College of Policing

**Working together
to prevent crime**

Vulnerability and Violent Crime Programme

On the edges of knife crime:
an exploratory analysis of young people
identified by Op Met Divan

Full technical report

July 2021

About

This report details work by the College of Policing as part of the Vulnerability and Violent Crime Programme, funded by the Police Transformation Fund.

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1.   Executive summary

1.1. Introduction

Op Met Divan is an early intervention programme based in south London, delivered by the Metropolitan Police Service (MPS), which seeks to identify and support young people under the age of 18 who are suspected of carrying knives or other weapons. Support can include referrals to partner organisations or diversion programmes. The aim of Op Met Divan is to educate young people at the **earliest opportunity** to reduce weapon carrying. Its design and implementation are based on a pre-existing programme called Op Divan, delivered since 2018 by North Yorkshire Police (NYP).

Op Met Divan uses intelligence gathered from three police databases (Merlin[1], CRIS[2] and Crimint[3]) to identify young people under the age of 18 who have come to the attention of the police for knife or weapon possession, or who may be routinely carrying a weapon.

To be eligible for Op Met Divan, young people needed to: (1) be under the age of 18, (2) not have previous criminal convictions for weapon possession, (3) reside in the London boroughs of Bromley, Croydon or Sutton and (4) either have been found in possession of a knife or weapon, or there is intelligence suggesting they have been or intend to carry a weapon.

All individuals identified from intelligence databases who were eligible for the intervention were discussed at weekly selection meetings. These meetings involved representatives from different policing roles including both Safer Neighbourhoods and Safer Schools. Other partner agencies would also attend if necessary, such as youth offending teams (YOTs) or social workers.

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[1] A safeguarding system operated by the MPS that records every instance where a child (under 18) 'comes to notice'. Other services (such as social services) also have access to the database. The information can include but is not limited to victimisation, truancy, running away, being arrested, bullying and child welfare.
[2] The Crime Reporting Information System (CRIS) is a database that collates and records the actions constituting the allegation of a crime. Police input data into CRIS following any visit to a reported crime, including information on suspects, witnesses, victims and type of crime.
[3] A database operated by the MPS that stores information on all criminals and suspected criminals.

1.2.　Aims of the report

There is limited evidence about the characteristics of young people either involved, or at risk of becoming involved, in knife crime. This research helps build our understanding of the backgrounds of young people who have come to the attention of Op Met Divan, and whom of these individuals were deemed most suitable to receive support from the intervention.

The analysis was primarily exploratory in nature and aimed to see what could be learned about these young people and their backgrounds. Further analysis sought to determine whether there were patterns or commonalities among characteristics relating both to (a) **the incident** for which the young people came to police attention, and (b) the **young people themselves**. The research helps build a picture of the multiple and complex challenges that form part of the backgrounds of young people who are either involved, or at risk of becoming involved, in knife crime, which inform the development of interventions. This work supplements the **evaluation of Op Met Divan** carried out by the National Centre for Social Research (NatCen) as part of the Vulnerability and Violent Crime Programme.

1.3.　Methods

The data used in this analysis was taken from the Op Met Divan monitoring spreadsheet, which was populated by an analyst with data drawn from Merlin, CRIS and Crimint. Records on these systems are primarily intelligence reports and are therefore usually a summary of incidents of potential criminal behaviour and safeguarding concerns.

Data was coded with detail relating to the incident for which a young person came to police attention, any prior contact with the police such as offending and their personal background, including contact with other partner agencies. This was used to understand the profile of the cohort coming to the attention of the intervention team.

Further exploratory analysis (latent class analysis (LCA)) sought to determine whether there were patterns or commonalities among characteristics relating both to the incident for which the young people came to police attention and the young people themselves.

1.4. Key findings

Sample

157 young people were considered for the intervention in 2019. Of these, 35 were female and 122 were male. Two thirds were aged under 16 and the remaining third between 16 and 18 years old.

Incidents

- Over 70% of incidents for which the young person came to the programme's attention involved the presence of a knife or weapon.

- In 12% of cases the young person was suspected of carrying/possession but this was not confirmed.

- In the remaining 18% of incidents, the young person was exclusively the victim of an offence or there was no explicit suspicion of weapon possession by the young person.

- Almost a fifth of incidents involved offences other than the possession of a knife or weapon, such as criminal damage, robbery, possession of drugs, theft and affray.

Background of young people

Young people coming to the attention of Op Met Divan have complex personal backgrounds and needs.

- Nearly half (47%) of all young people were known to at least one partner agency. Child and Adolescent Mental Health Services (CAMHS), social services and YOTs were the most frequently cited agencies.

- A fifth of young people (20%) were considered to have experienced mental illness, behavioural or learning difficulties.

- Nearly a fifth (18%) of individuals were recorded as having educational issues, such as not being in full-time education, school exclusion or bullying.

- In almost a quarter of cases, the young person had experienced at least one form of family instability (not including living away from parents) including:

  o being a victim or witness of domestic or child abuse

  o unstable housing situation

- o   family or parental criminality

- o   family illness (including mental health)

- o   a death or traumatic incident

- 12% of young people were known to be or had previously been living away from their parents, either within the care system (in a children's home or with foster parents) or with other family members.

Previous contact with the police

- Over a third (34%) of the sample had previously committed a criminal offence.

- Nearly a fifth (17%) of young people within the sample had previously been reported to the police as a missing person (MISPER).

- 12% had been identified as being associated with gangs.

- Just over 10% had experience of victimisation.

Latent class analysis

All indicators within the coding framework were initially examined together. This overall analysis incident type, prior contact with the police and personal background identified a five-class optimal solution.

- Class one was the largest class, comprising over a third of the sample. This broadly contained individuals who had not had previous contact with the police but may have been known to partner agencies for mental health or behavioural issues or some form of family instability. Incidents in this class may have been 'one-offs' or not necessarily indicative of escalating risky behaviour.

- Class two, comprising 17% of the sample, contained individuals with particularly complex needs, who may be particularly vulnerable to becoming involved in knife crime. Young people in this class were the most likely to have lived or be living under care arrangements, and therefore be known to partner agencies. They often displayed aggressive behaviour and were likely to have mental health or behavioural issues and consequently issues in education. Incidents in this class often involved foster parents or carers, or other family members.

- In class three, which comprised 16% of the sample, incidents were likely to involve a peer of the subject, usually involving some form of aggression, which

may have been threats. Young people in this class were unlikely to have had any contact with the police previously but had a small probability of being suspected or known to associate with gangs. These young people may be susceptible to escalating their behaviour if they are already on the fringes of gangs.

- Broadly individuals in class four (14% of the sample) were likely to be suspected of carrying a knife but the presence of a weapon was never confirmed. This suspicion was often the result of the young person having previous weapons offences or associating with known knife carriers. These young people may also be at risk of being exploited or pressured to carry knives by those they are associating with.

- Individuals in class five, which contained 14% of the sample, were generally the most known to police for various types of offending, and probably those already engaging in the most risky behaviour. They were the most likely to be involved in gangs, as well as having complex needs and backgrounds. These incidents also often involved other offences.

Further analysis indicated that incidents between family members were more likely to concern individuals who had a history of behavioural issues and who were more likely to engage in risky behaviour, such as previous offending or missing episodes. In contrast, peer-related incidents were often committed by individuals who were less likely to have a previous offending history or behavioural issues, and were perhaps 'isolated incidents'. This finding also emerged in the combined LCA where one group largely contained peer incidents and the group members were unlikely to have any offending history or other known issues.

Individuals who had previously been reported as being aggressive (usually by a parent/carer) were found to be more likely to have committed prior offences, including violence or weapon possession, and these individuals were more likely to be known to partner agencies. Children who had experienced family instability, including abuse or other welfare concerns, were found to be more likely to have committed prior offences. Again these findings were echoed in the combined LCA, where one group of incidents was characterised by the presence of a family member and displays of aggression by the subject, and the young people in this group were

likely to have had contact with the police for prior offending. They were likely to be known to partner agencies and to have experienced family instability.

1.5. Implications

This analysis has shown that there is not a homogenous group of young people at risk of becoming involved in knife crime and that the incidents involved and backgrounds of these young people are complex and varied. It is therefore important to tailor responses to these groups based on their needs and risks. Overwhelmingly, this evidence suggests that the young people on the fringes of knife crime, and at most risk of engaging in risky behaviour, have extensive vulnerabilities and experience multiple disadvantages in their lives.

Due to the sample size, it was not possible to examine which groups in any domain may have been more or less likely to be included or excluded from the intervention. Nonetheless, the analysis in this report has revealed groups that may be suitable for 'early intervention'. Given the light touch engagement between the intervention and young people, Op Met Divan deems itself to be more appropriate for those with less complex needs and a minimal offending history than for those who will require more varied and extensive intervention.

2.   Contents

3.   Background

3.1. Context and rationale

3.1.1. Knife crime

National figures for the year ending December 2019 showed a 7% rise in offences involving knives or sharp instruments recorded by the police from the previous year, with the total of 45,627 offences the highest on record (Office for National Statistics (ONS), 2020). London recorded the highest rate of knife crime across England and Wales, with an estimated 174 knife or sharp instrument offences per 100,000 people recorded by the Metropolitan Police Service (MPS) in 2019; higher than the national average of 81 per 100,000 (ONS, 2020). The Mayor's Police and Crime Plan stated how high-harm crime and protecting vulnerable people from a range of crimes, including knife crime, should be a priority across the London boroughs (Greater London Authority, 2017).

The reasons an individual carries a knife may be complex and varied, but nonetheless motivations for weapon carrying have broadly been categorised in three ways:

▪ **Self-protection and fear** are particularly significant motivations for individuals who have prior experience of victimisation (Lemos, 2004), and may be characterised as 'defensive' weapon-carrying.

▪ **Self-presentation** is perceived to play an important role for individuals who seek to conjure notions of 'street credibility' and 'respect' where they perceive a lack of access to status symbols (Silvestri and others, 2009).

▪ **Utility** motivates those who use weapons to facilitate other behaviours (Brennan, 2017). We may characterise this as 'offensive' weapon-carrying.

These motivations are important to consider when looking at the incidents for which individuals come to the attention of Op Met Divan. An understanding of the circumstances surrounding an individual's knife possession may help shed light on the level of risk they pose and inform the development of appropriate interventions.

Other potential explanations for knife carrying have emphasised a fear of reporting knife crime, and the idea of 'self-help' violence, such as:

- Young people often do not report the crimes they are victims of to the police, as they can perceive this as 'grassing', or simply they do not trust the police (Brennan, 2020).

- A lack of trust potentially leads individuals to becoming perpetrators themselves if they choose to resort to 'self-help violence' to seek revenge instead of relying on police procedures (Silvestri and others, 2009; Bradford, 2015; Brennan, 2018).

