

Accident and Emergency department data sharing to support violence prevention in Preston*

Accident and Emergency department (A&E) data can play a key role in understanding and preventing violence, yet are often under-utilised by local partners. The government has prioritised work to improve A&E data sharing for violence prevention¹. Based on interviews with local partners (i.e. public health, Royal Preston Hospital A&E, Preston Community Safety Partnership [CSP], Preston police licensing and MADE [Multi-Agency Data Exchange]) in September 2013, this case study outlines how data sharing pathways have been developed in Preston and how A&E data were informing multi-agency violence prevention work.

1. Overview

Violence prevention is a multi-agency priority in Preston local authority (LA), addressed through a range of community activities by police, the CSP and Lancashire County Council public health partners (public health). As would be expected from a relatively deprived urban locality (see page 2), Preston has rates of violent crime, hospital admissions for violence and A&E attendances for violence above national averages². However, data from both police and health sources show a general reduction in violent incidents in recent years³. At the time of interviews, violence prevention issues that were being prioritised by local partners included violence in nightlife areas, alcohol- and drug- related violence, domestic violence, and youth violence.

The Royal Preston Hospital A&E is located within Preston LA and is part of the Lancashire Teaching Hospitals NHS Foundation Trust. The A&E is a Major Trauma Centre for Lancashire and South Cumbria and provides emergency care and treatment 24 hours a day. Data sharing was well established in Preston, facilitated by strong partnerships between the

Box 1: Summary

- In September 2013, A&E data on assault patients, including fields recommended by the CEM⁴, were being collected, shared and used by local partners to support violence prevention.
- Examples of data use included supporting: police licensing, CSP strategic assessments and resource allocation, and child safeguarding procedures within Royal Preston Hospital A&E.
- Successful features of the data sharing system included: good relationships between partners; the existence of data sharing partners to facilitate access to data; and frequent feedback to A&E staff on data use.

A&E, the CSP, public health and the police. The A&E collected and shared a range of data from assault patients and was fully compliant with the CEM-recommended data fields (see Box 3). Data were used in a variety of ways to support local violence prevention (see Box 1

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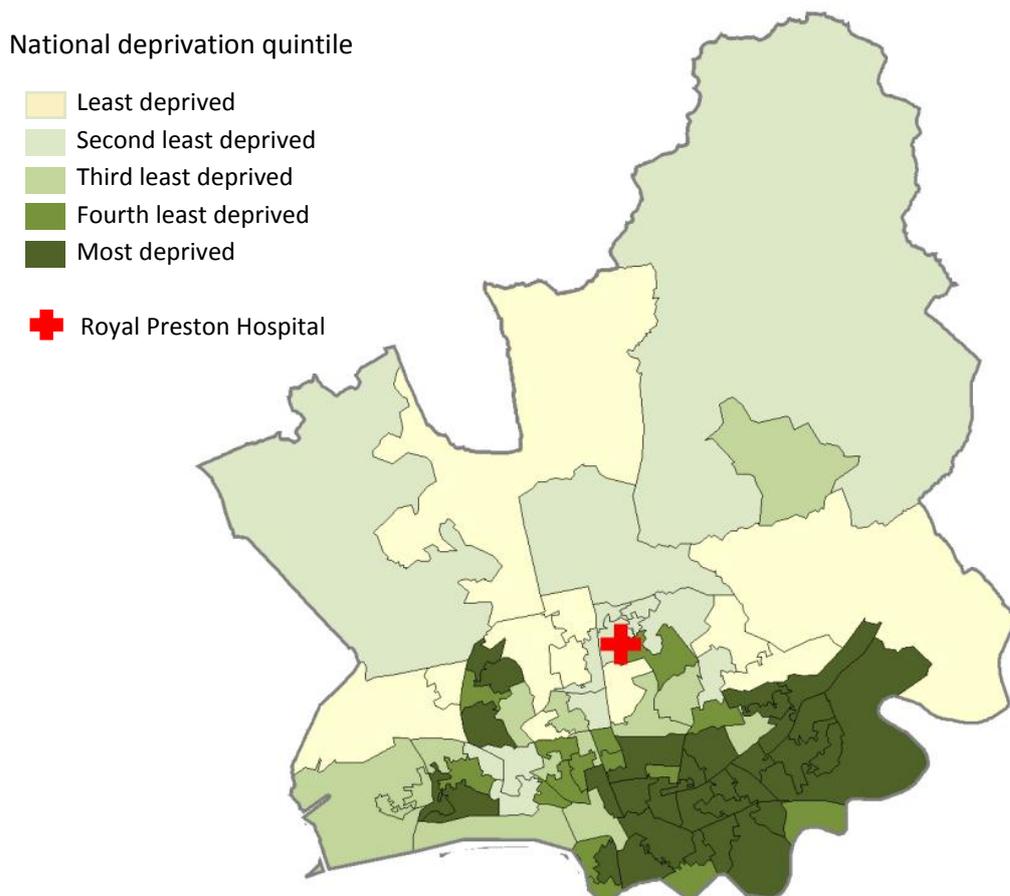
and Section 3). The government is working to ensure that all A&Es collect information from assault patients based on the College of Emergency Medicine (CEM) recommended

