
30	Aggravated by use of alcohol, drugs or solvents by victim or offender?

**Table 3:** Example question set from the Connect decision tree

Once the inputter has completed the decision tree, they are able to access a blank crime report which has a number of investigation cards to complete, relevant to the specific offence being recorded.

## Task

The volume and complexity of the data generated in both Connect and ControlWorks during the initial call taking and the crime recording process require the expertise and tools available in the DAL in order to provide insight. The DAL will initially undertake exploratory data analysis (EDA) of Connect and ControlWorks data to ascertain if there are any pieces of information gathered in the early stages of recording a crime which are associated with a greater probability of achieving a positive outcome at the end of the investigation and therefore providing a better service to victims.

## Intended activity resulting from the project

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Any conclusions from the EDA will be provided to the Crime Desk Project Team to inform decisions about the processes being designed to improve investigations. This may lead to suggestions about the type or order of questions that call handlers could ask in relation to particular offence types which may have a positive impact on the course of the investigation at a later stage.

## Ethical considerations

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This project does not aim to:

- provide a solvability matrix to determine which crimes should receive more attention
- provide a rationale for automatically closing some crime types without considering any potential lines of investigation
- automate the role of the call handler

It is acknowledged that the impact that the call handler could have on the final outcome of an investigation will vary dependent on the complexity of the crime. For more complex cases, or those where the victim is vulnerable, the impact of the initial call handling phase may be diluted as more people are involved in the investigation of the crime or involved with safeguarding. It is likely that some offences will be excluded from the analysis where this is likely to be the case. This will be agreed with the Project Team as the analysis evolves.

## Data

### Data to be used:

ControlWorks (command and controls system where information about the details of calls and subsequent management of incidents is recorded).

Connect (where crime records are created and all information pertinent to the investigation and outcome).

### Level of analysis:

Individual

Individuals aggregated?

Yes

No

Specific Area:

Output Areas

Super Output Areas - Lower

Super Output Areas - Mid

Wards

Districts

West Midlands

Other

### Reliability of data:

An extensive EDA phase will be undertaken to examine the extent of any data quality issues. The DAL is familiar with both systems and the data generated. The Project Team will provide Subject Matter Experts (SMEs) to clarify any queries about how the data is inputted.

**Sample or entirety:** Entirety

### Type of analysis:

Exploratory

Explanatory

Predictive

Optimisation – potentially if the exploratory analysis shows promise

### Proposed methodology:

1. Determine whether the data available allow for such an analysis to be undertaken and examine potential ways forward.
2. Identify major elements of information provided / elicited during calls.
3. Link records between Connect and ControlWorks where possible and
  - Undertake EDA; especially any differences in outcomes given initial information
  - Does the initial information available interact with any intermediate processes and then the outcome?
4. Determine whether a set of questions be developed to elicit the maximal information as to the best (most appropriate) next course of action.

### Will the project eventually be automated:

Yes

No



**Means of evaluation:**

To be determined if the Project Team devise a question set based on the analysis provided.

## ALGO-CARE considerations

As this project is at the proposal stage and is presented to the committee ‘in principle’ in order that any immediate concerns can be raised, the finer details of the methodology will not be determined until after the EDA. Once the analyses have been completed the projects will be presented to the Committee again so that findings and methodology can be examined in more detail.

<b>Advisory</b>	
<b>If applicable, are the outputs from the algorithm to be used in an advisory capacity?</b>	Yes, the analysis will be advisory and will be provided to the Crime Desk Project Team alongside other information as part of their design process.  The output will not be an algorithm, rather guidance as to the probability of certain questions being more likely to lead a positive outcome.
<b>Does a human officer retain decision-making discretion?</b>	Yes
<b>Lawful</b>	
<b>What is the policing purpose justifying the use of the algorithm (means and ends)?</b>	In December 2023, His Majesty’s Inspectorate of Constabulary and Fire & Rescue Service (HMICFRS) published their police efficiency, effectiveness and legitimacy (PEEL) inspection of WMP <sup>3</sup> with the recommendation that ‘the Force need to make sure it carries out effective investigations which lead to satisfactory results for victims’.  This DAL project focuses on the specific recommendation to ensure that ‘all investigative opportunities are taken’.
<b>Is the potential interference with the privacy of individuals necessary and proportionate for legitimate policing purposes?</b>	Yes, the project will analyse data which has been provided by the member of the public when they call us to report a crime.

