Accident and Emergency department data sharing to support violence prevention in Wirral[*]

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 prevention[1]. Based on interviews with local partners (i.e. public health, Arrowe Park Hospital A&E, Wirral police licensing, Wirral council licensing, and Wirral Community Safety Partnership [CSP]) in September 2013, this case study outlines how data sharing pathways have been developed in Wirral and how A&E data were informing multi-agency violence prevention work (Box 1).

1. Overview

In Wirral local authority (LA), violence prevention is addressed through a range of community interventions delivered through multi-agency partnerships including police, public health and the CSP. Although levels of violence and alcohol-related violence have been reducing in Wirral LA over the last few years, rates of hospital admissions and A&E attendances for assault are above national averages[2]. At the time of interviews, a number of violence prevention issues were being prioritised in Wirral, including violence in nightlife areas, alcohol-related violence and domestic violence.

Wirral is served by **Arrowe Park A&E**, the only A&E within the Wirral University Teaching Hospital NHS Foundation Trust, located in the centre of the Wirral peninsula. The A&E provides emergency care and treatment 24 hours a day and also has a dedicated Children and Young Persons' Unplanned Care Unit.

Data sharing was well established in Wirral, facilitated by strong partnerships between the A&E, the CSP, public health and the police.

Box 1: Summary

- In September 2013, A&E data on assault patients, including fields recommended by the CEM[3], were being collected, shared and used by local partners to support violence prevention activity.

- Examples of data use included supporting: police licensing and resource allocation; proposals for alcohol-related initiatives; strategic planning for large events; and child safeguarding procedures within Arrowe Park Hospital A&E.

- Successful features of the data sharing system included: strong relationships between partners; the existence of a data sharing partner to facilitate access to data; regular feedback to A&E staff on data use; and positive attitudes among partners to data collection and sharing.

The A&E collected and shared a range of data from assault patients, including the CEM-recommended data fields[3] (see Section 2). Data were used in a variety of ways to support

local violence prevention (see Box 1 and Section 3). The government is working to ensure that all A&Es collect information from assault patients based on CEM-recommended data fields[3] (see Box 3) through their standard IT systems and share it routinely with local partners to support violence prevention (see Box 5).


Box 2: Wirral local authority area

Wirral is a metropolitan borough of Merseyside in the North West of England with a population of approximately 320,200. Life expectancy at birth in 2008-2010 was 77.6 years for males and 81.7 years for females, lower than the life expectancy for England of 78.6 and 82.6 years respectively[4]. Wirral has an average level of deprivation and is ranked the 103rd most deprived LA in England (out of 326 LAs; based on the Index of Multiple Deprivation 2010[5]). The authority is polarised in terms of deprivation levels and includes some of the most affluent as well as the most deprived communities within England (see Figure 1).

Figure 1: Deprivation profile of Wirral LA by Lower Super Output Area[a]

National deprivation quintile

- Least deprived
- Second least deprived
- Third least deprived
- Fourth least deprived
- Most deprived

