Scanning – problem solving to tackle knife crime

Problem solving begins with scanning to find a specific knife crime problem that affects the community that the police can do something to address.

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Problem solving begins with scanning. The purpose of scanning is to home in on a specific knife crime problem.

- **Find out more about scanning**

This section of the guide has two parts.

1. The first part describes the kinds of knife crime problems that are suitable for problem solving.
2. The second part introduces some of the ways in which knife crime problems might be patterned and reviews the data and intelligence that might be drawn on when scanning for knife crime problems.

Knife crime problems that are suitable for problem solving

Selecting a suitable knife crime problem

Knife crime is one of an array of issues that the police are expected to handle. But not every issue that is brought to the police's attention will benefit from a problem-solving approach. Problems, in a problem-solving sense, refer to clusters of related and persistently reoccurring incidents that harm the community and that the police should, and feasibly can, do something about (Eck J, 2003).

Problem solving is not about responding to one-off incidents. Nor should problem solving be directed at broad societal factors, such as poverty and inequality, which may be implicated in knife crime but clearly fall outside of the police remit.

A problem-solving approach is similarly not appropriate for a rare event that is unlikely to repeat. For example, a murder in a small village with no history of knife crime and very low risk of further

incidents will require a police investigation and may need work to reassure the public. It probably does not need proactive knife crime prevention work of the sort described in this guide. Instead, your problem-solving efforts should focus on recurring issues that cause tangible harms to communities and where targeted police efforts can do the most good.

The acronym CHEERS (community, harm, expect, events, recurring and similar) was developed to help determine whether a problem is suitable for problem solving (Clarke and Eck, 2003).

- **Learn about the CHEERS test**

Selecting a specific knife crime problem

Knife crime might well meet all of the CHEERS criteria, but it is too broad a problem to solve from the perspective of problem solving, for the reasons given above. Knife carrying and use in and around bars is, for example, likely to have quite different causes and have different timing, location, victim and perpetrator patterns to, for example, knife-enabled robberies.

How can we start breaking down the broad category of knife crime into specific knife-related problems that are suitable for problem solving?

Presented below are two lists.

The first list outlines five broad categories of knife use.

They are knife use:

- associated with the drugs trade
- in domestic violence
- in robbery
- in conflict within and between gangs and groups
- in conflicts between individuals

The second list outlines six different aspects of knife crime that would constitute a suitable focus for your problem-solving efforts.

These aspects are:

- the availability and accessibility of knives
- the locations where and when knives tend to be used
- those liable to carry and/or use knives
- those likely to become victims of knife crime
- the circumstances leading up to knife crime
- the groups within which knife carrying and use is commonplace

Combining aspects of the two lists together with one or more places and times should produce a sufficiently precise, well-defined problem for the purposes of problem solving, such as:

- knife-enabled robberies of secondary school children in the period after schools have closed
- knife carrying among 18 to 21 year-olds on a housing estate
- illegal markets in knives in local pubs

Describing how your local knife crime problem is patterned

Once you have identified and clearly defined your local knife crime problem, it is important to look at how the selected problem is patterned. Problem solving draws heavily on the principle that crime is highly concentrated: a small number of people and places experience a large proportion of all crime (Farrell, 2015). Targeting preventive efforts at crime concentrations is a core plank of police problem solving, and has repeatedly been shown to be an effective and efficient use of resources (Braga and others, 2019), (Telep and Hibdon, 2019)

Knife crime patterns describes some of the main ways in which crime is often found to concentrate. Good scanning involves checking to see if your own selected knife crime problem conforms to these patterns. Doing so can inform the development and targeting of your response. It can also provide insights into why your selected problem persists.

For example, while the number of overall knife-related crimes in a given area may not change, there may be noticeable changes in the places in which they are happening, such as an increase in knife crime in and around bars or cash machines, thereby indicating the emergence of a new problem.

Alternatively, changes in the characteristics of victims of knife crimes may tell you about an emerging hate crime or the organised targeting of elderly victims. The types of weapon that are being detected by police officers or hospital records can also be informative.

