WMP Briefing Paper

Use of Force Analysis

Ethics Committee (03 Nov 2021)

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

This project was requested by Superintendent Nick Rowe, force lead for Use of Force (UoF), on behalf of the Fair and Effective Use of Police Powers (FEUPP) Board in August 2021.

Purpose

The aim of this proposal is to see if the Data Analytics Lab (DAL) can develop a tool which provides a more comprehensive review of UoF across the force and how departments, teams and individuals are behaving.

The purpose is to create a Business Insight (Qlik) dashboard which flags incidents where there has been a disproportionate UoF or where the tactic has not been applied appropriately.

Context

The law recognises that there are situations where police officers may be required to use force. The primary responsibility for using force rests with individual officers, who are answerable to the law.[1]
The requirement that domestic law and European Convention on Human Rights (ECHR) Articles 2, 3 and 8 impose is that, if possible, non-violent means should be used to resolve an incident before force is used. Officers are required to consider three core questions when determining when, and to what extent, force may be used:

[1] The Criminal Law Act 1967, the Police and Criminal Evidence Act 1984, Common Law and the Criminal Justice and Immigration Act 2008 and the rights and freedoms contained within the ECHR govern the police use of force. College of Policing (CoP) Authorised Professional Practice (APP) Police Use of Force https://www.app.college.police.uk/app-content/public-order/core-principles-and-legislation/police-use-of-force/

1. Would the use of force have a lawful objective (eg, the prevention of injury to others or damage to property, or the effecting of a lawful arrest) and, if so, how immediate and grave is the threat posed?
2. Are there any means, short of the use of force, capable of attaining the lawful objective identified?
3. Having regard to the nature and gravity of the threat, and the potential for adverse consequences to arise from the use of force (including the risk of escalation and the exposure of others to harm) what is the minimum level of force required to attain the objective identified, and would the use of that level of force be proportionate or excessive?

In order to promote accountability and best practice all decisions relating to the use of force, and all instances of the use of force, should be reported and recorded either contemporaneously, or as soon as reasonably practicable.[2]

In West Midlands Police (WMP) all records of UoF are available for scrutiny on a Business Insight dashboard. This provides management information about:

- the volume of UoF forms submitted
- the proportion of events where body worn video (BWV) was used
- geographical area
- officer and team.
- the reason for the UoF,
- any impact behaviours (for example alcohol)
- tactics used (including use of taser)
- incident setting (for example within a custody setting)
- information about the person involved including gender, age and ethnicity
- injuries sustained by the person involved, or the officer

The Force has several layers of scrutiny. Supervisors review certain UoF situations (such as use of taser or baton); there are public scrutiny panels who review records at random and Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services (HMICFRS) also include UoF in their inspections.

Additionally, departmental 'single points of contact' (SPOCs) use the Business Insights dashboard to scan officer behaviour against a set of criteria to assess if individuals or teams are acting out of the norm when using force. This could be looking to see if officers are using force against persons from certain backgrounds more than others.

Intended activity resulting from the project

The intention is to make the current scanning activity of the departmental SPOCs more efficient by building a tool which will flag unusual events / trends within the UoF data. This will alert them to particular teams or individuals who deploy the tactic more often than the norm, or who appear to use force against people from diverse backgrounds more than others.

Such a tool will improve the efficiency of the scanning process and provide a more consistent approach as to which records are reviewed by the SPOCs.

[2] College of Policing (CoP) Authorised Professional Practice (APP) Police Use of Force. Ten Key Principles Governing the Use of Force by the Police Service https://library.college.police.uk/docs/APPref/use-of-force-principles.pdf

Data

Data to be used:

- Use of Force records
- CONNECT

Level of analysis:

The analysis will be at the level of the individual.

The individuals of interest are the officers who have deployed use of force; although characteristics of the subject may be of relevance.

The data will include UoF records for the WMP area.

Reliability of data:

The data are sourced from WMP systems which are used as part of daily business. Officers now record UoF events on an app on their mobile devices. The development of the current Business Insight dashboard has addressed many previous data quality issues in the inputting of data on the mobility devices.

However, an extensive exploratory data analysis (EDA) phase will be undertaken to examine the extent of any data quality issues.

Sample or entirety: Entirety

Type of analysis:

☑ Exploratory
☐ Explanatory
☐ Predictive
☐ Optimisation

Proposed methodology:

The methodology will be determined after discussions with subject matter experts (SMEs) to understand the current business rules used for the manual scanning process.

Will the project eventually be automated:

☑ Yes
☐ No

Means of evaluation:

The dashboard will be published in beta to the end users for testing and feedback based on their experience.

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.