✚ Arrowe Park Hospital
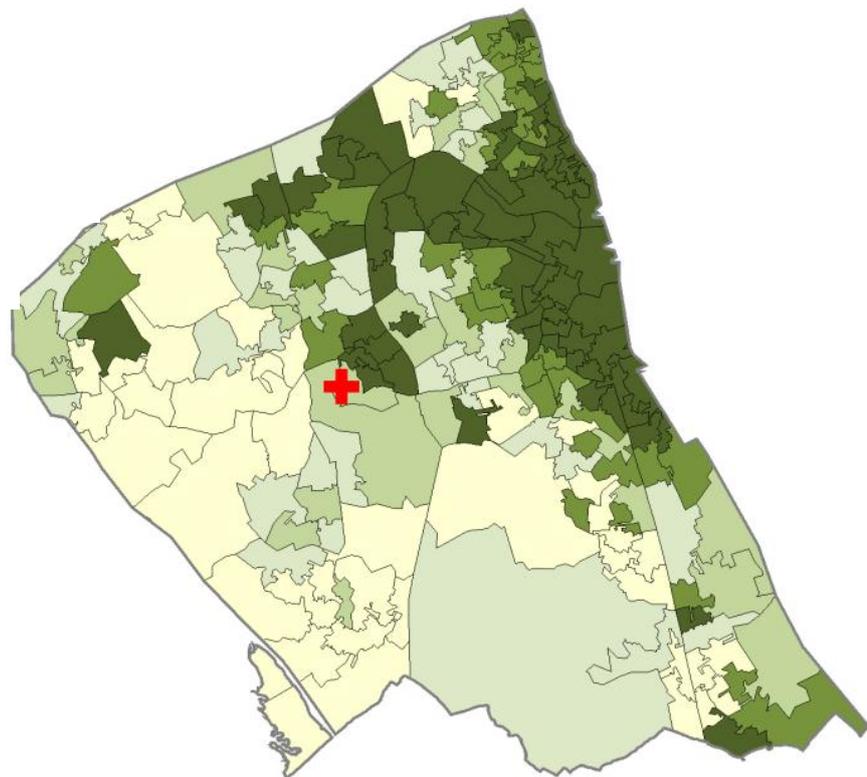
[a]Lower Super Output Areas (LSOAs) are a set of geographical areas across England and Wales that are defined by population size (average population is 1,500).

2. The development of data sharing

How A&E data sharing was established

A&E data sharing was initiated in Wirral in 2002 to increase local intelligence on intentional and unintentional injuries. A series of meetings were held between personnel from Arrowe Park A&E and staff at the Trauma and Injury Intelligence Group (TIIG[b]; an injury surveillance system in the North West of England) to discuss data sharing. These discussions focused on the legislation surrounding data sharing, patient confidentiality, data availability, and the implications of sharing data for the A&E. Initially, injury-related data items already collected by the A&E (core data) were shared in an anonymised format.

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

In 2003/04, following consultation with local partners and the identification of key prevention priorities, data fields on assaults were added to the core A&E dataset. These included whether alcohol had been consumed in the three hours prior to the incident leading to A&E attendance and, for assault patients, the location of assaults and the number of attackers. The questions were asked by receptionists as patients booked in and were initially captured using a paper-based method but were incorporated into Arrowe Park's new IT system (Cerner Millennium) in 2010. TIIG worked with staff at the A&E to add additional questions around violence and alcohol consumption (see Table 1). These included the

CEM-recommended questions (incident date/time and assault weapon; see Box 3), which were were added in April 2010. After discussion between partners an inside/outside option was added in 2013 to the specific location of assault field so that violence within and outside licensed premises could be more effectively identified.

How CEM-recommended data and other assault data were collected

> **Box 3: College of Emergency Medicine (CEM) guideline on assault data[3]**
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> 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

The assault data were collected for both adults and children by reception staff at the A&E. Initial training was provided by TIIG to help reception staff collect the CEM-recommended data fields. It is of note that there was no glass screen at the A&E reception desk and staff within the A&E reported that this enabled a good relationship to develop between the receptionist and the patient. Reception staff also explained to patients that the data collected were anonymous.

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[b]TIIG was established initially in Merseyside to routinely collect data on intentional and unintentional injuries from a range of local agencies, including A&Es. Developed in 2001, TIIG has expanded to include data from all A&Es within the North West of England. For further information see http://www.tiig.info/

Table 1: Fields on alcohol and violence collected by Arrowe Park Hospital A&E, and average completion rates (Average % completion), April 2012 - March 2013 and April 2012 - March 2013.

Field	2012/13	2013/14
Assault location (e.g. town or village name)	99	99
Assault location details (e.g. public place)	99	99
Specific location of the assault (e.g. pub or club name)	88	98
Date of assault	40	37
Time of assault	40	37
Informed/intend to inform the police	99	99
Weapon used (e.g. body part, knife)	99	99
Relationship with attacker (e.g. partner)	99	99
Number of attackers	99	99
Assaulted by attacker before	99	99
Drank alcohol within three hours prior to incident	99	100
Location of last drink consumption (e.g. pub, home)*	85	99
Specific location of last drink consumption (e.g. pub name)*	71	80
Whether attacker was thought to be drunk	99	99

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

*Of those who reported drinking alcohol in the last 3 hours.