America provides a useful lesson here. The availability of handguns in the US was relatively low in the 1970s. As the crack epidemic developed, drug-related violence led to more availability and use of handguns. Gradually, the use of handguns spread from the high-crime inner city areas where drug violence was common, towards the lower-crime suburbs.

Knife crime patterns

Common examples of problem concentrations that should be looked for when scanning for patterns of knife crime include the following:

- Repeat offenders – a small proportion of offenders are responsible for a high proportion of all knife crimes and their associated harms (Tilley, 2016).
- Repeat groups – a small proportion of groups are responsible for a high proportion of all knife crimes and their associated harms.
- Repeat victimisation – a small proportion of victims experience a high proportion of all knife crimes (Grove and others, 2012), (Weisel, 2005).
- Hotspots – a small number of locations account for a high proportion of all knife crimes.
- Hot times – offences tend to be concentrated at particular times of the day and days of the week.
- Hot knives – certain types, makes and models of knives account for a high proportion of all knife crimes.
- Victim and offender overlaps – in many violent crimes, victims and offenders share similar characteristics (such as age, gender, criminal background and membership of criminal groups). Similarly, those who carry and/or use knives are typically at higher risk of being victims of knife crime.

Data and intelligence sources for knife crime problem solving

Those working on knife crime in your local area will often have a good sense of the ways in which knife crime is patterned, but it is always worth checking the data. Impressions based only on personal experience can sometimes be misleading. Moreover, some patterns are not always

obvious because of the ways in which crimes are recorded. There are many sources of data and intelligence that can help in identifying how your local knife crime problem is patterned. Here we provide an overview of the different types of data you might consider using when problem solving. These are summarised in Overview of data relevant to problem solving knife crime.

Police knife crime data

Multiple police systems can be useful in understanding your local knife crime problem. Most obviously, the crime recording system will hold details of crimes involving knives. However, the quality of analysis based on police-recorded crime data is only as good as the quality of the information recorded by officers. If the design of a system makes it easy for officers to forget to add a knife crime ‘flag’ to an incident, it is likely that the system will show an incomplete picture of the scale of knife crime.

Depending on the reliability of the data you receive, you may want to audit incoming crime reports to identify knife-related offences that have not been flagged. This can be achieved through a keyword search for terms like ‘knife’, ‘blade’ or ‘sharp’. This work can be time-consuming but helps create a more robust foundation both for understanding knife crime in your local area and for tracking your progress over time.

Working in this way also makes it possible to add custom flags that are not built into your data recording system. For example, if you are concerned about knife crime in the night-time economy or at unlicensed music events, you could add a flag for those types of knife crime incidents.

Incident recording (command and control) systems can help fill knowledge gaps by providing details of incidents that, for whatever reason, did not lead to a crime being recorded. For example, a third-party call from a resident reporting a person threatening a child with a knife in a local park might not lead to a crime being recorded if no-one was present when police arrived at the scene, but would still be useful information when problem solving.

Likewise, intelligence databases can hold information relevant to problem solving. For example, neighbourhood policing officers might be tasked to understand and report on tensions between different gangs that are recorded in intelligence databases.

Property management systems can also be a useful source of information about the types of knives seized by police in different circumstances. This might show, for example, whether the types of

knives being discovered in knife sweeps or stop and search programmes are the same as those being used in knife crime.

Non-police knife crime data

It is well-established that much violence is not reported to the police and does not appear in police data (Sutherland and others, 2021). Violence in and around the nighttime economy, which is often handled informally by door staff, is a prime example. That said, the public generally regard violence with a weapon as serious and more worthy of police attention than other forms of violence (Brennan, 2016).

As a result, it is estimated that around 70% of violence that involves a knife is reported to the police and this is particularly true if someone is injured (Brennan, 2019). Despite this, police data alone will seldom provide a complete picture of your local knife crime problem. When problem solving, it is therefore important to find ways to triangulate the information available in police records with that from other sources.

This may include the following non-police data sources.

Ambulance data

Ambulance data often has location and time information, as well as information about the type of injury and circumstances of an incident. Anonymised incident records from the ambulance service may be useful for understanding when and where particular types of knife crime occur, such as those where injuries have been caused, since ambulances are likely to have attended the scene of the incident (although not in every case). Ambulance data will be limited to more serious knife crime incidents, but its accuracy tends to be high.