Fear of reporting may in part explain why the young people coming to the attention of Op Met Divan are doing so through intelligence reports and not crime reports. This makes it particularly important to consider what can be learned through aggregate analysis of intelligence reports as opposed to more traditional analysis using crime reports.

3.1.2. Risk factors

There has been limited research conducted in the UK on risk factors for serious violence. However, we do know that males are more likely to commit serious violence and carry weapons, and that self-reported weapon carrying peaks around the age of 15 (Home Office, 2018; Brennan, 2018). 'Criminogenic factors' such as offending behaviour, peer offending, neighbourhood disorder and lack of trust in the police (Brennan, 2018) also play a significant role in determining the likelihood of an individual choosing to carry a weapon.

Individuals with backgrounds involving childhood abuse, neglect or being taken into care are at greater risk of committing violent crime later in life (Dobash and others, 2007). Disrupted family environments potentially involving substance abuse, parental criminality and a lack of child supervision have also been identified as risk factors, as well as exclusion from school and low attainment (Hales and others, 2006; Home Office, 2018).

3.2. The intervention

The MPS started Op Met Divan in Croydon in April 2019, rolling out across the wider south Borough Command Unit (BCU) in October 2019. As part of a broader approach to the growing problem with gangs and serious violence across these boroughs, the intervention focuses on low-level incidents (rather than more complex gang-related issues) and cases of 'soft' or (at times) uncorroborated intelligence.

Police working within the Op Met Divan team search three police databases on a weekly basis (Merlin, CRIS and Crimint) to identify young people eligible for Op Met Divan. The searches aim to identify anyone under the age of 18 residing in the BCU who has come to the police's attention, using key words such as 'blade', 'knife' or 'stab'. Any individual who meets these criteria is flagged by team members and is discussed at a weekly case selection meeting dedicated to Op Met Divan[4]. These selection meetings are attended by a combination of police, members of the Op Met Divan team and delivery partners who use Op Met Divan as an early intervention service.

Individuals identified through the intelligence gathering process who meet the eligibility criteria are discussed by the Op Met Divan team at the weekly selection meeting, where a judgment is made to pursue one of the following pathways:

- A Safer Schools Officer (SSO), Safer Neighbourhoods Officer (SNO) or Youth Engagement Officer (YEO) conduct a home or school visit with the young person concerned.

- Case handled by the school (for example, SSO liaises with the head teacher).

- Further intelligence to be gathered.

- Referral to another part of the police (for example YEOs but external to Op Met Divan).

- Referral to another agency (such as Multi-agency Safeguarding Hub (MASH) because of safeguarding concerns).

- Keep monitoring the individual (for example if there was an ongoing criminal investigation).

A large proportion of young people who the police identified were not deemed suitable for the intervention. Some were already engaged with other support from social services, the Youth Offending Service (YOS) or a youth offending team (YOT). Others were known to be in a gang or had multiple previous convictions. Usually Op

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[4] This differs from the approach used in NYP for Op Divan, where intelligence leading to Op Divan referrals was integrated into existing daily management meetings, which included a range of other issues such as criminal investigations and domestic abuse cases.

Met Divan was not deemed appropriate as an early intervention approach with these young people.

For those young people who are included in the intervention, where a decision is made to conduct a home or school visit, a SNO or SSO meets with the young person to explain the risks and consequences of carrying a knife or weapon. The discussion is reinforced by the SNO/SSO providing an Official Notice, a two-page document describing what is meant by a knife/weapon-related crime and its consequences, and provides details for who to contact if they are concerned about their or someone else's safety (see Appendix A)[5]. The young person is also referred or signposted to other support services or engagement activities, provided by wider partner agencies, (including but not limited to statutory services (children's social care) and third-sector organisations) as appropriate.

A key aim of the intervention across the south BCU is to improve multi-agency cooperation and streamline the approach for supporting young people that come to the attention of various agencies. Op Met Divan team members can also discuss how the home visits could offer a further source of intelligence to the police, where additional information on the family and home environment could be gathered.

[5] The Notice replicates the document used in NYP.

4. Methods

4.1. Aims and objectives

The aim of this research is to understand more about the characteristics of young people who came to the attention of Op Met Divan between April 2019 and January 2020, and subsequently which of these individuals were deemed most suitable for the intervention. The analysis was primarily exploratory in nature and aimed to see what could be learned about these young people and their backgrounds, in the context of knife crime. Further analysis sought to determine whether there were patterns or commonalities among characteristics relating both to (a) the **incident** for which the young people came to police attention, and (b) the **young people themselves**. This research supplements the evaluation of Op Met Divan carried out by the National Centre for Social Research (NatCen). For details on the process evaluation and cost analysis conducted by NatCen, refer to the **accompanying report**.

4.2. Data and coding

4.2.1. Data content

Data held by the intervention team was shared with researchers at the College of Policing. The dataset included 150 eligible cases, identified through searches of three police databases (Merlin, CRIS and Crimint). For each case, demographic information about the young person involved had been recorded, including sex, age, date of birth, address and postcode. Additionally, data about the incident for which the individual had been referred to the intervention panel was recorded, such as the date of the incident and the borough in which it occurred, followed by three qualitative, free-text fields: 'Comments', 'Remarks' and 'Result Remarks'. These free-text fields contained a description of the incident and information regarding the background of the young person – primarily offending[6], behavioural, educational and

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[6] It was not always possible to determine from the data whether offending constituted arrest, charge or conviction, and so 'offending' is used in a general sense.

familial – which were used to inform decision making around whether a young person was suitable for the intervention.

The data set also included information on the final decision with regard to the suitability of the young person for the intervention and the outcome for those deemed suitable, or a rationale for exclusion for those deemed unsuitable. The outcome of the home visit, including whether contact was achieved and if the young person engaged, was also recorded for those who received the intervention. The date the case was closed (either when a home visit was conducted or the intervention was deemed unsuitable at the panel meeting stage) was also recorded.

Administrative information was also recorded about each case, specifically the intelligence system from which the case was identified, the reference number from this system and the date on which the data was extracted from the system. If applicable, the officer who had been assigned or tasked to conduct a home visit was recorded in a 'Current Assigned' column. If the subject had any kind of criminal record, sometimes the 'Trace' column would be filled in, although usually the details were transferred only to the 'Remarks' column described above. If there was a history of domestic abuse involving the young person and their family, sometimes the 'DA' column would be filled in, although again, often details were in the 'Remarks' column. If the subject was referred on to a YEO, the 'YE referral Y/N' column would be filled in accordingly.

4.2.2. Data de-duplication and cleaning

College researchers scanned the data for any duplicate cases relating to the same subject but detailing different incidents. Eight duplicates were identified based on the full name of each subject – four individuals had two cases linked to them, two had three cases. As a result, the dataset was reduced from 150 to 142 unique cases. For this small proportion of young people who had been involved in more than one incident, the most recent incident was treated as the current incident. Earlier incidents were included as previous behaviour or previous offences as appropriate.

The statistical package R was used to conduct some of the data analysis (discussed in more detail in section 4.4). R does not offer spreadsheet editing of data of the type found, for example, in Microsoft Excel. Due to this restriction, the data was prepared

and 'cleaned' prior to loading into R. As a result, the following data cleaning was conducted at this stage.

Within the data, the age and sex of each subject and the borough in which the incident occurred were initially identified as potentially useful variables for analysis. Borough had been consistently recorded in most cases, though for one case the Borough Operational Command Unit (BOCU) code had been entered. This was amended to the full borough name. Additionally, though there were three boroughs involved in the pilot, one case had been listed as being from a non-participatory borough. However, using the case details it was possible to identify that the incident did occur in a participatory borough, and the entry was amended accordingly. Age was calculated using the subject's date of birth and the incident date. For two cases a date of birth was not available and therefore age could not be determined. Three cases were judged to have had the sex of the subject inputted incorrectly. This assessment was based on the pronouns used in the qualitative data entries and the names of the subjects. It is recognised that individuals may use pronouns or names that would traditionally be considered different to their sex, however researchers were confident in the small number of changes made.

4.2.3. Coding approach

The coding framework was developed by College researchers, supported by an academic advisor attached to the Vulnerability and Violent Crime Programme who specialises in quantitative research methods. The coding framework was not predetermined using preconceived or hypothesised ideas, but was driven by the data and developed through an iterative process of coding and categorisation.

Each of the coders were initially assigned a small number of unique cases (around six), and from this individually identified emergent commonalities or themes within the data. These were then discussed. Where relevant they were combined and together formed the first set of codes.

These codes were then tested on an additional 10 new, randomly selected cases by each of the researchers and the academic advisor. Subsequently, existing codes were amended and new codes added when identified as necessary to sufficiently represent the data.

Using this amended coding framework, a further random sample of cases (n=21) were independently coded by the three researchers. Continuing in the same manner as previously, this was followed by a discussion of potential amendments or additions to the coding framework, with any changes agreed by consensus. From this point, whenever the coding framework was altered, any cases that had previously been coded were reanalysed using the most recent framework. Additionally a codebook was produced (see Appendix A) to outline the meaning of the individual codes and any rules that applied to them. Again this was edited when necessary.

The remaining cases were randomly shared between the three College researchers. Each coded their assigned cases using the coding framework. Amendments or additions to be made to the coding framework were identified, though these became fewer as the framework became more comprehensive. After all cases had been coded, each researcher quality assured the coding completed by another to ensure consistency and accuracy. Any inconsistencies, queries and suggestions for changes to the coding framework or coding itself were examined and final decisions were made by consensus. At this stage, two cases were removed from the dataset as they did not include enough information to be sufficiently coded, leaving 140 unique cases. Initially, the coding was deliberately granular to allow for meaningful descriptive analysis, but needed to be condensed to support more advanced analysis. Some codes were identified as being suitable for amalgamation – either because they covered similar topics or because they could be summarised using higher level descriptions.

The following describes what was included in the three main code types:

'Incident type' codes denoted:

- the involvement of other people (besides the subject) in the incident[7]
- whether a knife was present or the subject was suspected of being in possession of a knife

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[7] This could include peers, family members, adults known to the subject (such as adults in care homes, foster families, teachers) and strangers, for example a police officer.

- if the subject was with a known or suspected knife carrier, gang member or drug dealer when the incident occurred

- whether the subject was exclusively a victim during the incident

- if the incident was predominantly self-harm based

- if the incident involved offences other than the possession of a knife

- whether the suspect displayed verbal or physical aggression during the incident

'Prior contact with the police' codes represented:

- the subject's previous experience of victimisation

- prior offences committed by the subject

- links between the subject and gangs

- reports of the subject as a MISPER

'Personal background' codes signified:

- previous verbal or physical aggression by the subject

- mental health, behavioural or learning difficulties

- education issues, including whether the subject had previously been suspended or expelled

- whether the subject was known to partner agencies

- if any family instability had been identified

Further details of code consolidation are provided in Appendix A.