How A&E data were shared

Partially anonymised individual level data were routinely shared by Arrowe Park A&E with TIIG (LJMU) on a weekly basis. The data were cleaned, analysed and fully anonymised by TIIG, who added in age groupings. In line with an information sharing agreement, an assault report was then shared on a fortnightly basis with Wirral CSP, police, the ambulance service and the Trust Safeguarding team. The report was shared within an Excel spreadsheet which was accessible via the Internet through a SharePoint. Partners were provided with a SharePoint account and a user name and password were required to access the data. Partners who received the data were initially asked for its intended use and were requested to provide feedback on data use, including its perceived impact.

The assault report was also sent to the A&E. The A&E Business Manager fed this information back to the reception staff. This allowed A&E staff to understand the importance of data collection and show how complete data recording is within the A&E. Feedback on data use was also given to A&E staff via local violence prevention meetings and presentations on the use of the A&E assault data. The assault data were not analysed by A&E staff due to concerns about data anonymity (data would be patient identifiable).

Box 4: Resolutions to data sharing barriers in Wirral

Perceived reluctance of health partners to share data
There was a perception that health partners used the Caldicott Guardian and Data Protection Act as barriers to sharing data. Through multi-disciplinary meetings held with TIIG, partners and the A&E, relationships between health and local partners were strengthened and these perceptions overcome.

Fears that collecting data on assault at A&E reception would be difficult
Initially, some reception staff were anxious that patients would be stressed or angry about the additional questions asked and therefore unwilling to co-operate. A training pack was put together with slides and overviews of the data collection process and disseminated to the receptionists. TIIG also supported and delivered training with staff within the A&E. One of the receptionists subsequently become a trainer for other A&E reception staff.

Missing data
When the CEM-recommended data items began to be collected, the level of completeness of some fields was too low to enable the data to be meaningfully analysed. Reception staff were provided with regular feedback about how the data were being used, enabling them to understand the benefits of collecting the information. This helped to develop good levels of data completeness.

IT-related difficulties in sharing reports and data
When Arrowe Park updated its computer system in 2010, interface difficulties with sharing reports and data emerged. An IT analyst at the A&E engaged directly with Cerner to make the necessary changes and ensure that the system was up and running correctly.

Overcoming barriers to data sharing

The development of data sharing in Wirral faced a number of barriers, many of which were overcome. These included: a perceived reluctance of health partners to share data; fears that collecting data on assault at A&E reception would be difficult; missing data; and IT-related difficulties in sharing reports and data. Box 4 details the resolutions found to these issues.

3. The use of health data in violence prevention

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

Monitoring violence and identifying hotspots

A&E data have been used in Wirral to routinely monitor levels of violence and alcohol-related violence. For instance, the CSP produced reports including both police and A&E data for monthly violence governance group meetings. These meetings also included representation from the police and the licensing authority. The reports were examined collectively within the meeting and were used to highlight violent crime issues at a neighbourhood level. A&E data has also fed into quarterly alcohol harm reduction meetings in Wirral where they were used to help identify trends in alcohol-related violence.

Anonymous A&E data were used by the police licensing team to detect unreported assaults.

Using the location of assault field, A&E attendees presenting with the most significant injuries were cross-checked with police reports. This allowed police to gain a better understanding of violence within the local area.

Data from the A&E were also used to identify hotspots for violence. The police licensing team reviewed the data to look for assaults in or near pubs, off-licences or nightclubs. The data revealed new problem venues which could be followed up, or confirmed problem venues already identified through police data.

Allocating resources

The A&E data provided the police with a better understanding of what violence prevention initiatives are needed (e.g. high visibility policing patrols, knife arches, metal detectors) and where. A&E data were also examined to identify higher levels of alcohol-related violence during large sporting events such as televised football matches. These data were introduced into long term strategic planning for local events.