data fields⁴ (see Box 3) through their standard IT systems and share it routinely with local partners to support violence prevention (see Box 7).

Box 2: Preston local authority area

Preston LA is situated in the county of Lancashire in North West England and has a population of approximately 140,000. Life expectancy at birth in 2008-2010 was 76.0 years for males and 80.0 years for females, lower than the life expectancy for England of 78.6 and 82.6 years respectively⁵. Preston has a higher than average level of deprivation and is ranked the 59th most deprived LA in England (based on the Index of Multiple Deprivation 2010⁶). However, the LA is fairly diverse with pockets of deprivation found in the city centre and surrounding areas (see Figure 1). Home to the University of Central Lancashire, it has a higher percentage of residents aged 15-24 years than the national average⁷ and a busy night time economy concentrated in the city centre.

Figure 1: Deprivation profile of Preston LA by Lower Super Output Area^a



^aLower Super Output Areas (LSOAs) are a set of geographical areas across England and Wales that are defined by population size (average population is 1,500).

2. The development of data sharing

How A&E data sharing was established

A&E data sharing was initially established in Preston in 2006 to support work to prevent alcohol-related injuries, including violence. Recognising the potential for the A&E to provide data on the extent and nature of injuries to inform prevention, meetings were held between health and criminal justice agencies to discuss the development of a Lancashire-wide injury surveillance system. From these meetings, the Trauma and Injury Intelligence Project (TIIP)^b was established in 2008 with funding from the PCT and the Lancashire Local Area Agreement Alcohol Project Board.

TIIP forms part of the Trauma and Injury Intelligence Group (TIIG; an injury surveillance system in the North West of England), and allows systematic A&E data collection and sharing across Lancashire. Coordinated by the Centre for Public Health at Liverpool John Moores University, it collates injury data from all A&Es in Lancashire and shares this with multi-agency partners via the Multi-Agency Data Exchange (MADE, see Box 4). During the development of TIIP it was agreed that some details on injury presentations would be collected at Royal Preston A&E, including whether alcohol had been consumed prior to injury and, for assaults, where the incident occurred. Initially, these details were recorded on a paper-based information form at the A&E and shared with local partners.

Enabling systematic collection of data on assaults, including CEM-recommended data fields

Recognising the need to incorporate the questions on assault into the full electronic A&E dataset, discussions were held between

TIIP and the Lancashire Teaching Hospital NHS Foundation Trust regarding changes that would need to be made to their IT systems. Around this time, the CEM published their guidelines⁴ on data collection for assault victims, proposing three distinct questions to be asked of all assault patients (see Box 3) that were similar to those being collected through TIIP. Thus, Preston was in a good position to meet this guideline through its existing work plan.

Box 3: College of Emergency Medicine (CEM) guideline on assault data⁴

All A&Es collect a core dataset on assault patients, such as patient demographics and the time of presentation. The CEM-recommend collecting an additional set of data items on assault victims at patient registration (by A&E receptionists). The additional fields are:

- Date and time of the assault
- The location of the assault
- Weapon used

A specification was put forward via the IT help-desk to the IT analysts to update the IT system (QuadraMed CPR system) with additional questions, including those from the CEM guidance. The QuadraMed team were then asked to add the new fields to the dataset. The cost of making the data available was around £6,000 and funded by Lancashire County Council and the Home Office.