4.2.4. Additional data

In the first month of 2020, the team received the complete data for 2019, which included 22 new cases not previously in the dataset. These cases involved incidents occurring after 12 December 2019 and had not been assessed for Operation Met Divan suitability until after the original data had been sent. An identical process to that previously outlined in section 4.2.2 was used to clean the data and combine any entries relating to the same subject. Within the new data, four individuals were each linked to two cases, while one young person was linked to one case within the new data and one case in the original dataset. After combining the duplicates, 157 unique cases remained as the updated final sample size. Figure 1 shows the process taken

to identify the final sample of cases for inclusion in the analysis. The new cases were coded by one researcher using the final coding framework. This was subsequently quality assured and any disparities resolved by consensus. One case involving a subject who had featured in both the original and new data was also recoded to include the additional information.

Figure 1. Process for identifying cases to be included in the analysis

Original database (n=150)	Duplicate cases excluded (n=8)
Original cases coded (n=142)	Cases of insufficient detail excluded (n=2) / New cases received (n=22)
Updated sample up to year end 2019 (n=162)	New duplicate cases excluded (n=5)
Final sample cases included in the analysis (n=157)	
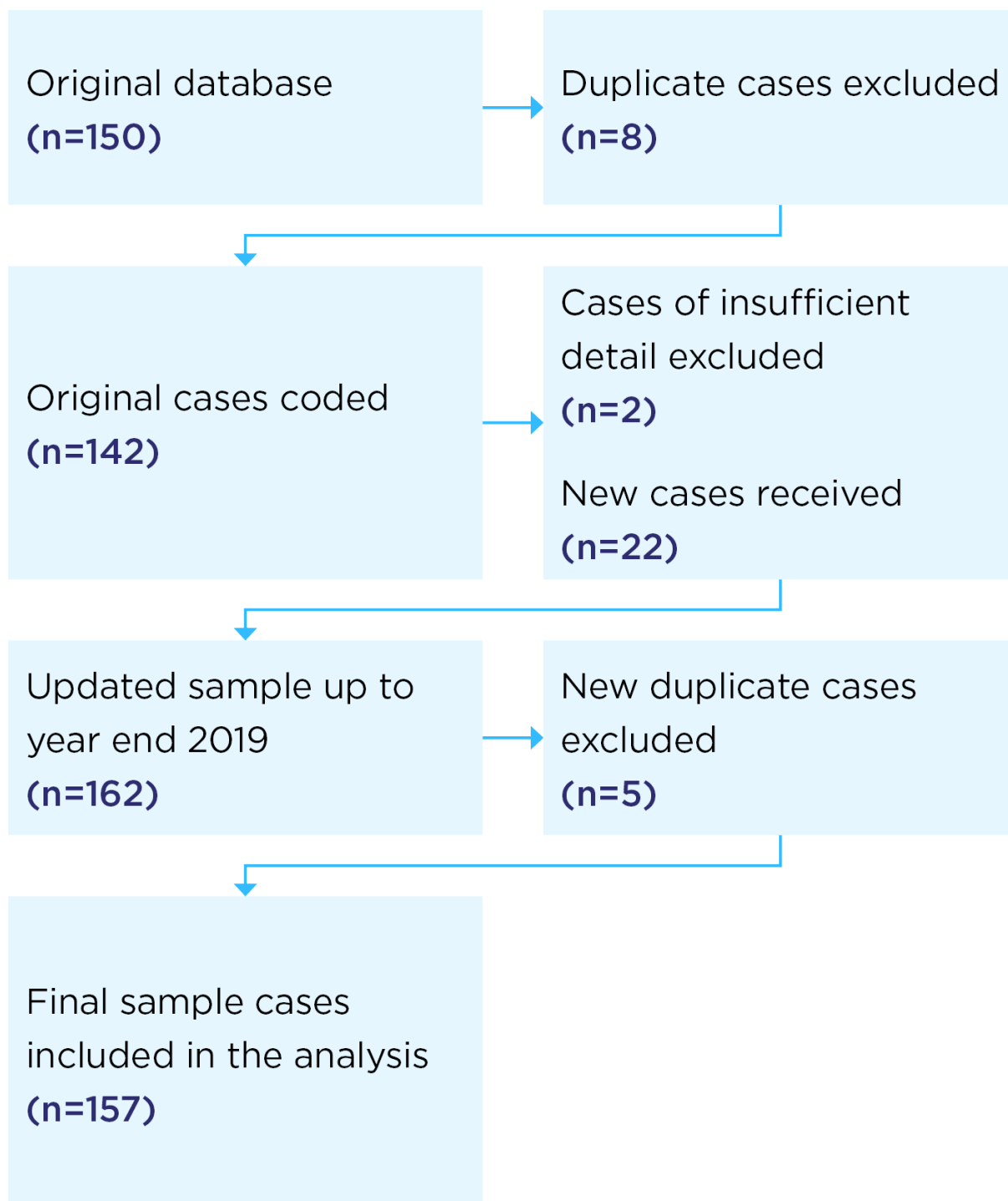
4.3. Exploratory analysis

A simplified version of the Excel spreadsheet was imported into the statistical analysis software package SPSS. Some variables were recoded, for example, as the age of the individuals ranged from 9 to 18 years old. Two new variables were created: 'aged under 15' and 'aged 15 and over'. SPSS was used to run frequencies and to create crosstabulations. This information was then transferred to an Excel file, where tables and charts were created to display the analysis.

SPSS was also used to carry out chi-square tests[8]. The researchers tested for association between a combination of profile characteristics (such as age, sex or family background) and the outcome of their Op Met Divan case, to test whether individuals with certain characteristics were more or less likely to be deemed eligible for a home visit. Additionally, chi-square tests were also carried out between each profile characteristic, to investigate whether individuals with certain characteristics were also likely to have other characteristics.

The researchers assessed whether the association was significant and checked the validity of the relationship between the variables. Any statistically significant relationship whereby more than 20% of cells had an expected count of less than five were deemed invalid. For each valid statistically significant relationship, the degrees of freedom, sample size, chi-square statistic value and the p value were recorded.

4.4. Latent class analysis (LCA)

LCA is a form of analysis used to identify groups who share common features within a set of data that may reflect wider but unmeasured shared characteristics. Through LCA, it is possible to identify groups within a population; the characteristics that are most strongly associated with that group; the prevalence of the groups; and the covariates that explain differences in group membership. Additionally, these models can be used to predict which groups future subjects may fall into and can also be used to predict other variables or outcomes.

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[8] The chi-square test is used to establish whether there is an association between categorical variables, by comparing the observed values to the values that would be expected if the variables were completely independent of each other. In summary, a chi-square test assesses how likely it is that any observed patterns are due to chance.

Access to a rich dataset on this group of vulnerable young people provided an opportunity to explore the common characteristics of the individuals referred to an intervention such as Op Met Divan. As an approach that seeks to identify unmeasured or unobserved profiles within a dataset containing categorical data, LCA[9] was identified as the most suitable method to examine the data.

In the context of Op Met Divan, examination of groups was based on the backgrounds of the young people considered for the intervention and the incidents that resulted in their referral.

The LCA was conducted in the statistical software package R[10]. LCA requires decisions to be made regarding the number of different groups (classes) within the model. This is often referred to as 'class enumeration', and involves fitting several LCA models to decide how many classes best describe the patterns observed in the data (see Appendix A for details on the criterion used to estimate fit). When running the LCA models, different numbers of groups were imposed each time. An a priori decision was made to begin with two classes and increase the number after each run by one, up to a maximum of six classes. It would be of little meaning to test a one-class model as it would be comprised of the entire sample. Given the limited sample size and number of attributes (codes) in the analyses, six was chosen as the largest number of classes to be tested.

Further explanation of the LCA approach can be found in Appendix A.

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[9] Latent class analysis summarises multiple attributes (often but not always responses to multiple questions, such as in a survey), categorising subjects into mutually exclusive latent classes that are similar within groups but different across groups based on observed characteristics. However, individuals are not assigned absolutely, but probabilistically. This means that you get a probability value for each person being assigned to class 1, class 2, class 3 etc. These classes can only be measured through the patterns of the indicator/manifest/observed variables (true class membership is unknown for each individual). But any association among the observed indicators is assumed to be entirely explained by the latent class variable, and once the latent class variable is modelled the indicators are no longer associated.

[10] R is a free and open source programming language and is widely used for developing statistical software and data analysis. After installing and loading the required package (poLCA) and importing the cleaned data (csv) file, some initial descriptive analysis was conducted to confirm the necessary variables and their associated frequencies. A minimal amount of recoding was conducted, as required by the LCA library used (poLCA does not allow variables to contain zeros so binary 0/1 variables were recoded to 1/2).

4.5. Data quality and limitations

The data used in this analysis was taken from the Op Met Divan monitoring spreadsheet, which was populated by an analyst with data drawn from Merlin, CRIS and Crimint. Records on these systems are primarily intelligence reports and are therefore usually a summary of incidents of potential criminal behaviour and safeguarding concerns. An element of bias is introduced to the data simply because different individuals who complete these summaries will make subjective decisions about which details are most important or relevant for inclusion. Records in themselves may vary by borough/local authority, and almost certainly vary depending on which individual has inputted the data. This same bias is introduced when analysts take information from these systems to record in the Op Met Divan master spreadsheet. They will often summarise the summary, which may again mean some detail is lost. There can be no degree of certainty about the consistency of the collection and presentation of details pertaining to each individual or incident. Nonetheless, it is to be assumed that details recorded are a fair and accurate representation of the background of the young people discussed.

As a result of the small sample size, it was not possible to conduct additional predictive analysis. Further research with a larger sample size could facilitate investigation of known characteristics (such as age and gender) which may explain differences in group membership, defined as 'classes' in LCA, as well as using the identified group membership to explain inclusion or exclusion from the intervention (for example, whether a young person was deemed suitable for a home visit).

5.   Findings

This section presents the findings from the cohort of young people referred for inclusion in Op Met Divan, the incidents for which they came to police attention, their prior contact with the police and their family and personal backgrounds.

5.1. Descriptive statistics

Apart from age, which is measured on a continuous scale, the data was all categorical and, in many cases, binary.

5.1.1. Sample demographics

Core demographic information for each individual was collected within the dataset. Of the 157 young people considered for intervention suitability by the Met Divan panel:

- A total of 35 were female (22%) and 122 were male (78%).

- On the date of the incident for which they were referred to the intervention, 104 young people were under the age of 16 years and 51 were between the ages of 16 and 18 years. The mean age of the sample was 14.4 years (SD 1.9) with a median age of 15.