A&E data have been used to guide specific violence prevention activities. For instance, analysis of the 'last drink location' field found that a surprising percentage of assault patients presenting at Wirral A&E reported having had their last drink in neighbouring Liverpool. Anecdotal evidence identified transport difficulties resulting from night buses from Liverpool to Wirral dropping passengers off in busy Wirral nightlife areas. Thus, competition for transport ensued. In response, a police initiative funded a bus company to provide relatively inexpensive transport to help disperse people. Subsequent analysis of the 'last drink location' field identified a reduction in the percentage of assault victims reporting their last drink in Liverpool.

Informing proposals and strategies

A&E data were used within a proposal for an alcohol free zone (Designated Public Place Order). The police Chief Inspector of Operations also used the data within a paper proposing a 'late night levy' with the aim that individuals selling alcohol should contribute towards the costs that alcohol consumption creates on society.

A&E data were also used to inform the Wirral Alcohol Strategy and a consultation for the National Alcohol Strategy. Here, for instance, A&E data were used to highlight levels of pre-loading and the number of patients who received injuries at private parties and at people's homes. This information was fed into the recommendations made by Wirral for minimum pricing, one of the key areas of the consultation.

Safeguarding children

A&E data on assaults on children (identifiable data) were fed into child safeguarding meetings at the A&E to ensure that the safeguarding team are aware of each instance of assault.

Identifying domestic violence

Analysis of A&E assault data by the CSP identified that a large proportion of violence was taking place in the home. The 'location of assault' field was used as a proxy indicator for domestic violence. These data were also compared with police statistics by the CSP to identify under-reporting of domestic violence.

Targeting interventions

Partners in Wirral have identified A&E data as providing a better understanding of age groups in which violence is prevalent. It was thought that certain age groups (ages 14-18) were less likely to report violence to the police, and that these data are captured more

reliably by the hospital. This information was used to help develop and target violence interventions at those age groups most in need of support.

Future use of A&E data

The police licensing team in Wirral were looking to use the A&E data as evidence within a proposal to introduce a Cumulative Impact Policy, with alcohol-related attendances used to highlight alcohol-related harm in that particular area.

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

At the time of interviews, attitudes in Wirral towards the use of assault data in violence prevention were very positive. The use of A&E data was regarded to be helpful and worthwhile.

> *"It's a pretty well-oiled machine here to be honest"*
>
> A&E

There was also recognition that a small amount of input at the A&E can have a potentially large impact in the community. There was an awareness of its ability to support local initiatives, the local community and community safety.

There was recognition that other sources of health data may be available and underutilised in violence prevention. For example, that calls to ambulance services or presentations to GP surgeries could also be explored.

5. Summary

Within Wirral, A&E data on assaults were being successfully collected, shared and used within local violence prevention. The process of collecting and sharing assault data has developed over a number of years and has needed to overcome a range of barriers (Box 4). The system operating in Wirral has several strong features that contributed to its success. Critical amongst these are:

1) **Good relationships between partners**. (e.g. A&E, police, police licensing and public health). Regular meetings between partners helped develop and improve A&E data sharing and ensure partners received feedback on data use.

2) **The existence of a data sharing partner (i.e. TIIG).** TIIG works with local partners to ensure that health data are easily accessible. TIIG-led meetings with local partners and training sessions held with A&E reception staff facilitated the data collection process in its early stages.

3) **Feedback on data quality and use provided to A&E reception staff.** Feedback to A&E reception staff on the use of A&E data in Wirral was essential in developing and maintaining high levels of data collection. The feedback resulted in staff embracing the questions on assault and provided staff with an increased sense of job satisfaction.

4) **Positive attitudes towards A&E data collection and sharing**. The collection of data items and data sharing was taken very seriously in Wirral, where partners understand its value in supporting local safety. These attitudes facilitated progress in improving data collection and ensuring the data is used by local partners.

Box 5: National policy around health data sharing

There is a Coalition Government commitment for hospitals to share data to prevent knife and gun crime[1]. 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 attendance[6]. 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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