Innovation

How gathering information about violence-related presentations at emergency departments can help reduce cases of community violence

Using A&E data to prevent violence in communities

Keywords: Violence/Alcohol/Cardiff model
This article has been double-blind peer reviewed

In this article...
- The impact of violence on communities
- Why emergency departments are the ideal place to identify trends that can prevent violence in communities
- How to use an algorithm to collect assault data

Author Clare Dines is operational lead in the South East supporting implementation of the assault data-sharing initiative, a registered nurse, and independent domestic violence adviser at A2Dominion Housing Group.


The majority of violent assaults are not reported to the police but many people present to emergency departments with their injuries. A significant number of these incidents are alcohol-related. Assault data can be collected by reception staff using the Cardiff model, then used by the Community Safety Partnership to identify problem licensed premises and crime hotspots to reduce the incidence of violence and attendances at emergency departments.

This was discovered while implementing the Cardiff model (Fig 1) - an approach in which hospital emergency department staff collect anonymised electronic data about assaults on dates, times, places and weapons used in assaults. This information is shared with community safety partnerships (CSPs) and used to identify problem licensed premises and crime hotspots. As a result, more information is available on where to place resources for violence-prevention strategies to prevent violence. This can reduce alcohol-related attendances in emergency departments by 40%, improve patient care and community safety, and reduce health-related costs (Sutherland et al, 2003).

Health workers on the frontline often come into contact with people who have been directly affected by alcohol-related violence. In my experience, almost all violent assaults presenting at emergency departments have an alcohol component; 72% of alcohol-intoxicated adults attending emergency departments do so between 8pm and 8am (Berger and Carter, 2008). Most assaults are not reported and go unrecorded by the police (Shepherd, 2001). Many of these attendances will require costly investigations such as CT scans, X-rays and follow-up referral care in orthopaedic, maxillofacial clinics or with GPs.

The Crime and Disorder Act 1998 placed a statutory duty on local authorities and the police to set up CSPs. Members can include representatives from the council, fire and rescue service, police, probation service, court service, drug and alcohol action team, safe town partnership, housing groups, voluntary groups, Neighbourhood Watch, emergency department clinicians, senior nurses and crime analysts. Since their establishment, the CSPs’ overarching mission has been to reduce crime, disorder and the fear of crime. There are 300 CSPs in England and 22 in Wales. All CSPs have members who are responsible for community safety, including:

- Recording and responding to reports of antisocial behaviour;
- Coordinating a positive and effective response to all incidents of domestic abuse and providing support services to victims and offenders;
- Coordinating a unified response to the investigation of hate crime;
- Reducing alcohol and drug-related crime and the harm caused by substance misuse;
- Reassuring the public by communicating the areas’ crime levels.

Health professionals can be persuasive advocates for injury prevention and greatly improve the police’s violence-reduction efforts (Warburton and Shepherd, 2004). Partnership working is essential for successful data sharing. Healthcare faces many obstacles to such working that could be easily addressed; six areas are key for successful implementation:

- Ownership;
- Support;
- Recognition;
- Feedback;
- Involvement; and
- Benefits.

The CSP can support the emergency department’s role in sharing data by holding its meetings in hospitals, thereby allowing senior staff who carry emergency pager and make critical decisions to attend. Up to six weeks’ advance notice of CSP meetings will help clinical staff organise their time and improve attendance. For data to be successfully collected on an ongoing basis, receptionists and clinical teams from CSP partners need to receive feedback on the impact of the information on communities, this helps maintain levels of data collection by demonstrating tangible results. Taking the nursing profession’s role in violence prevention initiatives into account is critical. As the following case studies show, nurses are well placed to encourage data sharing and see trends from novel presentations entering the emergency department.

Case study 1

During a one-month period of collecting violence data in an emergency department, a few people had presented for treatment having been pushed off their bicycles. This information was de-personalised, shared and mapped as part of the CSP monthly review meeting. A senior nurse attended the meeting and discussed her concerns about this trend, which appeared to be a mugging pattern. None of the cases had been reported to the police. Once informed, the police were able to allocate resources to the problem area and this pattern of injury stopped.

Case study 2

In one month’s de-personalised data there were a number of presentations to the emergency department for injuries caused by planks of wood, bricks and concrete used during violent altercations. This was an unusual weapon trend linked to one area. The CSP was alerted; it was important to examine the relevant area so the council could clear away the wood, bricks and concrete before night fell. The council found an open skip (used

FIG 2 ALGORITHM OF ESSENTIAL ASSAULT DATA COLLECTED IN EMERGENCY DEPARTMENTS

- Incident type
- Assault
- Date and time of assault
- Body part
- Weapon
- Pushed
- Unknown
- Weapon type
- Glass Bottle
- Knife
- Blunt object
- Gun
- Other
- Assault type
- Blunt
- Knife
- Bottle
- Glass
- Fist
- Feet
- Other
- Assault location
- Bas/jub
- Club
- Street
- Own home
- Someone else’s home
- Workplace
- Free-text facility to give specific details of the location

FIG 1 PATHWAY OF CARDIFF MODEL

Depersonalised electronic assault data is captured and sent to analyst
Data is mapped with police operational reports
Police and licensing teams identify problem licensed premises or crime hotspots
Police use data to target best use of resources
Violence reduction
Reduced hospital admissions
Safer night-time economy