<sup>3</sup> [West Midlands PEEL Assessment 2023–2025 - His Majesty’s Inspectorate of Constabulary and Fire & Rescue Services \(justiceinspectorates.gov.uk\)](https://www.justiceinspectorates.gov.uk/west-midlands-peel-assessment-2023-2025/)

<b>In what way will the tool improve the current system and is this demonstrable?</b>	The HMICFRS inspection graded WMP as inadequate in the area of investigating crime. This DAL analysis is proposed in order to establish whether the Force can improve investigative outcomes by making better use of the conversations had at first point of contact with the caller.
<b>Are the data processed by the algorithm lawfully obtained, processed and retained, according to a genuine necessity with a rational connection to a policing aim?</b>	The data are from WMP systems and collected as part of normal day-to-day operations.
<b>Is the operation of the tool compliant with national guidance?</b>	The analyses proposed would accord with the Government Digital Service Data Ethics Framework 2020 <sup>4</sup>
<b>Granularity</b>	
<b>Does the algorithm make suggestions at a sufficient level of detail given its purpose and the nature of the data processed?</b>	It is likely that the analysis will make recommendations at the level of offence types, such as Vehicle Crime, Burglary or Serious Violence.
<b>Are data categorised to avoid broad-brush grouping and results and therefore issues of potential bias?</b>	The categories will relate to offence types and question sets in the decision tree. The analysis will not include any information about the caller’s characteristics.
<b>Do the potential benefits outweigh any data quality uncertainties or gaps?</b>	<p>The project will include an extensive EDA element which should highlight data quality issues. These can be addressed with SMEs in Force Contact and the Connect Team to understand procedures which may result in data issues.</p> <p>Given the potential benefits of improving the service we give to victims when they report a crime it is not anticipated that any data quality issues would be of such a magnitude as to warrant not undertaking the project.</p>
<b>Is the provenance and quality of the data sufficiently sound?</b>	The data will be those that are gathered during the day-to-day work of WMP and will enable analyses of the type envisioned for this project.
<b>If applicable, how often are the data to be refreshed?</b>	The output of this analysis will be a report with recommendations for the Crime Desk Project Team to consider as they design new processes and functions. It will not result in a tool which requires refreshing.

<sup>4</sup> <https://www.gov.uk/government/publications/data-ethics-framework>

<b>If the tool takes a precautionary approach in setting trade-offs, what are the justifications for the approach taken?</b>	Not applicable, this is not a predictive model.
<b>Who owns the algorithm and the data analysed?</b>	
<b>Who owns the algorithm and the data analysed?</b>	WMP would own the analyses and data.
<b>Does WMP need rights to access, use and amend the source code and data?</b>	No
<b>Are there any contractual or other restrictions which might limit accountability or evaluation?</b>	No
<b>How is the operation of the algorithm kept secure?</b>	The analyses developed would be kept wholly within the secure WMP computing environment.
<b>What are the post-implementation oversight and audit mechanisms, e.g. to identify any bias?</b>	
<b>What are the post-implementation oversight and audit mechanisms, e.g. to identify any bias?</b>	If the Crime Desk Project Team develop a question set based on any recommendations from the DAL analysis, the effectiveness of the new process would be monitored to provide evidence to inform HMICFRS oversight.
<b>If the algorithm is to inform criminal justice disposals, how are individuals notified of its use?</b>	Not applicable
<b>Accuracy</b>	
<b>Does the specification of the algorithm match the policing aim and decision policy?</b>	The request to the DAL aligns with the HMICFRS recommendations to improve the way we investigate crime.
<b>Can the accuracy of the algorithm be validated periodically?</b>	Not applicable – this is not a predictive model.

<b>Can the percentage of false positives / negatives be justified?</b>	Not applicable – this is not a predictive model.
<b>How was the method chosen as opposed to other available methods?</b>	Not applicable – this is not a predictive model.
<b>What are the (potential) consequences of inaccurate forecasts?</b>	Not applicable – this is not a predictive model.
<b>Does this represent an acceptable risk?</b>	Not applicable – this is not a predictive model.
<b>How are the results checked for accuracy and how is historic accuracy fed back into the algorithm for the future?</b>	Not applicable – this is not a predictive model.
<b>How would inaccurate or out-of-date data affect the result?</b>	Not applicable – this is not a predictive model.
<b>Responsible</b>	
<b>Would the operation of the algorithm be considered fair?</b>	Yes, this project is about improving our service to all victims of crime
<b>Is the use of the algorithm transparent (taking account of the context of its use), accountable and placed under review?</b>	A technical report describing the methodology used will be provided.
<b>Would it be considered to be used in the public interest and to be ethical?</b>	It is in the public interest for WMP to improve its processes in order to achieve positive outcomes for more victims of crime.
<b>Explainable</b>	
<b>Is information available about the algorithm / decision-making rules and the impact of each feature?</b>	A technical report describing the methodology used will be provided.

## Appendix 1: Glossary of Terms

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<b>WMP / Law Enforcement Terminology</b>	
DAL	Data Analytics Lab
DPIA	Data Protection Impact Assessment
DPO	Data Protection Officer
HMICFRS	His Majesty's Inspectorate of Constabulary and Fire & Rescue Service
HOCR	Home Office Crime Recording
PEEL	Police efficiency, effectiveness and legitimacy inspection by HMICFRS
SME	Subject Matter Expert
WMP	West Midlands Police

<b>Data Science Terminology</b>	
ALGO-CARE	All projects have used the ALGO-CARE to consider ethical implications: Advisory, Lawful, Granularity, Ownership, Challenge, Accuracy, Responsible, Explainable
EDA	Exploratory Data Analysis