Table 1. Sample distribution by age

Age (years)	No of young people	% of total sample	No of young people	% of total sample
10 or younger	4	2.5%	104	67%
11	8	5.2%		
12	17	11%		
13	20	12.9%		
14	25	16.1%		

Age (years)	No of young people	% of total sample	No of young people	% of total sample
15	30	19.4%		
16	34	21.9%	51	33%
17	16	10.3%		
18	1	0.6%		
Total	155*	100%	155*	100%

*Age was not recorded for two cases in the dataset

Alongside a basic demographic profile, data was collected about the borough in which the incident in question happened. Of the total number of incidents:

▪ 110 took place in Croydon, 24 in Bromley and 23 in Sutton.

The occurrence of over two thirds of the total number of incidents in Croydon is primarily attributable to the introduction of the intervention in this borough at an earlier date. The intervention was introduced in Croydon in April 2019 and in Bromley and Sutton in October 2019.

Table 2. Sample distribution by borough

Borough	No of cases	% of total sample
Bromley	24	15%
Croydon	110	70%
Sutton	23	15%
Total	157	100%

5.1.2. Incident details

Three overarching areas of interest were identified from the coding framework. These were categorised as incident details or characteristics, previous police contact and personal background.

Incident characteristics refer to the attributes of the incident for which the police were contacted and resulted in the referral of the subject to the intervention panel. As table 3 shows:

- Around 44% of incidents involved the presence of another person (as a victim or witness) – either a family member, peer, stranger or adult known to the subject.

- Over 70% of incidents involved the presence of a knife or weapon, while in just over 12% of cases the young person was suspected of carrying/possession but no knife or weapon was seen. In the remaining 18% of incidents, the young person was exclusively the victim of an offence or no explicit suspicion of weapon possession in relation to the subject was made.

- In less than 10% of cases, the subject was with a known or suspected knife carrier, or gang member or drug dealer during the incident.

- In a small proportion of cases (5.7%) the subject was identified as either being the victim of an incident involving a knife, or threatening or attempting to harm themselves with a knife. Though these individuals may be considered unsuitable for the intervention, the cases were likely to have been picked up as a result of the search terms used within the intelligence systems.

- Almost a fifth of incidents involved offences other than the possession of a knife or weapon, such as criminal damage, robbery, possession of drugs, theft and affray. These offences were either in addition to the young person being in possession or suspected of carrying a weapon, resulted in the discovery of a knife or weapon or led to suspicion of carrying by the subject.

- In over 30% of incidents the subject displayed verbal or physical aggression. This consisted of behaviours such as shouting, swearing, arguing and fighting.

Incidents were characterised by multiple codes, or just one, depending on the incident or the level of detail recorded. For example, an incident involving a family member where a police officer attended, where a knife was present and threats were

made by the subject to use the knife as a weapon against the family member and officer would be coded as 'family', 'stranger or known adult', 'possession' and 'subject aggression'. A case where an individual had been searched because they were suspected of having a weapon would just be coded 'suspected carrying'. If a young person was involved in some other antisocial behaviour or shoplifting, searched as a result and found in possession of a weapon, the case would be coded 'other offences' and 'possession'.

Table 3. Sample distribution by incident characteristics

Incident characteristics	No of cases	% of total sample*
Family	30	19.2%
Peer	36	22.9%
Stranger or known adult	5	3.2%
Suspected carrying	19	12.1%
Possession	111	70.7%
Association	13	8.3%
Self-harm or victim only	9	5.7%
Other offences	30	19.1%
Subject aggression	50	31.8%

*Percentages do not sum to 100 as each incident could be characterised by more than one attribute

5.1.3. Prior contact with the police

The aim of Op Met Divan is to educate young people at the earliest opportunity to reduce weapon carrying. Therefore, the existence and extent of an individual's prior contact with the police may be used to inform decision making around intervention suitability. As table 4 shows, subjects may have had previous contact with the police for several reasons:

- Just over 10% of the sample had previous experience of victimisation that had been reported to the police. Offences committed against them included, but were not limited to: assault, theft, robbery, malicious communications and threats to kill.

- Over a third (34%) of the sample were recorded as having previously committed a criminal offence[11]. Violent offences (including common assault, ABH and GBH) had been committed by 24 individuals. 18 were recorded as having previous offences for possession of a knife or other offensive weapon and 33 had committed other offences, such as criminal damage, fraud and drug offences, as well as theft, burglary and robbery.

- Of the total sample, 12% had been identified as associated with gangs. This association ranged from being linked to individuals suspected or known to be involved in gangs, to being reported or known as gang members or leaders themselves.

- Nearly a fifth (17%) of young people within the sample had previously been reported to the police as a MISPER.

As above, if a young person had had contact with the police for more than one of these reasons they were coded for each category.

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[11] As noted above, it was not always clear what the outcome of these were in relation to charging, disposal or conviction.

Table 4. Sample distribution by previous police contact

Previous police contact	No of cases	% of total sample*
Prior offences – other	33	21.0%
Previous MISPER	27	17.2%
Prior offences – violence	24	15.3%
Prior offences – possession	18	11.5%
Gang links	19	12.1%
Previous victimisation	16	10.2%
None	33	21.0%

*Percentages do not sum to 100 as each incident could be characterised by more than one attribute

5.1.4. Personal background of young people

Operation Divan also has within its aims an intention to **provide support to safeguard young people** and reduce their likelihood of offending. Consequently, information about the personal background of each young person was collected:

- Just under 20% of the sample were described as generally aggressive. This code was used if individuals had displayed physical or verbal aggression on at least one previous occasion (not including the incident for which they had been referred to the intervention). Previous instances of aggression were predominantly aimed at family members, usually parents/guardians or siblings, or peers, most often within a school environment. These incidents did not have to be recorded criminal offences for the criteria to be met.

- Similarly, just under 20% of the sample were considered to have mental health, behavioural or learning difficulties. This included any diagnosed or suspected conditions, such as depression, attention deficit hyperactivity disorder (ADHD), autism or Asperger's, as well as general patterns of poor behaviour or 'anger issues' where specific examples were not provided.

- Almost 18% of individuals were recorded as having educational issues. These issues primarily comprised of not being in full-time education, previous school exclusion (suspension or expulsion) and bullying (being the bully or being bullied).

- Nearly half (47%) of all young people within the sample were known to at least one partner agency. Child and Adolescent Mental Health Services (CAMHS), social services and YOTs were the most frequently cited agencies.

- Just over 12% of the sample were known to be or had previously been living away from their parents, either within the care system (in a children's home or with foster parents) or with other family members.

- In almost a quarter of cases the young person had experienced at least one form of family instability (not including living away from parents). This mostly consisted of domestic or child abuse, unstable housing, family or parental criminality, family illness (including mental health) or a death or traumatic incident.

As above, if a young person had experienced more than one of these issues they were coded for each category.

Table 5. Sample distribution by personal background

Personal background	No of cases	% of total sample*
Known to partner agencies	74	47.1%
Other family instability	39	24.8%
General aggression	31	19.7%

Personal background	No of cases	% of total sample*
Mental health/behavioural/learning difficulties	31	19.7%
Education issues	28	17.8%
Living away from parents	19	12.1%

*Percentages do not sum to 100 as each incident could be characterised by more than one attribute

5.2. Associations – chi-square/significance tests

Chi-square tests of independence were performed to examine the relationships between variables. Specifically, researchers looked at whether any demographic details or variables around a subject's background had any bearing on the incident for which an individual came to the intervention's attention, or whether they were likely to be included or excluded from the intervention. The intention of this analysis is to complement findings from the LCA and form a basis for associations within the dataset. This section reports on the findings of these analyses.

5.2.1. Demographics

The results of the chi-square tests suggest that sex is not a particularly determinant factor in whether an individual is likely to be included in or excluded from the intervention. It was found, however, that a female individual being considered for the Met Divan intervention had a greater chance of the primary incident involving a family member[12]. Secondly, it was found that a male individual was more likely to have committed 'other' prior offences (not violence or weapon possession)[13] before the primary incident than a female.

There were two significant, valid associations with age. Individuals aged between 16 and 18 years old were more likely to commit other offences during the primary

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[12] Sex and family incident – X^2 (1, N = 157) = 4.42, p = .035
[13] Sex and other priors – X^2 (1, N = 157) = 4.20, p = .040

incident, compared to individuals aged between 9 and 15 years[14]. Moreover, individuals aged between 16 and 18 years were more likely to display aggressive behaviour within the primary incident, compared to individuals aged 9-15[15].

An individual from Bromley was more likely to be known to partner agencies, compared to individuals from the boroughs of Croydon or Sutton[16]. Furthermore, Bromley was the only borough where an individual was more likely to be known to partner agencies than not known to partner agencies.

5.2.2. Incident type

Family incidents were associated with individuals who:

- were in possession of a knife or weapon within the primary incident[17]

- were aggressive within the primary incident[18] and had previously been described as aggressive[19]

- had previously been a MISPER[20]

- had been described as having mental health or behavioural issues[21]

- were known to partner agencies[22]

In contrast, a peer incident was **less** likely to involve an individual who:

- committed other offences within the primary incident[23]

- was aggressive within the primary incident[24]

- had any prior offences[25]

- had previously been a MISPER[26]

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[14] Age and other offences – X^2 (1, N = 155) = 9.52, p = .002
[15] Age and aggressive incident – X^2 (1, N = 155) = 6.39, p = .011
[16] BCU and partner agencies – X^2 (2, N = 157) = 8.85, p = .012
[17] Family incident and possession – X^2 (1, N = 157) = 4.56, p = .033
[18] Family incident and aggressive within primary incident – X^2 (1, N = 157) = 16.94, p < .001
[19] Family incident and previous aggression – X^2 (1, N = 157) = 6.70, p = .010
[20] Family incident and MISPER – X^2 (1, N = 157) = 4.27, p = .039
[21] Family incident and mental health/behavioural problems – X^2 (1, N = 157) = 4.32, p = .038
[22] Family incident and known to partner agencies – X^2 (1, N = 157) = 10.22, p = .001
[23] Peer incident and other offences – X^2 (1, N = 157) = 5.55, p = .018
[24] Peer incident and aggressive incident – X^2 (1, N = 157) = 9.43, p = .002
[25] Peer incident and prior – X^2 (1, N = 157) = 4.28, p = .039
[26] Peer incident and MISPER – X^2 (1, N = 157) = 4.45, p = .035

- had been described as having mental health or behavioural issues[27]
- was known to partner agencies[28]

These findings suggest family related incidents were more likely to concern individuals who had a history of behavioural issues and who were more likely to engage in risky behaviour, such as previous offending or missing episodes. In comparison, peer-related incidents were often committed by individuals who were less likely to have a previous offending history or behavioural issues, and could perhaps be isolated incidents.

An individual in possession of a knife or other weapon within the primary incident was more likely to have educational issues[29] or have previously been a MISPER[30], compared to an individual who was suspected of having a weapon (and not in possession of one) within the primary incident.