How CEM-recommended data fields were collected

Most data items were collected at Royal Preston A&E by receptionists when patients initially present to the A&E. To support data collection, the A&E Reception and Systems Manager produced a guidance document for

^bTIIP was developed by the Centre for Public Health, Liverpool John Moores University and based on the work of the Trauma and Injury Intelligence Group (TIIG) that had already been established on Merseyside. TIIP data feeds into the broader TIIG project that collates A&E data across the North West of England.

reception staff to explain: 1) why the data were being collected; and 2) the process that should be used if data could not be acquired. The document included a flow chart detailing the data collection process. Reception staff were asked to report back any problems to the A&E Reception and Systems Manager.

Information on the assault weapon was often collected by a clinician and entered into the database by receptionists within a few hours of the visit. A guide was produced which informs receptionists where the assault weapon will be listed in the patient’s notes. Levels of data completion for the assault and alcohol fields were generally high (see Table 1).

How A&E data were shared

A&E data on all injuries, including assaults, were uploaded by the A&E Reception and Systems Manager in Excel format to a TIIG SharePoint via a secure drop box. Partially anonymised data were shared in this way on a monthly basis, and TIIG subsequently cleaned the data and fully anonymised it. TIIG staff analysed the data and sent back bi-annual

bulletins on all injuries to the A&E providing monthly attendance breakdowns and other information such as patient demographics, incident location and discharge destination. The A&E can also interrogate the data independently.

Box 4: MADE (Multi-Agency Data Exchange)

MADE is a data warehouse that collects routine data relating to community safety in Lancashire. This includes data from A&Es, CSPs, police, fire and rescue, the ambulance service, the youth offending team (YOT), the probation service and the voluntary sector. Developed in 2001, the warehouse is designed to increase the speed and availability of data exchange between agencies. Local partners can access the data via an online system, which requires registration and a password.

TIIG shared the A&E data with partners via MADE, which collected and processed data from a range of local agencies (see Box 4). Data on all injuries was shared quarterly,

Table 1: Fields on alcohol and violence collected by Royal Preston A&E, and average completion rates (average % completion), April 2012 - March 2013 and April 2013 - March 2014.

Field	2012/13	2013/14
Assault weapon used (e.g. body part, blunt object, sharp object)	52	57
Specific body part used (e.g. fist, foot)	91*	93
Specific sharp object used (e.g. knife, bottle)	92*	94
Incident location (e.g. public place, school, home)	100	100
Detailed assault location (free text field e.g. name of place)	69	73
Incident date	96	97
Incident time	45	42
Whether police have been informed	21	23
Whether alcohol was consumed prior to incident	100	100
Location that last drink was consumed (e.g. home, park, nightclub)	32#	56
Detailed location last drink consumed (free text field e.g. name of bar)	21#	41

Source: Trauma and Injury Intelligence Group (TIIG) <http://www.tiig.info/>

*% of records where body part/sharp object are specified in the assault weapon field.

#% of records where alcohol was consumed prior to incident.

whilst data on assaults specifically was shared monthly. A&E assault data shared with this system included all data fields recommended by the CEM (see Table 1) as well as whether the incident date/time was exact or estimated. Data were available for partners to view by around the third week after month end. Although it was mainly public health professionals and the police who accessed the data, other community safety partnership

responsible authorities can access and use it within the boundaries of the information sharing protocol.

Overcoming barriers to data sharing

The development of data sharing in Preston faced a number of barriers, many of which have been overcome. These included: perceived reluctance of health partners to

Box 5: Resolutions to data sharing barriers in Preston

Perceived reluctance of health partners to share data

Regular data sharing meetings between A&E staff and other partners were organised by public health, which strengthened relationships and ensured A&E staff saw the value of their work. Partners created a memorandum of understanding covering data access and information sharing.

Concerns that reception staff would not be willing to collect data on assault

Training was provided to reception staff and guidance developed to support them in collecting the CEM-recommended data items. A monthly feedback system was developed to ensure reception staff were kept informed of how their data were being used in local violence prevention activities.

Difficulties in modifying electronic/IT systems

Lancashire County Council and the Home Office provided the funding required for the A&E's IT system (Quadra Med) developers to add the questions to the electronic database. At the same time, the ability for the A&E to modify questions and add additional questions was built into the system (see Section 2).

