

Update for RFSDi Harm Score

Data Analytics Lab

June 2024

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|----------|---|----|
| 1 | Contents | |
| 2 | Executive Summary | 3 |
| 3 | Introduction..... | 4 |
| 4 | Timeline | 6 |
| 5 | Requirement for a Harm Score | 9 |
| 5.1 | Outputs in police work using suspect data..... | 9 |
| 6 | Suspects..... | 11 |
| 7 | Version Comparison..... | 13 |
| | Appendix | 14 |
| | A1 IOM Cohorts | 14 |
| | A2 Suspect Status Definitions..... | 15 |
| | A2.1 Eliminated suspects | 15 |
| | A2.2 Current suspect in an ongoing investigation..... | 15 |
| | A2.3 Suspect believed to be responsible but no further action taken | 15 |
| | A3 Glossary of Terms..... | 17 |
| | Figure 1: Calculation of the RFSDi harm score | 5 |
| | Figure 2: Distribution of offender and suspect RFSDi..... | 13 |

2 Executive Summary

This update relates to the RFSDi Harm Score only and is not concerned with the predictive IOM Model which uses charged offender data only.

The purpose of this paper is to update the Committee on the need to include suspect data in the RFSDi Harm Score. It provides a comparison of the effects of including or excluding suspect data on the distribution of suspects across the different rankings. Offender Managers (OMs) require the harm score in order to support decisions about selection and deselection of nominals to specific managed cohorts.

The only methodological difference is in the weight attached to the frequency element. Whilst the numbers of people between the two versions are different, the distribution amongst the different harm groupings is essentially the same.

3 Introduction

This update relates to the RFSDi Harm Score only and is not concerned with the predictive IOM Model which uses charged offender data only.

The purpose of this paper is to update the Committee on the need to include suspect data in the RFSDi Harm Score. It provides a comparison of the effects of including or excluding suspect data on the distribution of suspects across the different rankings.

Offender Managers (OMs) require the harm score in order to support decisions about selection and deselection of nominals to specific managed cohorts. The harm score provides the evidence for recommendations in decision making processes with Probation Officers as well as other internal processes. This information will also be useful to other decision makers in West Midlands Police (WMP) who need to prioritise the deployment of resources in relation to known offenders.

A new Nominal Harm Score dashboard has been designed to incorporate previous feedback from end users and from the internal and external reviews conducted in late 2022. In addition, the new dashboard reflects developments in both Qlik software and in the expertise of our in-house developers. This dashboard will use the RFSDi Harm Score and include data relating to charged offenders and suspects (unless eliminated from an investigation). See appendix section A2 for details of the different suspect statuses. The dashboard will not include the predictive IOM Model.

The RFSDi Harm Score is calculated for each nominal:

- All of their crimes are taken into account (unless eliminated from an investigation).
- The basic level of harm is ascertained by the Cambridge Crime Harm Index.
- Crimes further back in time provide less to the score than crimes undertaken more recently.
- If a nominal is currently serving a prison sentence, the score reflects how harmful they were pre-sentence (and takes crimes committed since sentencing into account).
- Drug usage, supplying, use of firearms and other weapons, alcohol addiction and other factors (derived from intelligence reports) contribute to the score.
- The score also reflects changes in behaviour.

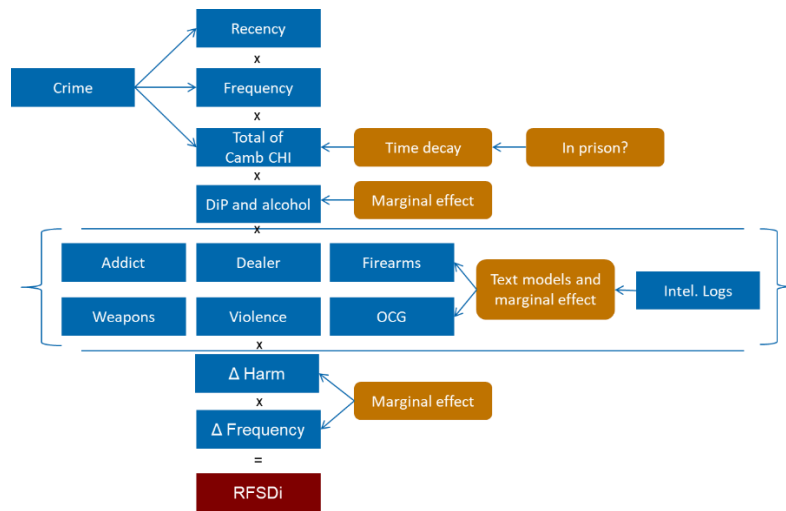


Figure 1: Calculation of the RFSDi harm score

Detailed specifications have been provided in previous papers to the Committee¹.