5.2.3. Prior contact with the police

The results illustrate that there was an association between an individual having committed prior offences and being suspected of carrying a weapon. It was found that an individual who had a prior record for any offence was more likely to have been suspected of carrying a knife or weapon within the primary incident than an individual who did not have any prior record[31]. Individuals who had committed prior offences were also more likely to be known or suspected to be involved with gangs[32], have previously been a victim of a crime[33], have previously been a MISPER[34] and be known to partner agencies.[35]

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[27] Peer incident and mental health/behavioural problems – X^2 (1, N = 157) = 3.84, p = .050
[28] Peer incident and known to partner agencies – X^2 (1, N = 157) = 5.15, p = .023
[29] Possession and educational issues – X^2 (1, N = 157) = 5.68, p = .017
[30] Possession and MISPER – X^2 (1, N = 157) = 5.21, p = .022
[31] Prior and suspected carrying – X^2 (1, N = 157) = 5.63, p = .018
[32] Prior and gangs – X^2 (1, N = 157) = 11.61, p = .001
[33] Prior and prior victimisation – X^2 (1, N = 157) = 9.76, p = .002
[34] Prior and MISPER – X^2 (1, N = 157) = 12.44, p < .001
[35] Prior and partner agencies – X^2 (1, N = 157) = 11.48, p = .001

More specifically, the findings show that individuals with priors for either violence or possession were more likely to be known to partner agencies[36], have previously been a MISPER[37] and have other priors that are not violence or possession[38].

5.2.4. Personal background

Statistically significant associations were found between individuals who had been described as previously aggressive and having committed any prior offence ($p < 0.05$). An individual who had been previously reported as being aggressive (usually by a parent/carer) was found to be more likely to have committed prior offences[39], including violence or weapon possession, compared to an individual who had not been described as previously aggressive.

Findings suggest that there were relationships between individuals known to partner agencies, aggression, mental health/behavioural problems, educational issues and MISPER occurrences. The findings illustrate that:

- An individual who displayed aggression within the primary incident was more likely to have been a MISPER[40], compared to an individual who did not display aggression within the primary incident.

- An individual who had previously been a MISPER was more likely to be known to partner agencies[41], compared to an individual who had not been a MISPER.

- An individual who had been described as having mental health or behavioural issues was more likely to have had educational issues[42], compared to an individual who had not been described as having mental health or behavioural issues.

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[36] Violence or possession prior and partner agencies – X² (1, N = 157) = 7.33, p = .007
[37] Violence or possession prior and MISPER – X² (1, N = 157) = 4.55, p = .033
[38] Violence or possession prior and other priors – X² (1, N = 157) = 10.62, p = .001
[39] Previous aggression and any prior – X² (1, N = 157) = 16.34, p < .001, Previous aggression and possession or violence prior – X² (1, N = 157) = 16.27, p < .001, Previous aggression and other priors – X² (1, N = 157) = 17.43, p < .001
[40] Incident aggression and MISPER – X² (1, N = 157) = 3.99, p = .046
[41] MISPER and partner agencies – X² (1, N = 157) = 9.50, p = .002
[42] Mental health/behavioural problems and educational issues – X² (1, N = 157) = 8.21, p = .004

- An individual with mental health or behavioural problems was more likely to be known to partner agencies[43], compared to an individual who did not have mental health or behavioural issues.

5.2.5. Family instability

The results of the tests suggest an association between family instability and an individual displaying signs of aggression. Namely, it was found that an individual who had lived away from their parents or had lived in care was more likely to display physically or verbally aggressive behaviour within the primary incident, compared to an individual who had not lived away from parents or in care[44]. Additionally, the results suggest that an individual who had experienced family instability (not including care) was more likely to have been described as generally aggressive previously, compared to an individual who had not experienced this kind of family instability[45]. Children who had suffered from abuse or other welfare concerns were also found to be more likely to have committed prior offences[46].

5.3. Class profiling – LCAs

LCA estimates the probability that individual cases will be part of a class or 'group'. Individuals are assigned to the group for which the probability of membership is highest, but true class membership is unknown. LCA also predicts how individuals will be characterised by each attribute included in the model, based on them being assigned to a particular group, but again individual cases cannot be identified in each group.

An overall LCA was carried out, using all 21 variables from the three individual domains (incident type, prior contact with the police and personal background). The inclusion of a larger number of indicator variables and relatively small sample size may influence the fit of the estimation. Consequently, individual LCAs were conducted for 'Incident Details', 'Prior Contact with the Police' and 'Personal Background'. This allowed a closer examination of the patterning of attributes within

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[43] Mental health/behavioural problems and known to partner agencies – X^2 (1, N = 157) = 4.68, p = .030
[44] Lived away from parents/care and aggressive incident – X^2 (1, N = 157) = 4.30, p = .038
[45] Family instability not including care and general aggression – X^2 (1, N = 157) = 6.05, p = .014
[46] Child abuse and a prior – X^2 (1, N = 157) = 6.80, p = .009

each domain. For each, estimates were created based on different numbers of groups and the most appropriate selected (as outlined in Appendix A). However, the relatively small sample sizes and in particular for the overall LCA, large number of indicator variables, means that these exploratory analyses should be considered indicative only.

Each model includes class-specific probabilities, reflecting the likelihood that individuals within a particular group have a certain 'characteristic'. They also include the overall class membership probabilities, which estimate the proportion of the total sample that a group comprises.

While the statistical evidence did not definitively point to an optimal solution in each LCA, inspection of the model fit statistics alongside theoretical reasoning was used to determine the following findings. The full results of the latent class models and associated statistics are displayed in Appendices B and C.

5.3.1. Combined analysis

All indicators within the coding framework were initially examined together. This overall analysis incident type, prior contact with the police and personal background identified a five-class optimal solution.

▪ Class **one** was the largest class, comprising over a third of the sample. This broadly contained individuals who had not had previous contact with the police but may be known to partner agencies for mental health or behavioural issues, or some form of family instability. Incidents in this class may have been 'one-offs' or not necessarily indicative of escalating risky behaviour.

▪ Class **two**, comprising 17% of the sample, contained individuals with particularly complex needs, who may be particularly vulnerable to becoming involved in knife crime. Young people in this class were the most likely to have lived or be living under care arrangements, and therefore be known to partner agencies. They often displayed aggressive behaviour and were likely to have mental health or behavioural issues and consequently issues in education. Incidents in this class often involved foster parents or carers, or other family members.

▪ In class **three**, which comprised 16% of the sample, incidents were likely to involve a peer of the subject, usually involving some form of aggression, which

may have been threats. Young people in this class were unlikely to have had any contact with the police previously but had a small probability of being suspected or known to associate with gangs. These young people may be susceptible to escalating their behaviour if they are already on the fringes of gangs.

▪ Broadly, individuals in class **four** (14% of the sample) were likely to be suspected of carrying a knife but the presence of a weapon was never confirmed. This suspicion was often the result of the young person having previous weapons offences or associating with known knife carriers. These young people may also be at risk of being exploited or pressured to carry knives by those they are associating with.

▪ Individuals in class **five**, which contained 14% of the sample, were generally the most known to police for various types of offending and probably those already engaging in the most risky behaviour. They were the most likely to be involved in gangs, as well as having complex needs and backgrounds. These incidents also often involved other offences.

5.3.2. Incident type

Following the overall analysis, the three specific domains were examined individually. The first individual model sought to typify the incidents for which individuals came to the attention of Op Met Divan, which gives an indication of the severity of their potential involvement with knife crime. LCA identified a six-class solution was the best fit for the data. The six classes are described below.

Possession involving other offences

▪ Class **five** was the largest class, comprising approximately one third of the sample. Individuals within this class were referred for incidents involving the confirmed presence of a knife or weapon, and could include a range of circumstances including other offences.

Possession involving family members

▪ Class **four**, comprising around a quarter of the sample, contained individuals who came to the attention of the intervention following incidents involving family members or other adults where a knife was present.

Possession involving peers

- In class **three**, which contained over 20% of the sample, individuals were involved in some kind of altercation with a peer where a knife was present.

Suspected weapon carrying

- Individuals in class **one** (10% of the sample) came to the attention of the intervention as they were suspected of carrying a weapon but this was not confirmed. These individuals could have threatened someone, or said that they had a knife or intended to use one, or were searched under suspicion of carrying one.

Other offences and association with (suspected) weapon carriers/gang members

- In class **two**, which contained approximately 6% of the sample, individuals were frequently suspected of carrying a weapon due to associating with someone known to carry knives/weapons or being involved in gangs or dealing drugs, and they were likely therefore searched. Incidents involving individuals in class two often included other offences, so the young person may have been searched as a result of other antisocial behaviour.

Victim or self-harm

- Class **six** was the smallest class, comprising less than 6% of the sample. This class contained individuals involved in incidents of self-harm or incidents where they were the victim. These individuals would usually be ineligible for Op Met Divan.

5.3.3. Prior contact with the police

Analysis of recorded previous contact between the young person and the police identified a three-class solution as optimal.

Minimal prior contact

- Class **three** was the largest class, comprising over three quarters of the sample. It contained individuals who broadly had no previous contact with the police before for any reason.

Moderate prior contact – less likely to be violence/possession based

- In class **two**, which contained just under 14% of the sample, individuals may have committed some 'low-level crime' such as shoplifting or criminal damage, or have come to police attention by being a (frequent) MISPER, but their offending was not as serious as in class one.

Extensive prior contact – violence, possession, gang links

- Class **one** comprised the smallest group of around 8% of the sample. Individuals in this class were those with the most serious offending history and who may already be involved or on the fringes of gangs. Most young people in this group were not selected for inclusion in Op Met Divan as they were deemed no longer suitable for 'early intervention'.

5.3.4. Personal background

When examining the behavioural, educational and familial background of the subjects in the sample, four classes were determined as the optimal solution.

Familial instability

- Comprising over 40% of the sample, class **two** was the largest class, containing individuals with complex needs who were definitely known to partner agencies. They had the highest probability of living under care arrangements.

Minimal recorded instability

- Class **one** comprised around a third of the sample and contained individuals who had no recorded personal issues that had come to police or partners' attention.

Moderate likelihood of instability

- Class **three** contained around a fifth of the sample, and was comprised of young people who may have had behavioural issues at school or home but had not come to the attention of partner agencies.

High likelihood of multiple issues

- The smallest class was class **four**, comprising approximately 5% of the sample. Individuals within class four had a high likelihood of mental health and behavioural issues and were known to partner agencies.

5.4. Outcomes

After being considered by the intervention panel, a decision was made about the suitability of the intervention for each young person referred to them. Within the sample of individuals reviewed by the intervention team:

▪ The intervention was regarded as suitable for just under 30% of subjects. About 70% of the sample were considered unsuitable and were excluded.

▪ Reasons for exclusion were not always explicit but included victim-only incidents; pre-existing support or interventions from other teams or agencies; gang involvement; serious previous offending; incidents still under criminal investigation; and unsubstantiated allegations or unidentified subjects.