Missing data

The recording of licensed premises names in the assault location field provided insufficient detail to enable the data to be used for enforcement purposes, as assaults may have occurred either inside or close by to a named licensed premise. Thus, a drop down box recording whether incidents occurred inside or outside a licensed venue was added to the database. Reception staff were encouraged to record 'unknown' if a field was not answered to avoid blank fields and improve data completeness.

Restricted data access

Initial sharing of A&E data was restricted to certain fields that meant it had limited use to partners for violence prevention. Data sharing protocols were established that enabled CSP data analysts to have full access to the anonymised A&E data so that more meaningful analyses could be produced

Difficulties ensuring that data collection remained a priority

The Clinical Commissioning Group (CCG) was provided with specific wording to be inserted into the quality schedule within the hospital contracts. This outlined that information would be collected and shared in line with the CEM guidance and helped add weight to data collection.

share data; concerns that reception staff would be unwilling to collect data on assault; difficulties in modifying electronic/IT systems; missing data; restrictions on data sharing, and; difficulties ensuring data sharing remained a local priority. Box 5 summarises the resolutions found to these issues.

Data sharing issues

While many barriers to data sharing have been overcome, partners within Preston continued to work to resolve issues that could hamper the full benefits of data sharing, many of which may be experienced by other areas working to share A&E data. These included:

Data completeness

Data completion rates varied from month to month. This often depended on the patient, with some individuals unable to complete fields due to intoxication or their condition. Meetings were held between public health and the A&E to examine how completion rates could be further improved.

Accurate recording of location

There were issues in identifying the incident location and location of last drink. These fields were often not completed fully (e.g. patients may be too intoxicated to report location), which means that partners miss vital information which could be used in violence prevention activity (e.g. hotspot analysis or licensing).

Timescales

When A&E data were provided late, there were knock on implications for the monitoring process. Agreed timescales were largely maintained in Preston, although were occasionally affected by staffing issues. At the time of interviews, the police indicated that they would find a shorter time period

between collecting and receiving data useful as data could only be used as supportive or corroborating evidence (e.g. within a licensing review).

Protocols on data collection and sharing

Robust information sharing protocols are crucial and were developed in Preston. However, if health data were used within a licensing review, there were concerns that the data would then be within the public domain, so anonymity needed to be insured. Partners felt that further details around data collection and sharing would be useful within the NHS operating framework, particularly since the collection of A&E data has been made a national priority¹.

3. The use of health data in violence prevention

A&E data on violence was used in a variety of ways by partners in Preston. This section highlights examples of its use across a range of areas of work.

Supporting licensing decisions

The A&E assault data was examined by public health from a surveillance perspective on a monthly basis. This allowed for the identification of potentially problematic premises based on the number of assaults that take place inside them and the nature of assaults. This information was then brought into discussions with the police and also used in a licensing review which resulted in a premise having its licence revoked (see Box 6).

Box 6: The use of health data in changes to the condition of a premises licence

In December 2012, A&E data was used formally to support an application by Lancashire Constabulary to review the licence for a premise in Preston. NHS Central Lancashire, in its capacity as a responsible authority, submitted a written representation supporting the review detailing:

- Numbers of individuals attending Lancashire Teaching Hospitals NHS Foundation Trust A&E following an assault that they stated took place at the licensed premises;
- Times and days of assaults;
- Weapons used;
- Gender of attendances;
- Age of attendances;
- Outcome of attendances i.e. discharged, admitted to hospital, left without treatment, referred to other healthcare professional; and,
- Whether the assaults were reported to the police.

The evidence identified that there were high numbers of individuals attending the A&E following assaults at this venue. Data were presented at the hearing in line with a locally agreed information sharing protocol. In accordance with the protocol, the data presented was aggregated and where collated numbers were below five they were suppressed to ensure patient anonymity. Following adjournment of the initial hearing for this review, a second hearing took place in June 2013 where representatives from the public health team attended and presented the data alongside evidence presented by Lancashire Constabulary.

The hearing resulted in changes to the licence conditions for the venue (e.g. installing CCTV cameras on all exit doors), and also a commitment by the operator of the premises to carry out a significant refurbishment. The premises re-opened on 7th August after a £500,000 refurbishment.