¹ <https://www.westmidlands-pcc.gov.uk/ethics-committee/k/ethics-committee/> See initial paper provided April 2019 for more detail

4 Timeline

As a reminder, the table below shows the progress of the RFSDi/IOM model submissions to the Committee.

| Date | Reason for Submission | Committee advice |
|--------------------------|--|-----------------------------------|
| 03/04/2019 | In principle briefing | e) further information required |
| 24/07/2019 | Interim report providing an update on the development of the harm score (RFSDi) and of the predictive model (IOM). Provided responses to the questions raised at the initial briefing. | e) further information required |
| 17/01/2020 | Interim report and presentation provided to explain the distinction between explanatory and predictive modelling | c) approved with major amendments |
| 30/01/2020 04/02/2020 | Public consultation undertaken by independent facilitator on behalf of OPCC and Committee | |
| 21/07/2021 | Verbal update provided about the plan for beta testing by two Local Offender Management Units (LOMU); and plans for both an internal and external evaluation of the use of harm score and predictive model in practice. | N/A |
| | Model rebuild due to changes in technical environment – CDP and Connect | |
| 02/03/2022 | Verbal update provided about the training provided to two LOMUs in Dudley and Birmingham West and the plan for a six-month beta testing period which will be evaluated. | e) further information required |
| 09/11/2022 | Internal and external evaluation reports of the beta testing phase provided to the Committee and recommendations to be implemented as a result. Both reports identified the lack of suspect information in the RFSDi harm score as an issue for Offender Managers and the DAL requested that the Committee consider its inclusion. | e) further information required |
| 08/02/2023 | Paper presented to the Committee ‘Clarification about the potential use of suspect data’ to respond to concerns previously raised. | e) further information required |

The recommendations from the Committee at the last meeting in February 2023 were:

- 1. Committee noted that the project will change significantly in terms of the data used and the Lab felt it would be suitable to proceed with suspect data added back into the data picture. More clarity required around how this data would be used and what outputs in police work this would inform.**

This paper is intended to provide this clarity. See section the following sections.
- 2. The Committee requested a case study around how useful the tool could be made with further consideration of the potential downsides to the use of this data and how this could be managed.**

A case study will be shared with the Committee at the meeting, but cannot be provided in this document due to publication requirements.
- 3. The Committee requested also that the Lab report on progress made against other recommendations from the Babuta report.**

| Progress made against recommendations from the Babuta evaluation | |
|---|--|
| External Evaluation | WMP Update |
| <p>The force should establish a clear impact evaluation plan to measure the outcomes of the system on an ongoing basis. This should include developing a basic logic model to describe the intended outputs and outcomes of the project, as outlined in the College of Policing's Evaluation Toolkit. It is important to define measurable evaluation criteria to assess the ongoing business case for the project and demonstrate that it is delivering its intended outcomes.</p> | <p>Initial consultation with IOM inspectors and sergeants on 26/10/2022 started a discussion about how outcomes could be monitored.</p> <p>The proposed new dashboard, including suspect data, will be beta tested by two LOMUs from mid-June 2024. Results from the testing will feed into the ongoing conversations about how best to monitor outcomes of the RFSDi harm score.</p> |
| <p>Offender Managers who are required to pilot a new data-driven system should be encouraged at an early stage to contribute directly to the application development process. An initial survey of end-users should be distributed, requesting feedback on the limitations of existing processes, and the user interface and design requirements for any new system.</p> | <p>Consultation meeting with IOM inspectors and sergeants who are not involved in the beta testing to understand their requirements took place on 26/10/2022.</p> <p>June 2024: Offender Managers (OMs) are being consulted at the early stage of the development of the new dashboard.</p> |
| <p>Any future development of the dashboard should focus on surfacing 'hidden risk': the identification of nominals not currently subject to offender management orders who should be subject to more in-depth risk assessment. To avoid the risk of high-priority nominals being erroneously de-selected, individuals already subject to offender management plans should be excluded from the RFSDi harm scoring system.</p> | <p>Addressed in the recommendations of the internal evaluation (Nov 2022). By adding information about the Proactive Management Plan (PMP) status it will be possible to quickly identify high harm nominals who are not currently being managed. OMs are likely to still want to be able to view those they are currently managing, so that they can monitor changes in their harm score over time and to be able to benchmark 'new names' against those they are familiar with. Exclusion of known high risk nominals would skew the RFSDi score and would likely reduce trust in the results.</p> <p>Including suspect data in the Harm Score will provide additional information about nominals not currently subject to offender management orders.</p> |
| <p>The research was inconclusive regarding the potential benefits offered by the predictive modelling component of the application. The IOM model should be subject to dedicated, controlled evaluation research before it is deployed operationally.</p> | <p>If PMPs are used to record RFSDi/IOM scores, decisions concerning selection/deselection and associated activity, this could provide a starting point for such an evaluation.</p> <p>June 2024: the proposed new dashboard containing suspect data will only include the RFSDi Harm Score.</p> |
| <p>IOM model predictions should be more clearly distinguished from the descriptive RFSDi harm score. A caveat should be included alongside model outputs, with the following 'health warning': <i>Prediction generated by machine learning model. Accuracy and confidence may vary depending on context. Validate alongside other data sources before taking further action.</i></p> | <p>Noted - to be included when the dashboard is amended.</p> <p>June 2024: the proposed new dashboard containing suspect data will only include the RFSDi Harm Score.</p> |
| <p>Any future development of the dashboard should focus on improving the front-end user experience for</p> | <p>The updated dashboard will have an improved end user experience, incorporating best practice in data visualisation</p> |