Hospital attendance data

Because around 25% of violent incidents involving a knife results in medical treatment, many victims will visit a local hospital emergency department (Brennan, 2019). Your local hospital may participate in the Information Sharing to Tackle Violence (ISTV) scheme, sometimes referred to as the Cardiff Model, whereby all patients with an injury are asked about the circumstances of how the injury occurred (NHS Digital, 2019). This information can include the timing and location of the

violent incident and, if a weapon was used, the weapon type. Your local hospital may have an arrangement to share this data with the police once it has been anonymised.

Hospital admission data

Hospital admission data is potentially a good source of information about the types of violence happening in an area and can be a valuable complement to police data. All hospitals collect and record data on admissions, which will indicate if a patient presents with a knife (or gunshot) injury.

The General Medical Council advises doctors that, where appropriate, the police should ‘usually be informed when a person presents with a wound from an attack with a knife, blade or other sharp instrument’ (General Medical Council, 2019). All hospital admissions are recorded in Hospital Episode Statistics and given a specific code that indicates the reason for admission, such as ‘X99: Assault by sharp object’.

In England, this information is controlled by NHS Digital. In Wales, it is controlled by NHS Wales. Hospital admissions data can take several months to be processed and does not include location or incident time data, so it is not appropriate for immediate scanning. However, it can be a valuable source of information about trends in larger areas.

Primary data

The examples above are all secondary data sources, as they are collected by someone not involved in your specific problem-solving project. Secondary data sources are useful for better understanding your identified problem, but they may not answer all your questions. Good problem solving sometimes involves collecting primary data to plug knowledge gaps. Primary data for the purposes of this guide relates to data collected by those doing the problem solving, again with the express purpose of helping work out what is causing a presenting knife crime problem and what might be done to address it.

Forms of primary data collection that might assist knife crime problem solving include:

- visits to the places where knife crime is shown to concentrate
- interviews and focus groups with young people believed to be involved in knife crime
- interviews with retailers identified as playing a part in the sale of knives used in crime

- surveys of local residents to gauge community confidence and/or their perceptions and experiences of knife crime interventions
- reviews of case files and interviews with investigating officers involved in knife crime in your local area

Overview of data relevant to problem solving knife crime

Source of data	How it might be used when problem solving knife crime
Police crime data	Crime data is likely to be the largest volume and most in-depth source of information available in any given jurisdiction regarding knife crime. Crime data contains many variables useful for problem solving trend analysis, identification of space-time patterns, characteristics of victims, offenders and locations. Detailed free-text data drawn from victim or witness accounts and offender interviews as part of investigative work can also be useful for understanding narratives around knife crimes, how they unfold and whether they recur among specific individuals or groups. Exploration of this data can assist in grouping similar or recurring types of events to focus on specific problems involving the carrying, use or threat of knives.

Source of data	How it might be used when problem solving knife crime
Police call data	Call data is useful for understanding the space-time distribution of events involving knives, particularly those requiring priority and immediate police response. Call-handling systems can be searched for relevant key terms, such as ‘knife’, ‘blade’, ‘stabbing’ or ‘slash’. Some systems may even have opening or qualifying codes for knife-involved events. Call data may also include incidents not otherwise captured elsewhere in police data that can help build a better understanding of your local knife crime problem (for example, reported incidents where the parties involved cannot be traced on police arrival).
Police stops data	Stop-and-search data can provide details of the people involved in knife crime and weapon carrying, and can help you to understand the types of weapons routinely being seized and where on the body they were concealed. While patterns of stops reflect patterns of police activity as much as patterns of crime, search data can still be useful.

Source of data	How it might be used when problem solving knife crime
Police intelligence	Police intelligence reports can provide large volumes of free-text information. This can include information about who is carrying knives, where they are getting the knives from and where knives are stored, as well as information about related crimes (such as drug use or dealing) and peer relationships (such as gang offending or county lines). Sometimes, there will not be the time or resources to read every intelligence report when problem solving, but analysts can help by keeping track of relevant reports as they are submitted and collating them for later use. Frontline officers can help this process by remembering to use relevant flags or markers when submitting reports. Some knife crime problems, especially those related to drug supply or gangs, might also involve the exploitation of vulnerable people. If so, there might be useful information held in police systems for recording concerns about vulnerable adults or children, as well as reports of missing persons.