Safeguarding children

The A&E health data have been used by the A&E itself within their child safeguarding process. A&E data were reviewed at monthly Safeguarding Children Team meetings which were attended by NHS Trust staff and Child and Adolescent Mental Health Services (CAMHS). Data were also shared with the Clinical Commissioning Group (CCG), Lancashire Safeguarding Children Board and the Multi-Agency Risk Assessment Conference (MARAC). Domestic violence was also discussed at this group as children are usually involved. Following these meetings, alerts

were placed on or removed from the electronic system for safeguarding as necessary. In addition, patients were referred where necessary to a drop-in clinic, based at the A&E each Monday, which was run by Preston Women's Refuge.

Informing situational analyses

A&E data were fed into a number of CSP reports detailing the extent and nature of violence in the Preston area. This included, for example, a report on violence in the home.

Informing strategic reviews

The assault data collected in the A&E was combined with additional data sets and used within strategic assessments by Preston CSP. Information was collated for issues such as anti-social behaviour and violence, covering the geographic extent, levels of harm, threat levels, and community concerns. The data were analysed, and the partnership compared this with previous or current priorities to determine where priorities needed to be changed.

Allocating resources

Data from Royal Preston A&E were used alongside other data sources to feed into resource allocation for operational activities, such as taxi marshals (who control taxi queues and improve the safety of vulnerable people).

4. Partner attitudes towards sharing and using A&E data

Partners in Preston generally had very positive attitudes to the use of A&E data in local violence prevention, and there was strong 'buy-in' from partners regarding its use. Historically, prevention activities in Preston had been informed by police data and partners recognised the additional benefits that A&E data had brought. These included, for instance, allowing more information to be fed into violence prevention activities and helping to focus prevention activity through the identification of at-risk groups and communities. The strong links established between health partners and police licensing were thought to have been instrumental in local violence prevention, creating a combined weight that had more effect (e.g. in licence reviews, Box 6).

At the time of interviews, partners recognised that the sharing and use of health data in

Preston could be developed further, maximising the benefits that could be gained for local violence prevention. This included, for instance, developing procedures for addressing violence taking place outside of nightlife areas (e.g. in parks), and exploring the accessibility of other health data sets (e.g. ambulance data / GP presentation data).

"It is about adding depth to a picture that is already there and developing the understanding further and adding weight to existing cases"

Public health

"I think it's certainly beneficial in assisting me in my actual role, which is preventing victims"

Preston police licensing

"[The] trust is a very forward thinking trust, so they are always very keen to get on board with projects like TIIG, so they were very positive as a trust right from the start"

A&E

5. Summary

Within Preston, at the time of interviews, the CEM-recommended A&E data on assaults were being successfully collected, shared and used within local violence prevention. The partnerships and systems in place to achieve this were developed gradually over a number of years and have overcome a range of challenges and barriers along the way.

The system operating in Preston had several strong features that contribute to its success. Critical amongst these are:

1) Good relationships between partners (e.g. A&E, police, police licensing, public health and environmental health). On-going discussions between partners helped develop and improve A&E data sharing and resolve the various issues that arose (see Box 5).

2) The existence of data sharing partners such as TIIG and MADE. These partners facilitated multi-agency communication and increased capacity for health data to be accessed easily and in a timely manner. TIIG-led meetings enabled partners to look practically at how Preston was progressing with the collection and sharing of A&E data and to plan next steps. Meetings allowed

partners to discuss how data collection could be improved and to feed information on data quality and use back to the A&E.

3) Feedback on data quality and use provided to A&E reception staff. The Reception and Systems Manager circulated bi-annual bulletins produced by TIIG and information on data completeness to reception staff. This increased staff understanding of how A&E data were being used and the value of collecting them. This process was vital in motivating reception staff to complete data fields and so obtain the highest possible completion rates for the assault questions asked.

Box 7: National policy around health data sharing

There is a Coalition Government commitment for hospitals to share data to prevent knife and gun crime¹. In September 2014, the Health and Social Care Information Centre developed a new information standard on A&E information sharing to tackle violence, which will help with consistent gathering of CEM-recommended assault data fields, along with the time and date of the A&E attendance⁸. Anonymising this data and sharing regularly with local partnerships will help local areas to prevent violent crime and its health impacts.

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