| | |
|---|--|
| <p>officers. The dashboard should incorporate a 'Feedback' section, where users can provide written feedback and submit suggestions for improvement.</p> | <p>and software accessibility. Qlik software used for building dashboards is routinely upgraded by the provider and our in-house developers have worked alongside Qlik to develop other dashboards. This learning is being incorporated into the new RFSDi Harm Score dashboard. Options for providing feedback to developers are being progressed for all dashboards. The team work closely with the lead for OMs and any issues identified by their teams are highlighted promptly.</p> |
| <p>The most pertinent data points from other information management systems (most notably custody images) should be included within the RFSDi dashboard. Integrating the dashboard within the existing Connect system is likely to achieve this and should be a priority for any future development of the application.</p> | <p>The inclusion of custody images is not an appropriate use of Qlik software. Connect is a system developed and provided by a third party and as such information developed within a Police force using another proprietary software cannot be integrated into Connect.</p> <p>In the new dashboard a hyperlink takes users from the RFSDi dashboard to the nominal record in CONNECT which is the appropriate system for viewing this type of information.</p> |
| <p>Additional training should be delivered to all officers with access to the RFSDi dashboard and predictive IOM model. This should cover how the dashboard is intended to be used, the input variables used to calculate the RFSDi score and to build the predictive model, and an overview of the inherent limitations of the statistical techniques underpinning the system.</p> | <p>Addressed in the recommendations of the internal evaluation (Nov 2022). Training is being planned for the two Local Offender Management Units (LOMUs) beta testing the new dashboard. 'Superusers' will be trained in how to use the dashboard, the underlying methodology and any limitations. These OM superusers will cascade this training to their colleagues. This is a tried and tested practice for organisational learning and benefits from having Subject Matter Experts (SMEs) able to demonstrate the use of the tool using real world examples.</p> |
| <p>Written guidance should be developed for all officers with access to the RFSDi dashboard and IOM model. This guidance should include a summary of how the harm scores and statistical predictions are generated, as well as a workflow diagram of how the data-driven insights should be integrated into existing offender management processes.</p> | <p>Addressed in the recommendations of the internal evaluation (Nov 2022). The new RFSDi dashboard will include a guidance page with a summary of how the application generates the harm score. The training and ongoing supervision will embed and monitor the integration of the harm score into existing OM management processes.</p> |

5 Requirement for a Harm Score

The national Integrated Offender Management (IOM) Strategy² describes the partnership between probation services, police and other partners to supervise offenders and support them to desist from future offending. Proven offenders are placed in ‘fixed’, ‘flex’ or ‘free’ cohorts for different tiers of offender management. See the appendix section A1.

The ‘Offender Group Reconviction Score’ (OGRS) is used by Probation to assess the risk posed by those leaving prison and to determine whether they are placed in the ‘fixed’ or ‘flex’ cohort. Over time, individuals can be deselected from the fixed cohort if they are assessed as being at low risk of reoffending. WMP OMs work in partnership with Probation to make these decisions therefore require a relevant harm score to provide data-driven recommendations to the process. Various scores have been in operation for over a decade in West Midlands Police (WMP) and are an integral element in risk assessment and prioritisation processes of OMs and other decision makers. Changes to the Probation Service processes mean that there is increased requirement for offenders to be managed at the local level.