Table 6. Sample distribution by outcome

Outcome	No of cases	% of total sample
Included	44	29.9%
Excluded	103	70.1%
Total	147*	100%

*The outcome for 10 cases had not been determined at the point of analysis

Of the 44 young people for whom the intervention was considered suitable:

▪ Home visits were attempted in 24 cases. Contact with the subject was achieved in 16 cases and, in 12 of these, the subject engaged and signed a Knife Crime Notice.

▪ The number of individuals deemed eligible that resulted in a home visit being conducted that was successful and a notice signed equates to 7.6% of those discussed initially at panel meetings.

▪ In just under 20% of cases, a home visit was attempted (often on several occasions) but contact could not be achieved. In these instances a letter was left

for the young person detailing why the police had visited, with signposting to support.

▪ After being considered suitable, the decision was reversed and home visits were cancelled in 13 cases. When given, reasons for this included already implemented or planned alternative actions, for example by Safer Neighbourhoods Team, school or council; unwillingness of parents to agree to home visit; subsequent offending by the subject resulting in the intervention being deemed unsuitable; and movement of the subject to reside outside the intervention area.

▪ At the time of analysis, home visits had been scheduled but not yet conducted in seven cases.

Table 7. Outcome of cases considered suitable for Met Divan

Final outcome	No of cases	% of sample*
Home visit conducted – Engaged – Knife Crime Notice signed	12	27.3%
Home visit conducted – Did not engage	4	9.1%
Home visit conducted – No reply, letter posted	8	18.2%
Home visit **not** conducted	13	29.5%
Home visit scheduled	7	15.9%
Total	44	100%

*percentage of total considered suitable for intervention

6.   Discussion

Findings from this part of the Op Met Divan evaluation provide rich information around young people for whom early intervention around knife or weapon possession was considered. A deeper understanding of the personal and family backgrounds, as well as the incidents for which they come to the attention of the police, can provide valuable insights for practitioners undertaking preventative work around knife crime.

The Op Met Divan panel meeting looks in detail at all available information on each young person, both held by the police and partners. This 'wraparound' look at a young person's circumstances presents an opportunity to examine risk and consider appropriate interventions. Often when a young person is deemed unsuitable to receive Op Met Divan, it is because there are other measures in place, either other interventions, safeguarding arrangements, or sometimes that the individual is already engaged with the YOT. Given that at present only 7.6% of those initially discussed at a panel meeting result in a successful home visit, it is worth considering whether the opportunity to look at this large group of vulnerable children could present more opportunities for the identification of appropriate interventions beyond Op Met Divan alone. A lot of resource goes into understanding and discussing these young people, and it is key to understand whether this information is harnessed and acted on as well as it could be.

The analysis conducted also presents an opportunity to consider the varying risk associated with different incidents and young people with different backgrounds. The findings suggest there are diverse groups of young people with varying needs that may be best approached in different ways. The group of individuals who already had a significant offending history were the most likely to be excluded from the intervention, as the panel felt there were sufficient other measures in place. Those who have very complex needs may be receiving intervention from partners but may be some of the most vulnerable to being exploited or brought closer to knife crime and warrant further monitoring. Those where individuals had little or no prior contact with the police and no known personal issues may be 'one-off' incidents and should in theory be the 'most suitable' for this type of early intervention.

As previously mentioned, the LCA analysis used in this report predicts how individuals may be characterised by each attribute included in the model, but individual cases cannot be identified in each class. Until there is a larger sample it is also not possible to examine how class membership in any domain may determine inclusion or exclusion from the intervention. Further analysis would also benefit from enhanced data management by the intervention team and a more systematised approach to recording young people's characteristics and backgrounds. This could improve oversight of cases and help identify patterns and emerging risk.

7.   Conclusions

The analysis in this report has shown that there is not a homogenous group of young people at risk of becoming involved in knife crime, and that the incidents involved and backgrounds of young people are complex and varied. These findings suggest it is important to consider how best to tailor different responses to these groups based on their needs and risks. What this evidence suggests is that the young people at the edges of knife crime and at most risk of engaging in risky behaviour have extensive vulnerabilities and experience multiple disadvantages.

Analysis in this study indicated that family-related incidents were more likely to concern individuals who had a history of behavioural issues and who were more likely to engage in risky behaviour. In contrast, peer-related incidents were often committed by individuals who were less likely to have a previous offending history or behavioural issues, and the incidents could perhaps be 'one-offs'.

Individuals who had previously been reported as being aggressive (usually by a parent/carer) were found to be more likely to have committed prior offences, including violence or weapon possession, and these individuals were more likely to be known to partner agencies. Children who had experienced family instability, including abuse or other welfare concerns, were found to be more likely to have committed prior offences. Again these findings were echoed in the combined LCA, where one group of incidents was characterised by the presence of a family member and displays of aggression by the subject, and the young people in this group were likely to have had contact with the police for prior offending. They were likely to be known to partner agencies and have experienced family instability.

From what we know about motivations for weapon carrying (self-protection and fear, self-presentation or utility; see 3.1.1), we can draw some parallels with the characteristics identified in the analysis. Those carrying knives for 'self-protection and fear' may be those who have previously been a victim of crime, or who are on the edges of gangs, and may have been found in possession of a knife without necessarily having any intention to use it. Those who carry for 'self-presentation' or to conjure respect or status may make threats or talk about having a weapon when they may not even be in possession of one, and therefore may be suspected of carrying a weapon. These young people may be particularly vulnerable as a lack of

access to alternative means of achieving status may lead to escalating risky behaviour. Those who carry for 'utility', or to facilitate other crimes, are most likely to have been committing other crimes at the time they were found with a weapon, or may already have an offending history.

Overall, young people referred to the intervention were more likely to have experienced behavioural, educational or familial issues than to have had prior police contact or a serious offending history. This suggests that Operation Met Divan is predominantly receiving early intervention referrals for young people who may be at risk of weapon carrying but who have not yet become too involved in the criminal justice system. Intervening at this moment is key as we know that the more a young person becomes involved in the criminal justice system, the harder it is for them to remain in mainstream education. Exclusion from school and low educational attainment are risk factors for committing violent crime in later life (Hales and others, 2006; Home Office, 2018).

In the domains including young people's personal backgrounds and prior police contact, there were small minorities at the 'extreme' end of these spectrums, and these young people may need the most complex support. Op Met Divan is possibly not the right intervention for these young people as it primarily focuses on prevention rather than addressing offending once it has begun. There are also large groups of young people with minimal offending history or background issues that would preclude them from inclusion in the intervention, and Op Met Divan can focus its attention on these young people.

The young people who come to the attention of this intervention experience a number of risk factors associated with weapon carrying and serious violence in later life. Early intervention with these individuals is important to prevent an escalation of violent behaviour. In particular, many young people have experienced serious family instability and suffer from mental health issues. Some have been excluded from school either temporarily or permanently, and these factors combined mean they are vulnerable to exploitation and becoming further involved in knife crime.

Op Met Divan attempts to intervene with these young people at the earliest available opportunity and uses a range of data sources and partners to help identify those most in need of support. This method of drawing on multiple sources to understand

the circumstances and characteristics of target groups or individuals could be used in other areas of policing.

8.   References

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9.   Appendix A – additional methodology details

9.1.   Further information on LCA approach

A combination of model fit and theoretical reasoning was used to identify the optimum number of classes. In LCA, there is not an agreed on single fit index for use in enumerating classes. Instead, two goodness of fit estimators, the Bayesian Information Criterion (BIC) and Akaike's Information Criterion (AIC) assess the optimum number of groups based on appropriate improvement criterion to maximise the distance between groups and minimise the variance within groups. Practically, this means classes contain individual cases that have a similar 'profile' of probabilities, but the classes themselves are distinct from each other. However, the lowest BIC and AIC do not always point to the same solution/converge on one single model. While BIC is usually preferred over AIC in latent class models, neither should be relied on exclusively to decide which model is the 'best'. It is recommended that the choice of classes is guided by these values, but also based on meaningful interpretation, explanation or theory. By combining the statistical fit indices and substantive interpretability, it is possible to approximate the 'best' number of classes.

Initially, one LCA was run, incorporating all variables from within the coding framework. However, as a result of the large number of variables, the outputs produced were highly complex and an optimal number of cases was particularly difficult to identify. As LCA seeks to analyse different aspects of the same phenomena, a decision was made to divide the parameters and conduct separate LCAs for each domain of variables. This resulted in three additional LCAs (alongside the original LCA containing all variables). These LCAs were based on the characteristics of the incident for which the subject was referred to Met Divan; the subject's previous contact with the police; and behavioural, familial or educational instability (for example, if they have been temporarily or permanently excluded from any schools).

9.2.   Further information on the collapsing of codes

The following codes were collapsed, and the coding of individual cases adjusted to reflect this.

- 'Incident type: stranger' and 'Incident type: adult known to subject' became 'Incident type: stranger/adult' (each original code only applied to a small number of cases).

- 'Incident type: self-harm' and 'Incident type: victim only' became 'Incident type: self-harm/victim' (each original code only applied to a small number of cases). These cases were picked up because of the involvement of knives, though they were unlikely to be suitable for the intervention.

- 'Aggressive or destructive behaviour' (within the current incident) 'at school'; 'at home'; and 'in public' were combined and coded as 'Incident aggression'.

- 'General aggressive or poor behaviour' (not within the current incident) 'at school'; 'at home'; and 'in public' were combined and coded as 'General aggression'.

- 'Prior offences – drugs'; 'Prior offences – criminal damage'; 'Prior offences – theft'; and 'Prior offences – other' were combined and coded as 'Prior offences – other'. As known risk factors for weapon carrying, offending history involving violence or possession ('Prior offences for violence' and 'Prior offences for possession') remained separate from other previous offences.

- 'Education issues' – 'not in education'; 'exclusion'; 'bullying'; and 'other' were combined and coded as 'Education issues'.

- 'Unstable family background' – 'domestic abuse'; 'child abuse'; 'housing instability'; 'parental criminality'; 'allegations from others'; 'traumatic family incident'; and 'other instability' were combined and became 'Unstable family background – other'. Living away from parents, which most often related to the subject having been in care or sometimes living with another family member, has previously been identified as a risk factor for carrying weapons and therefore remained separate from other forms of family instability.