Advisory	
If applicable, are the outputs from the algorithm to be used in an advisory capacity?	The outputs of the dashboard will be advisory. The SPOCs will be able to review any records they choose over and above those flagged by this analysis.
Does a human officer retain decision-making discretion?	Yes, the outputs are for information only.
Lawful	
What is the policing purpose justifying the use of the algorithm (means and ends)?	This project ensures that WMP complies with its legal responsibilities to monitor UoF events so that any officers who require guidance on the law under which they are operating can be identified.
Is the potential interference with the privacy of individuals necessary and proportionate for legitimate policing purposes?	Data relating to the subjects of UoF includes surname, date of birth, gender and ethnicity. If the incident occurred in a custody block, a custody record may also be included in the data set. Data relating to the officers who deployed UoF includes name, collar number and team/department. It also includes whether or not they have submitted Body Worn Video (BWV) footage of the incident. All this data is currently accessible in the UoF Business Insight dashboard. Whilst data relating to the characteristics of the subjects of UoF will be analysed, they are not the object of the analysis per se. Their data is required to understand the behaviour of officers whilst on duty.
In what way will the tool improve the current system and is this demonstrable?	Currently, this scanning process is performed manually. This tool will make the scanning process more efficient and provide consistency across the SPOCs from different departments across the Force.
Are the data processed by the algorithm	The data are from WMP systems and collected as part of WMP's duty to record all incidences of UoF. As such

lawfully obtained, processed and retained, according to a genuine necessity with a rational connection to a policing aim?	they are collected in the appropriate manner and for the appropriate purposes.
Is the operation of the tool compliant with national guidance?	The analyses proposed would accord with the DCMS Data Ethics Framework 2018.[3]
Granularity	
Does the algorithm make suggestions at a sufficient level of detail given its purpose and the nature of the data processed?	The dashboard will flag records for review at the level of department, team and individual in line with the request.
Are data categorised to avoid broad-brush grouping and results and therefore issues of potential bias?	The age, gender and ethnicity of the subjects of UoF will be included in the analysis. These are recorded as perceived by the officer completing the UoF record.
Do the potential benefits outweigh any data quality uncertainties or gaps?	The project will include an extensive EDA element and this should highlight areas of heightened uncertainty in the data or where particular gaps exist. The benefit of the analysis is to improve our ability to scan for officers who may be deploying UoF tactics disproportionately so that action can be taken.
Is the provenance and quality of the data sufficiently sound?	The data have been gathered during the day-to-day work of WMP and will enable analyses of the type envisioned for this project.
If applicable, how often are the data to be refreshed?	The dashboard will be updated daily.
If the tool takes a precautionary approach in setting trade-offs, what are the justifications for the approach taken?	There is no predictive element to this project.
Ownership	
Who owns the algorithm and the data	WMP owns the underlying data and any resulting analyses.

[3] https://www.gov.uk/government/publications/data-ethics-framework/data-ethics-framework

analysed?	
Does WMP need rights to access, use and amend the source code and data?	No
Are there any contractual or other restrictions which might limit accountability or evaluation?	No
How is the operation of the algorithm kept secure?	The data and the analyses are contained wholly within the WMP Hadoop system and the security measures employed therein.
Challenge:	
What are the post-implementation oversight and audit mechanisms, e.g. to identify any bias?	Where end users find errors in the dashboard these will be investigated and any underlying errors corrected by the DAL.
If the algorithm is to inform criminal justice disposals, how are individuals notified of its use?	Not applicable
Accuracy	
Does the specification of the algorithm match the policing aim and decision policy?	The nature of the analyses used will be determined to be the best means of addressing the research question.
Can the accuracy of the algorithm be validated periodically?	The accuracy of the output of the dashboard will be monitored and amended where issues are identified. However, the dashboard will simply report on past events, rather than being predictive.
Can the percentage of false positives / negatives be justified?	Not applicable
How was the method chosen as opposed to other available methods?	The method will be chosen once discussions have taken place with SMEs and the EDA has been undertaken.
What are the (potential) consequences of	Not applicable

inaccurate forecasts?	
Does this represent an acceptable risk?	Not applicable
How are the results checked for accuracy and how is historic accuracy fed back into the algorithm for the future?	Not applicable
How would inaccurate or out-of-date data affect the result?	If data were to be wholly inaccurate then the analyses would essentially provide inapplicable findings. The Lab will seek to minimise this potential through a thorough analysis of the data in an extended EDA phase including their pitfalls, issues and overall nature. Discussions with SMEs should also highlight effects that may arise due to erroneous data.
Responsible	
Would the operation of the algorithm be considered fair?	The analyses will be fair in that each data point will be considered on its own merits.
Is the use of the algorithm transparent (taking account of the context of its use), accountable and placed under review?	The output of the dashboard can be verified against source systems to check it is an accurate reflection of an officer's deployment of UoF tactics. Any issues identified by the SPOCs will be investigated.
Would it be considered to be used in the public interest and to be ethical?	It would be considered to be in the public interest for WMP to monitor the deployment of UoF tactics efficiently and consistently across the Force.
Explainable	
Is information available about the algorithm / decision-making rules and the impact of each feature?	The front page of the dashboard will provide an explanation of the data and methodology used.

Appendix 1:

WMP / Law Enforcement Terminology	
COP	College of Policing
DAL	Data Analytics Lab
ECHR	European Convention on Human Rights
FEUPP	Fair and Effective Use of Police Powers – a WMP thematic governance board chaired by an Assistant Chief Constable
HMICFRS	Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services
SME	Subject Matter Expert
SPOC	Single Point of Contact
UoF	Use of Force
WMP	West Midlands Police

Data Science Terminology	
ALGO-CARE	All projects have used the ALGO-CARE to consider ethical implications: Advisory, Lawful, Granularity, Ownership, Challenge, Accuracy, Responsible, Explainable
DCMS	Department for Digital, Culture, Media and Sport – developed the Data Science Ethical Framework.
EDA	Exploratory Data Analysis