5 key points
1 The majority of violent assaults are not reported to the police
2 Frontline reception staff in emergency departments are well placed to gather data, which can be used to identify problems and crime hotspots
3 Sharing this information with the Community Safety Partnership can reduce assault-related attendances in emergency departments by as much as 40%
4 Nurses are well placed to encourage data-sharing and to spot data trends from novel presentations
5 Assault data is collected using the Cardiff model by asking three simple questions

Note crime hotspots

Nursing Practice

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Case study 2

In one month’s de-personalised data there were a number of presentations to the emergency department for injuries caused by planks of wood, bricks and concrete used during violent altercations. This was an unusual weapon trend linked to one area. The CSP was alerted; it was important to examine the relevant area so the council could clear away the wood, bricks and concrete before night fell. The council found an open skip (used...
for a house renovation) next to a night club. The council alerted the planning teams who monitor and give permits for skips in urban areas. After a meeting with the CSP it was decided that only closed skips could be used within a specific radius of licensed premises to prevent similar problems in the future.

**Case study 3**
Several bottle and glass-related incidents that resulted in emergency department treatment took place in a small market town in Oxfordshire. Violence data was used to support licensing’s decision to encourage the use of polycarbonate glasses in three night clubs. This reduced face and head injuries in the emergency department.

**Case study 4**
In the first month of the pilot, a large night club in the Thames Valley was identified as the source for nine unrelated presentations in the emergency department. The injuries varied but included ingestion of broken glass, head injuries from bottles and soft-tissue injuries from violent incidents. The data was used as evidence to hold the licensee to account and the licensing officer placed conditions on the club. In the following month the department only saw two presentations from the club.

Underage alcohol use also emerges from data collection. It is useful to identify locations, such as parks, where teenagers congregate as this helps support operations during school holidays to seize alcohol. This information may also be used to identify holders of off-licences who sell to underage people by targeting secret shoppers at their shops, pubs and clubs.

**The algorithm**
The original key assault data collected in the healthcare algorithm was developed in Cardiff. However, after a review of its implementation in Addenbrooke’s Hospital in Cambridge, it was truncated and now features in the College of Emergency Medicine’s clinical guideline on data sharing. The review reduced the number of essential questions asked at reception to three: date and time, location and weapon used (Boyle et al, 2009).

Using the algorithm (Fig 2), receptionist staff in emergency departments ask questions as part of the formal booking-in process and record the information. Capturing information electronically is the most efficient and effective method to collect data.

Piloting this work showed collecting assault data away from emergency department reception areas can reduce data capture by 70%, so involving senior reception staff is crucial. As depersonalised data shows weapon and violence trends in populations rather than individual cases, the Cardiff model falls outside of patient consent to share and does not require the freedom of information contracts used elsewhere in healthcare settings.

People attending the emergency department may choose not to report an incident to the police for many reasons including fear of reprisal, not wanting to leave an abusive relationship, under age drinking, fear of not being believed and previous involvement with the police. Capturing data on arrival means reception staff can ask the questions as part of their normal booking-in procedure. The person can choose whether to share the information requested. Reception staff can also decide whether it is appropriate or safe to ask questions, for example if the patient appears threatening.

**Identifying vulnerable groups**
Using the Cardiff model can help to identify partner abuse and child protection issues. Those using the model need to consider their trust’s safeguarding procedures. Working with local domestic abuse coordinators, independent domestic violence advisers and the child protection safeguarding lead is a key part of implementing assault data collection. It is also vital to develop referral pathways and routes, and consider safety plans. Triage or clerking is the preferred assessment area for such cases; staff require specialist training to understand the complexities involved.

Another area of safeguarding to be considered is developing referral pathways to maternity services for pregnant women who present drunk or with evidence of domestic abuse. Such abuse often starts or escalates during pregnancy, which makes this group extremely vulnerable.

Effective collaboration between emergency departments and community teams can ensure clinical teams have effective routes in place and specialists to share the data with and/or refer patients to when a new violence pattern emerges. This addresses the problem as it happens and helps prevent further episodes of violence.

**The impact of violence**
The consequences of even one episode of violence can be significant. People directly affected may face long-term psychological problems requiring mental health support. They may need sick leave from work or have to give up work and go on to claim help with their cost of living or become dependent on a partner to support them. Their quality of life may be seriously affected, they can feel isolated or have a permanent disability or scarring. Even those who make a full recovery may need support from professionals during the healing process.

**Discussion**
The assault data collection initiative operates in more than 100 UK emergency departments. The Department of Health is promoting data sharing between such departments and CSPs; this supports the Coalition Programme Commitment. Over the next year, there are plans to increase the emergency departments sharing data and embed assault data collection in healthcare, identifying ways to make it sustainable.

In the last year anecdotal evidence from areas in the South East where the Cardiff model has been used shows a fall in violence. Further research is needed to determine whether this is a direct result of roll out of the model but it is likely to have contributed to this, as well as raising the profile of assaults and the importance of data sharing to emergency staff together with their role in prevention.

By identifying violence-related presentations in healthcare and working with the CSP patient care can be improved and the burden of violence on the NHS and its impact on local communities reduced. However, data sharing alone is not enough. Health professionals must also actively take part in meetings where decisions are made about policing and local authority efforts to prevent violence.

**References**