10.   Appendix B – LCA groups

10.1. Combined analysis

Class	Percentage of sample	Description
1	37	Incidents were typified by the possession of a knife or weapon and had a moderate probability of involving other offences. Individuals within this class were unlikely to have had previous contact with the police, though there was a modestly elevated probability of subjects having experienced previous victimisation. In relation to their personal background, young people within class one had elevated probabilities of having mental health issues, behavioural or learning difficulties and educational issues, and a modest likelihood of being known to partner agencies and having experienced family instability, relative to the other classes.
2	17	Incidents were predominantly characterised by the presence of a family member and displays of aggression by the subject. There were also substantially elevated probabilities for the confirmed presence of a knife or weapon and, relative to other classes, an elevated probability of the incident involving a stranger/adult (not family member) known to the subject. There was a modest probability that individuals within this class had experienced previous contact with the police as a result of prior offending (violence, possession and other offences), and an elevated likelihood that they had been reported missing on at least one previous occasion. The personal backgrounds of young people in this class were typified by being known to partner agencies. Relative to other classes, there were elevated probabilities that they were living away from their biological parents and had mental

Class	Percentage of sample	Description
		health issues, behavioural or learning difficulties as well as issues within education. A moderate probability for general aggression and other family instability was also present in this class.
3	16	Incidents were typified by the involvement of a peer of the subject, with elevated probabilities for the presence of a knife or weapon and displays of aggression by the subject. Individuals within this class had a modest probability of having links to gangs or gang members, but were unlikely to have had contact with the police as a victim or offender. Their personal backgrounds were generally stable, though there was a modest probability that young people in this class were living away from their biological parents.
4	14	Incidents within this class were characterised by the suspected carrying of a knife or weapon (as opposed to the confirmed presence), as well as the involvement of other offences. Relative to other classes, individuals within class 4 had elevated probabilities for being considered to be associated with other known or suspected knife carriers or involve self-harm by, or victimisation of, the subject. However, due to the rarity of this latter characteristic within the sample, it was not a dominant characteristic of the class. Individuals in this class had a modest probability of having previous involvement in weapons offences, but were unlikely to have had any other previous contact with the police. Other than a modest probability for being known to partner agencies, young people within class four were unlikely to have experienced personal, educational or familial issues in general.

Class	Percentage of sample	Description
5	14	Incidents were characterised by the suspected carrying of a knife or weapon. There was an elevated probability that incidents within this class involved the confirmed presence of a knife or weapon, though this was lower than class 1, 2 and 3. Incidents also had a moderate probability of involving other offences. In comparison to the other classes, young people within class 5 were the most likely to have had previous contact with the police, with elevated probabilities for prior victimisation and prior offences (violence, weapons and other offences). They also had elevated probabilities for gang links and for having previously been reported as a MISPER. In relation to their personal background, they had sharply elevated probabilities for being known to partner agencies, previously demonstrating displays of aggression and experiencing family instability, as well as elevated probabilities for mental health, behavioural or learning difficulties and issues within education.

10.2. Incident type

Class	Percentage of sample	Description
1	9.6	**Suspected weapon carrying** Incidents within this class were predominantly characterised by the suspected (rather than confirmed) presence of a knife or weapon.
2	6.4	**Other offences and association with (suspected) weapon carriers/gang members** Incidents had an elevated probability of involving the suspected existence of a knife or weapon rather than a definite presence, though this likelihood was moderate compared to class 1. Incidents in class 2 were typified by reported associations between the subject and others believed or known to carry knives/weapons, or to be involved in gangs or dealing drugs. There was also a substantially elevated probability that incidents in class 2 involved other offences.
3	21	**Possession involving peers** Incidents had an elevated probability of involving the confirmed presence of a knife or weapon. Incidents within this class were typified by the involvement of a peer of the subject and had a moderate probability that the subject displayed verbal or physical aggression.
4	24	**Possession involving family members** This class was similar to class 3 in that there was a substantially elevated probability that incidents within this class involved the confirmed presence of a knife/weapon. However, incidents in class 4 also had a substantially

Class	Percentage of sample	Description
		elevated probability of involving a family member(s) of the subject, as well as a display of verbal or physical aggression by the subject. Relative to the other classes, incidents in class 4 also had an elevated probability of involving a stranger/adult (not family member) known to the subject, though due to the rarity of this characteristic within the sample, this was not a dominant characteristic of the class.
5	33	**Possession involving other offences** Incidents in this class were typified by the confirmed possession of a knife or weapon. Incidents in this class also had a modest probability of the involvement of other offences.
6	5.7	**Victim or self-harm** This was the only class to be defined as self-harm or victim-only incidents. Incidents within this class also had elevated probabilities of involving family member(s) of the subject and the confirmed possession of a knife or weapon, though this likelihood was less than for other classes.

10.3. Prior contact with the police

Class	Percentage of sample	Description
1	8.1	**Extensive prior contact – violence, possession, gang links** Young people within this class had substantially elevated probabilities for having previously committed violence-based, possession of weapons or other offences. They also had an elevated probability of having previously been a victim of crime. They were typified by their association or links with gangs or gang members, and had a moderate probability of having been the subject of at least one previous MISPER report.
2	13.7	**Moderate prior contact – less likely to be violence/possession based** Subjects in this class had a substantially elevated probability of having been reported as a MISPER on at least one occasion. They had a moderate probability of prior criminality involving violence or possession, and an elevated probability of having committed other offences. They also had a moderate probability of having previous experienced victimisation.
3	78.3	**Minimal prior contact** Individuals within this class had negligible probabilities for previous contact with the police, across all variables in the data – previous victimisation, prior offences, gang links or MISPER reports.

10.4. Personal background

Class	Percentage of sample	Description
1	32.4	**Minimal recorded instability** Individuals in this class had negligible probabilities for having experienced behavioural, educational or familial issues, across all variables in the data.
2	41.7	**Familial instability** Individuals within this class were typified by being known to partner agencies. Relative to the other classes, young people within class 2 had an elevated probability of living away from their biological parents or in care. They also had an elevated probability of experiencing other forms of family instability and a modest probability of having mental health, behavioural or learning difficulties.
3	20.5	**Moderate likelihood of instability** Young people in this class had an elevated probability of having experienced family instability and had a moderate probability of experiencing mental health, behavioural or learning difficulties, as well as educational issues.
4	5.4	**High likelihood of multiple issues** Individuals in this class were typified by having previously exhibited aggression, having issues within education and being known to partner agencies. They also had substantially elevated probabilities of experiencing mental health, behavioural or learning difficulties and forms of family instability (not including living away from their biological parents or in care).

11.   Appendix B – LCA figures

The graphs present class specific probabilities for each domain. The X axis represents the characteristics in the model and the Y axis represents the probability of an individual having each characteristic, given that they have been assigned to the class specified in the key.
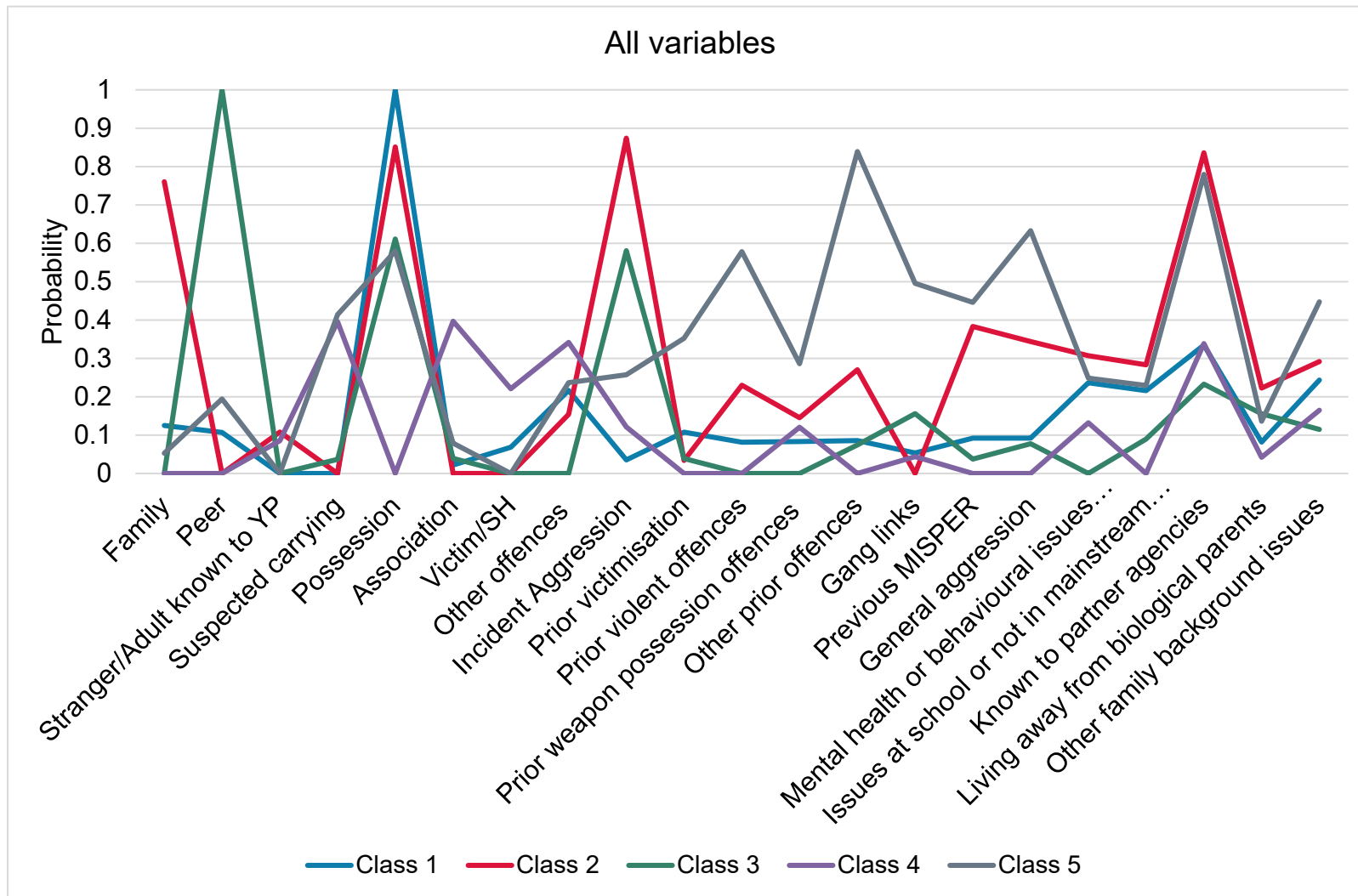
11.1. All variables

rawLCA=cbind(Family, Peer, Stranger_Adult, Susp_carry, Possession, Association, Victim_Selfharm, Other_offence, Incident_aggressionYN, Prior_victimisationYN, Violencepriors, Possessionpriors, Other_priors, GanglinksYN, MISPERYN, General_aggressionYN, MH_BehaviourLearning_difficultiesYN, Education_issuesYN, Known_Partner_AgenciesYN, Living_away_from_parents, Combined_DAx2_CA_Other)~1

LCA_5class <- poLCA(rawLCA, LCA_Divan, nclass=5, maxiter=5000, tol=1e-5, na.rm=FALSE, nrep=100, verbose=TRUE)

probs.start<-poLCA.reorder(LCA_5class$probs.start, order(LCA_5class$P,decreasing=T))