Some Forces use the Office for National Statistics (ONS) Crime Severity Score (CSS) as part of the decision-making process to supplement the probation OGRS. Instead, WMP’s RFSDi score incorporates the Cambridge Crime Harm Index (CCHI) as the ‘severity’ element of the RFSDi. Discussion of the similarities and differences between these two scores have been presented in previous papers to the Committee. However, the RFSDi is underpinned by a wider range of information (Recency, Frequency, Severity, Drugs, Intelligence) and therefore should be seen as a more mature model to support these joint decisions. More detailed information about the methodology has been provided at previous Committee meetings.

5.1 Outputs in police work using suspect data

The two evaluations undertaken in 2022 evidenced that without the inclusion of suspect data, the RFSDi does not fully support Offender Managers (OMs) to make risk-based recommendations.³ The remit of OMs is wider than that of Probation colleagues because they are also responsible for managing those offenders who have received non-custodial interventions and prolific offenders who are under investigation for further offences. Therefore, OMs need an alternative risk score to the OGRS which reflects the totality of their workload. The outputs of their police work will not fundamentally change if suspect data is included in the RFSDi Harm Score because they review these records manually as part of their routine decision-making processes.

Under the national IOM strategy, the Flex Cohort *‘may include neighbourhood crime offenders who have low or medium risk of reoffending scores but are judged by police and probation to be at greater risk of reoffending; or lower level acquisitive offenders such as shoplifters who are judged to have the potential to progress onto committing more serious*

² <https://www.gov.uk/government/publications/integrated-offender-management-strategy>

³ WMP ‘Internal Evaluation of the RFSDi Harm Score and the Integrated Offender Management Model’ (Oct 2022) and Babuta, ‘Independent Report on the West Midlands Police RFSDi Harm Score and Integrated Offender Management Model’ (Nov 2022)

neighbourhood crime. It may also include those persistent offenders with non-acquisitive index offences but who have a similar needs and risk profile to the fixed cohort.' In order to make these judgments, OMs need to include information about offences for which offenders are currently being investigated (where they would have a suspect status within the data).

For example, in multi-agency strategy meetings about a young person involved in serious violence the ability of the panel to offer appropriate, timely intervention and safeguarding could be jeopardised if the score used by the OM only takes account of the charged offences but fails to reflect the occasions for which they are also identified as a named suspect. Often being a 'suspect' can indicate underlying vulnerability, thus there is a need to quantify this in an applicable measure.

Using suspect data also provides transparency around the Free (Domestic Abuse) Cohort, especially where DA non-crimes created between parties provide evidence of escalating behaviour and therefore support the need to proactively manage these suspects. This can be used to support a victimless prosecution where a victim repeatedly withdraws their support for an investigation. There are multiple examples where protective orders such as Domestic Violence Protection Order s(DVPO), stalking protection orders, injunctions, serious violence protection orders and gang injunctions are used to prevent serious harm and require evidence of a pattern of behaviour. Without the suspect data we have a gap in our intelligence led policing model.

From a victim perspective, the identification of habitual offender behaviour allows policing to carry out the fundamental practice of keeping communities safe from harm by understanding risk.

6 Suspects

The status of ‘suspect’ is applied to a nominal within our data when they have been identified during the investigation of an offence. This could be through a variety of means such as CCTV, forensics or being named by a victim or witness. Simply being named in an intelligence report, or generally ‘known’ for a certain type of offence would not suffice for the status of ‘suspect’ to be applied to a nominal. Note that a ‘charged offender’ does not equate to a ‘proven’ offender. In police terminology ‘offender’ relates to nominals who have been charged with an offence. They do not become a ‘proven offender’ until the conclusion of any criminal justice processes, a status which is not recorded in police data.

The Data Analytics Lab (DAL) processes automatically exclude any suspect who has the ‘ELIMINATED’ status applied by the investigation team – this signifies that they are no longer a person of interest in the investigation (as well as where no action is taken as the time limit has expired). However, all other suspect statuses are included in the data set, for example where no charge is brought because of evidential difficulties, insufficient evidence, or prosecution is not in the public interest. These outcomes remain relevant, in particular when considering offences such as DA where victims often withdraw support. These suspect statuses mean that the investigating officer is satisfied that the nominal is responsible for the offence, but for a number of reasons, the case will not proceed to the Criminal Prosecution Service (CPS). See appendix section A2 for a list of suspect status definitions.