Source of data	How it might be used when problem solving knife crime
Police property management	Police property management databases can be used to analyse the type of knives recovered by police and assess for any differences in trends between event types and circumstances. For example, the types of knives found in possession offences may differ to those used in serious violence. This is important to know when problem solving – for example, if police stops are being used to prevent violence but are only recovering knives that are unlikely to be used in violence. Property data may contain significant variation in the level of detail captured.

Source of data	How it might be used when problem solving knife crime
Health data	When considering violent injury involving the use of knives or sharp objects, ambulance call-out data provides a harm-based source of information with reliable geographic and temporal data and long-term time series. Emergency department data provides a similar source of information, although may be of marginal value to problem solving in cases where volumes are exceptionally low (on average, there is less than one record per month per community safety partnership area in England and Wales), and there is inconsistent data quality (especially if hospital staff do not know where an incident occurred). Work with emergency departments may be needed to improve data collation before it can be useful for problem analysis (Giacomantonio and others, 2014).

Source of data	How it might be used when problem solving knife crime
Local authority data	Local authority departments often have information that may contribute to problem solving. In relation to knife crime, trading standards may hold records of complaints and outcomes of inspections or enforcement visits of businesses concerned with the sale of prohibited items. They may actively undertake age-related test purchases for knives and sharp objects. In some areas, street cleansing services may hold data on sharp objects, including knives, which have been removed and discarded following resident complaints. This may include identification of locations where potential weapons have been found concealed in communal areas or public spaces. Education departments hold information on pupil behaviour and can provide access to speak directly with schools. There may be concerns about weapon carrying or the discovery of weapons on pupils that may not have been brought to police attention.

Source of data	How it might be used when problem solving knife crime
Other	Offender management datasets based on assessments of those charged with knife crimes can provide information on the supposed reasons why individuals carry or use knives. This includes understanding the most frequent types of support required during interventions (for example, substance misuse, mental health, financial support). Such information may be useful when thinking about developing interventions to support and manage at-risk individuals. However, this data represents only a small proportion of offenders who were charged and convicted. When narrowed to knife use, it may provide extremely small samples. If a knife crime problem is concentrated in a privately managed public space, such as a school or university campus or a shopping centre, those organisations may hold records of incidents or of concerns reported by their own staff, as well as having access to CCTV or data from access-control systems that might help understand the problem in that area. Likewise, if your problem occurs in an area partly covered by another police force (either a neighbouring force or a specialist force, such as transport or port police), they may hold data that can help you generate a more complete picture of your local knife crime problem.

Scanning checklist

Although there is a logical sequence to the SARA process, in practice, good problem solving is often not linear. Analysis may lead to redefinitions of the problem and a return to scanning, responses may need tweaking that calls for further analysis, and assessments may indicate that a problem remains, suggesting that the process needs to be started again.

Consequently, when working through the SARA model, treat the different elements as fluid, and be willing to revisit earlier stages as new information emerges and modifications are required.

That said, there are certain general requirements that should be met before moving through the different stages of SARA. The checklist below is designed to help ensure that those requirements have been met before proceeding from scanning to analysis.

1. Have you identified a specific knife crime problem?
2. Does your identified problem meet the CHEERS criteria?
3. Have you established the extent and trend of the identified problem?
4. Have you identified ways in which your selected knife crime problem is patterned, considering place, time, offenders, victims and the knife itself?
5. Have you explored different data sources to better understand the extent, patterns and harms of the identified problem?

If the answer to any of these questions is ‘no’, continue scanning. Once the answer to all of these questions is ‘yes’, you can move onto the next phase of SARA – Analysis.

Go to analysis

Video Transcript

You can follow a simple checklist to help you ensure your problem meets all requirements before proceeding from scanning to analysis.

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5. Have you explored different data sources to better understand the extent, pattern and harms of the identified problem?

If the answer to any of these questions is no, continue scanning.

Once the answer to all these questions is yes, you can move onto the next phase of SARA, analysis.

Tags

Knife crime