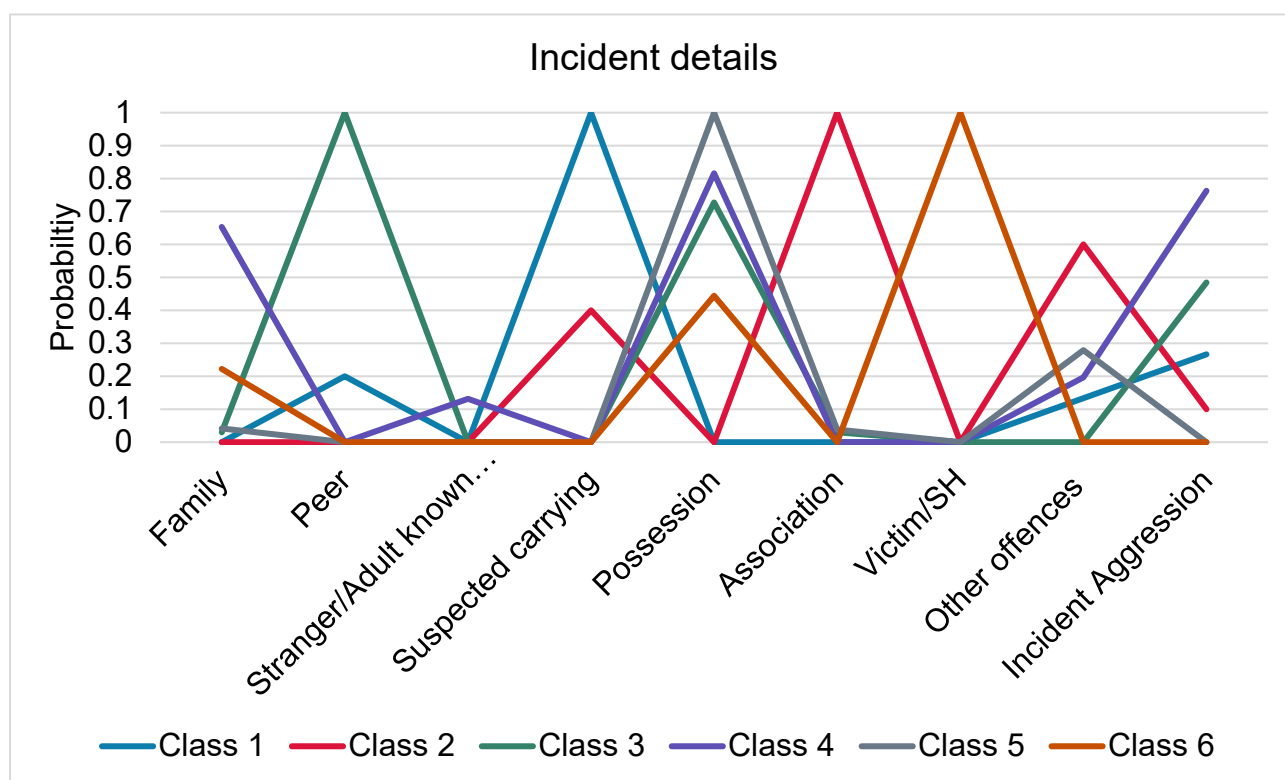LCA_5class_final<-poLCA(rawLCA, LCA_Divan, nclass=5, probs.start=probs.start)

All variables

11.2. Incident details

rawLCA=cbind(Family, Peer, Stranger_Adult, Susp_carry, Possession, Association, Victim_Selfharm, Other_offence, Incident_aggressionYN)~1

LCA_6class <- poLCA(rawLCA, LCA_Divan, nclass=6, maxiter=10000, tol=1e-5, na.rm=FALSE, nrep=100, verbose=TRUE)

probs.start<-poLCA.reorder(LCA_6class$probs.start, order(LCA_6class$P,decreasing=T))

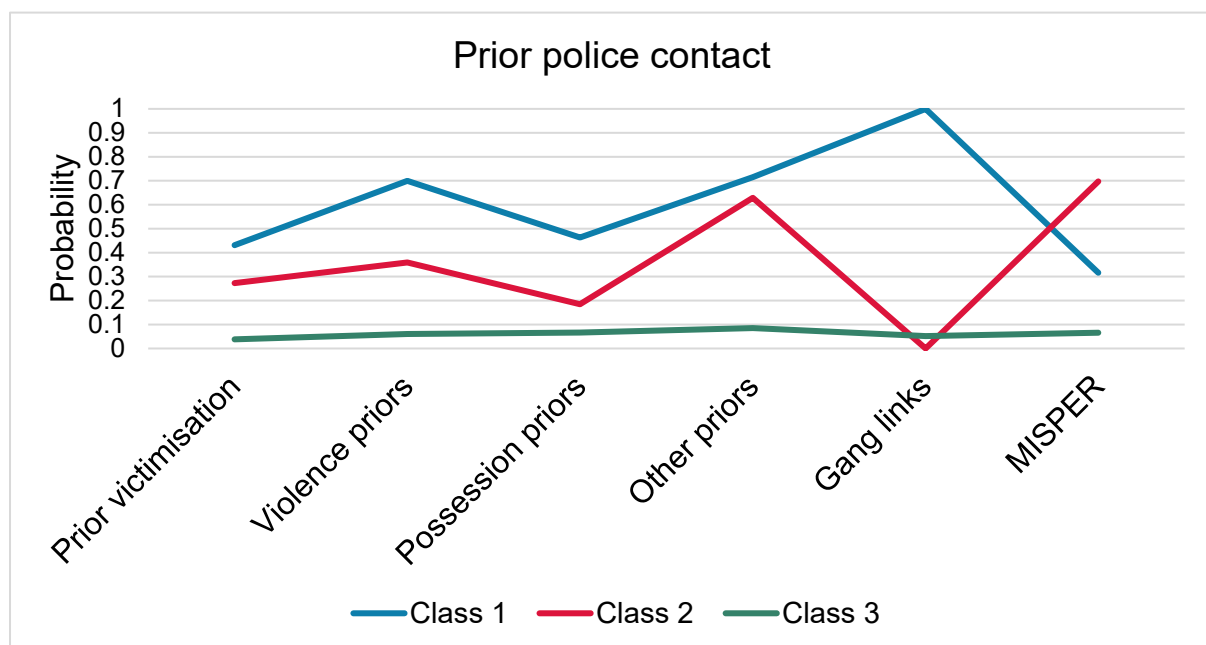LCA_6class_final<-poLCA(rawLCA, LCA_Divan, nclass=6, probs.start=probs.start)

11.3. Prior contact with the police

rawLCA=cbind(Prior_victimisationYN, Violencepriors, Possessionpriors, Other_priors, GanglinksYN, MISPERYN)~1

LCA_3class <- poLCA(rawLCA, LCA_Divan, nclass=3, maxiter=10000, tol=1e-5, na.rm=FALSE, nrep=100, verbose=TRUE)

probs.start<-poLCA.reorder(LCA_3class$probs.start, order(LCA_3class$P,decreasing=T))

LCA_3class_final<-poLCA(rawLCA, LCA_Divan, nclass=3, probs.start=probs.start)

11.4. Personal background

rawLCA=cbind(General_aggressionYN, MH_BehaviourLearning_difficultiesYN, Education_issuesYN, Known_Partner_AgenciesYN, Living_away_from_parents, Combined_DAx2_CA_Other)~1

LCA_4class <- poLCA(rawLCA, LCA_Divan, nclass=4, maxiter=10000, tol=1e-5, na.rm=FALSE, nrep=100, verbose=TRUE)

probs.start<-poLCA.reorder(LCA_4class$probs.start, order(LCA_4class$P,decreasing=T))

LCA_4class_final<-poLCA(rawLCA, LCA_Divan, nclass=4, probs.start=probs.start)

Personal background
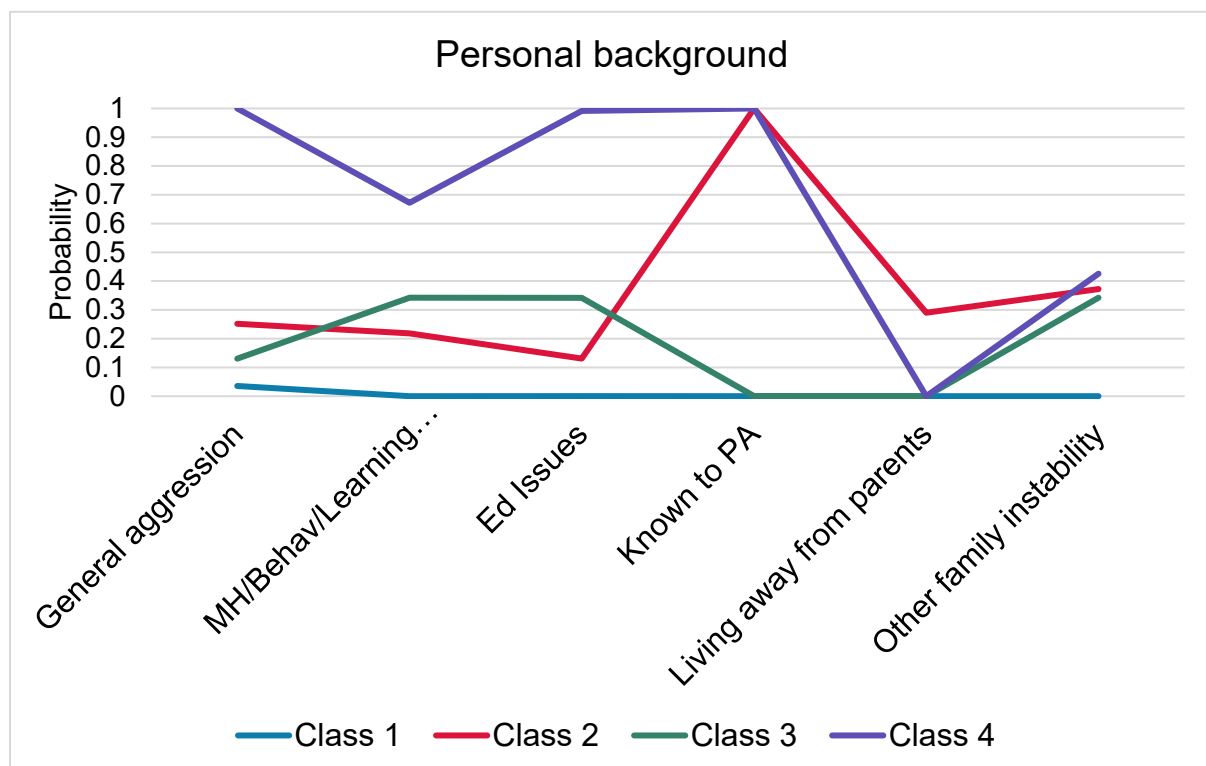
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