It is important to note that including suspect data within the RFSDi score does not fundamentally change the nature of offender management. Managing suspects, particularly those who are prolific offenders who are suspected of further offences is an intrinsic part of the role of OMs and neighbourhood teams to whom they recommend nominals for lower tier management. The inclusion of suspect data is particularly important for managing juveniles and DA offenders. For the former, OMs need to know that a young person is a suspect in number of outstanding investigations, suggesting they are actively engaging in criminality, but will aim to work with statutory partners to find diversionary pathways rather than criminalising them. In the case of the latter, the victim often withdraws support for the investigation, but OMs need to evidence a pattern of offending behaviour.

External reviews of policing point to the need to utilise the data within our systems to manage potential risk and threat in order to perform our duty to protect the public.

For example, the review of Operation Soteria Bluestone⁴ (which focuses on the work to improve outcomes for victims of rape and serious sexual offences) states that,

“while there are important ethical considerations around the inclusion of unconvicted suspects in samples for research purposes, on the basis of ensuring that guilt is not assumed in these circumstances, the premise of police work is based on the collation of intelligence, which is predicated on allegation as opposed to conviction data. The police, by virtue of recording criminal allegations, have a wealth of information which can be used to explore repeat offending and repeat suspects. The police, therefore, have an

⁴ Stanko et al Operation Soteria Bluestone Year 1 Report 2021 – 2022, p.99
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1124704/Operation_Soteria_Bluestone_Year_1_Report_FINAL.v3.pdf

opportunity to draw on the intelligence contained within their own records to better understand the nature of repeat offending and repeat suspects and to make more informed decisions about how to tackle this type of offending.”

The inclusion of suspects would increase the number of nominals included in the data set overall, however, the proportion of those with high harm scores is reduced.

7 Version Comparison

Whilst the total numbers of people included in the results are different between the two ways of calculating the RFSDi, the distribution of the harm scores is very similar:

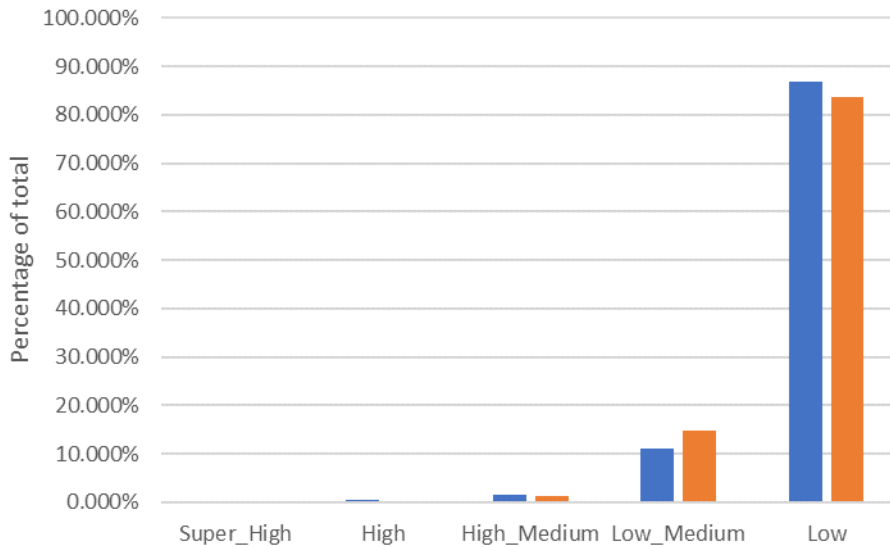


Figure 2: Distribution of offender and suspect RFSDi

In terms of the total numbers of people, these change (at the time of writing) from circa 332,000 using offender only data to 854,300. As can be seen from the chart above, by far and away the largest number of people in both instances are within the low harm group. There are changes in terms of both people coming within the scope of the harm score and the number of incidents which are covered for the same individuals which can increase substantially, particularly for those who are in the higher harm groups (under either score).

The only change to the basic methodology in calculating the two versions of the harm score is in the weighting applied to the frequency element whereby less weight is attached to this with the suspect level data (because there are more incidents).

Appendix

A1 IOM Cohorts

Taken from the Neighbourhood Crime Integrated Offender Management Strategy⁵

Fixed Cohort:

- Neighbourhood crime offenders with a high, very high or prolific risk of reoffending, assessed using the Offender Group Reconviction Score (OGRS); this score is calculated by the MoJ and used / disseminated by the Probation Service
- More serious neighbourhood crimes such as robbery and burglary should be further targeted and included even when they have a medium OGRS score. This reflects the level of harm caused by these offences.
- The fixed cohort should include a mix of offenders serving community orders and those leaving prison on licence.

Flex Cohort:

- Local areas may apply additional weighting within the neighbourhood crime cohort – if the need is evidenced by local crime trends. This could mean weighting towards risk of violence or a particular index offence within the cohort.
- Local areas could weight towards people leaving prison if improving outcomes for prison leavers is a local priority.
- Local areas could weight towards young adult offenders to prioritise those making the transition from youth to adult services.
- There can be referrals into this cohort for offenders who have similar needs, reoffending risks or offending types to the fixed neighbourhood crime cohort, and for whom this model may therefore be appropriate. This may include neighbourhood crime offenders who have low or medium risk of reoffending scores but are judged by police and probation to be at greater risk of reoffending; or lower level acquisitive offenders such as shoplifters who are judged to have the potential to progress onto committing more serious neighbourhood crime. It may also include those persistent offenders with non-acquisitive index offences but who have a similar needs and risk profile to the fixed cohort.
- Police and probation may also decide to deselect individuals from the ‘fixed’ cohort who have a high OGRS score but are individually assessed as low risk of reoffending or otherwise unsuitable for the IOM approach.

All referral decisions should be made through shared selection panels. There should be clear referral mechanisms for other parts of the criminal justice system to refer into IOM, with probation and police jointly making final decisions as to whether or not IOM is appropriate

Free Cohort:

We are aware that some local areas are running IOM schemes for other cohorts of offenders with different needs, risks and offending patterns. This includes schemes focused on serious violence, serious organised crime and domestic abuse. We encourage good practice to continue in line with local priorities, where resources are sufficient.

⁵ Neighbourhood Crime IOM strategy (publishing.service.gov.uk)

These schemes should be tailored to the specific needs of other cohorts and should ensure their IOM approach is appropriate, and that staff have the correct training.

A2 Suspect Status Definitions

As an investigation progresses, the status of a suspect changes within the Connect system:

A2.1 Eliminated suspects

| Suspect Status in Connect | Description | Comments |
|---------------------------|--|---|
| Suspect (eliminated) | The investigation has determined that the suspect is not responsible for the offence and they are eliminated from the enquiry. | This data will be excluded from the harm score. |

A2.2 Current suspect in an ongoing investigation

| Suspect Status in Connect | Description |
|---------------------------|--|
| Suspect | When a suspect is initially identified and the investigation is in progress. |
| Suspect (not interviewed) | When a suspect is initially identified and an interview is pending |
| Suspect (interviewed) | When the identified suspect has been interviewed about the offence and not eliminated. |

A2.3 Suspect believed to be responsible but no further action taken

| Suspect Status in Connect | Description |
|---|--|
| Suspect (insufficient to proceed) | The investigation has not eliminated the nominal and concludes that this person is responsible for the offence, but for a variety of reasons the decision is made not to progress with CPS for charging. This could include instances where: <ul style="list-style-type: none"> prosecution is prevented because the named identified suspect identified but is too ill (physical or mental health) to prosecute; or where victim or key witness is dead or too ill to give evidence a named suspect is identified but is below the age of criminal responsibility a named suspect is identified and the victim supports police action, but evidential difficulties prevent further action |
| Suspect (no action) evidential difficulties | |
| Suspect (prosecution prevented) | |

| | |
|--|--|
| | <ul style="list-style-type: none">• a named suspect is identified but the victim does not support (or withdraws support from) police action, as frequently happens in cases of DA• a named suspect is identified but the time limit for prosecution has expired• either the police or CPS decide that formal action against the offender is not in the public interest <p>Further information may subsequently be provided which means an investigation can be re-opened and a charge brought.</p> |
|--|--|

A3 Glossary of Terms

| WMP / Law Enforcement Terminology | |
|--|--|
| DA | Domestic Abuse |
| DAL | Data Analytics Lab |
| IOM | Integrated Offender Management |
| LOMU | Local Offender Management Unit |
| OGRS | Offender Group Reconviction Score – Probation risk assessment too; |
| OM | Offender Manager |
| OPCC | Office of the Police and Crime Commissioner |
| PCC | Police and Crime Commissioner |
| PMP | Proactive Management Plan |
| RFSDi | Recency, Frequency, Severity, Drugs, intelligence |
| SME | Subject Matter Expert |
| WMP | West Midlands Police |