



Trauma and Injury Intelligence Group

**Situational analysis of accident and emergency
department data collection in Lancashire**

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I. Introduction

I.1 Background

In 2006 a meeting was held with representatives from health and criminal justice agencies to discuss the need for and potential benefits of the establishment of an injury surveillance system (ISS) in the Lancashire area. As a result of this meeting, and subsequent discussions with public health practitioners from Lancashire, an agreement and funding was sought to set up an ISS. It was to be designed to collect data specifically from local accident and emergency departments (AEDs), modelled on the work of the Trauma and Injury Intelligence Group (TIIG) in Merseyside.

The TIIG was established to develop a system of routinely collecting injury data from a range of agencies, specifically AEDs. The purpose of the TIIG ISS is to allow systematic data collection and sharing for the purposes of monitoring intentional and unintentional injury, targeting resources towards at-risk populations and evaluating preventive interventions. The TIIG works with data providers to promote the consistent collection of good quality injury data and to improve comparability of data between injury data sources. The TIIG ISS covers all injury types and age groups, whilst developments to local injury datasets are encouraged to allow better data collection, analysis and interpretation of injury data.

I.2 Trauma and Injury Intelligence Group Lancashire Project (TIIP)

Lancashire Primary Care Trusts (PCTs), in partnership with the Lancashire Local Area Agreement, Alcohol Project Board, have commissioned the Centre for Public Health at Liverpool John Moores University (LJMU) to set up and develop a TIIG based ISS for the Lancashire area. The TIIP was a fifteen month project commencing January 2008 but funding has been secured until March 2010. The primary focus of the TIIP is to develop a system of routinely collecting injury data from all AEDs located in Lancashire. The TIIP staff will work with local AEDs with the aim of developing their datasets to collect additional data on alcohol-related harms. The two main project aims are:

1. To sign up all AEDs in Lancashire to participate in the TIIP system.
2. To improve alcohol-related injury information collected in all AEDs in Lancashire.

A project steering group has been set up to support the achievements of these aims and includes representatives from:

- East Lancashire PCT
- Central Lancashire PCT
- North Lancashire PCT
- Blackpool PCT
- Lancashire Local Area Agreement, Alcohol Project Board
- Centre for Public Health, LJMU
- Multi-Agency Data Exchange (MADE)

I.3 Purpose of the report

The aim of this report is to assess:

- Data collection procedures and systems in each of the AEDs in Lancashire;
- The type of data that is collected at each AED and its quality;
- Current injury levels in Lancashire based on AED data; and
- The TIIP project's structure and development.

2. Additional alcohol-related injury data

To achieve the second of the project aims it was agreed by the steering group that a uniform set of questions should be adopted by all participating AEDs in Lancashire. This would enable analysis of

alcohol-related injuries across Lancashire and provide a basis for comparisons between the AEDs. A set of questions was developed by the steering group and three questions were chosen for initial implementation in the AED datasets (see Box 1), with further development of alcohol data to be considered at a later stage.

Box 1: Proposed alcohol-related injury questions

[For all attendances]

1. Had you been drinking alcohol within three hours prior to the incident occurring?

- [Drop down menu]
- Yes
 - No
 - Unable to answer
 - Refused to answer

[For assault attendances only]

2. Where did the incident happen?

- [Drop down menu]
- Street/road [Free Text] - name
 - Public transport/station [Free Text] - name
 - Pub/bar [Free Text] - name
 - Nightclub/disco [Free Text] - name
 - Green space/park [Free Text] - name
 - Home [Free Text] - name
 - Friends home [Free Text] - name
 - Recreation/sports area [Free Text] - name
 - Work premises [Free Text] - name
 - Education establishment [Free Text] - name
 - Retail/service premises [Free Text] - name
 - Other [Free Text] - name
 - Unable to answer
 - Refused to answer

3. If you had been drinking prior to your attack, where did you consume/purchase your last drink?

- [Drop down menu]
- Pub/bar [Free Text] - name
 - Nightclub/disco [Free Text] - name
 - Off licence [Free Text] - name
 - Supermarket [Free Text] - name
 - Street/road [Free Text] - name
 - Green space/park [Free Text] - name
 - Home [Free Text] - name
 - Friends home [Free Text] - name
 - Other [Free Text] - name
 - Unable to answer
 - Refused to answer

2.1 Methods

A series of meetings with each AED have taken place over the last twelve months. TIIP officers have sought to liaise with AED managers, consultants and information managers. Over this period of consultation current AED data collection procedures, IT systems and levels of alcohol-related injury data were discussed, to inform this report and overall project development.

Data sharing protocols have been developed and are currently being signed by Caldicott Guardians at the hospital trusts. A sample dataset of emergency attendance data has been extracted by the information departments for AEDs covered by all the trusts for the month of June 2008. All the captured fields in the dataset were requested to provide a comprehensive overview of current data collection; however, to maintain patient confidentiality, patient identifiable data were removed or aggregated with, for example, postcode of residence converted to Middle Super Output Area (MSOA)¹.

¹ Middle Super Output Area are geographical areas set after the 2001 census, covering an average population of 7200.

An assessment of the type of data that is collected and its quality was conducted for each hospital trust, followed by a review of AED-based injury levels in Lancashire. The following sections provide a review of each hospital emergency department with discussion on current data collection, alcohol data collection and key next steps.

3. Southport and Ormskirk Hospital NHS Trust

The trust comprises two hospitals: Southport and Formby District General Hospital and Ormskirk and District General Hospital, which fall under the same information department. Southport and Ormskirk Hospital NHS Trust has been a participant of the TIIG Merseyside project since April 2006. The trust has contributed and provided data from both AEDs to TIIG analysts on a quarterly basis. They currently use the Ascribe Patient IT system. Following a meeting on the 19th September 2008 the trust has agreed to full participation in TIIP.

3.1 Current data collection

The trust currently collects the national minimum dataset for AED data collection². Over the sample time period, the hospital trust had 6,841 AED attendances. After reviewing the data sample provided it is evident that the completion levels are high across most of the mandatory fields (Table 1 page 6).

3.2 Alcohol data collection and future developments

At present no alcohol-related injury data are being routinely collected by the AED. Following discussions with them, they have agreed in principle to adapt the current dataset to incorporate the proposed alcohol-related injury questions.

The practicalities of altering the current reception IT system with the additional questions should not present a major difficulty, but there have been some concern with the nature of the first question, *Had you been drinking alcohol within three hours prior to the incident occurring?* It is believed that some reception staff may show a degree of resistance and reluctance to ask this question, due to a perceived threat of verbal or physical confrontation.

TIIP staff will provide reception staff with training and support regarding the additional questions where required. This will include communicating the aims and benefits of the additional questions, and their implementation and impacts elsewhere. Reception staff are key to the accurate collection of this data.

3.3 Key next steps

- Data sharing protocols to be signed by all relevant parties and regular data exchange to commence.
- An in-depth analysis of intentional and unintentional injuries in Lancashire will be conducted for the period April 2006 to September 2008.
- The IT systems need to be altered to contain the additional alcohol-related injury questions.
- Consultation and training with staff regarding the alteration needs to take place.

²See the commissioning dataset (CDS), http://www.datadictionary.nhs.uk/web_site_content/navigation/commissioning_data_sets_menu.asp?shownav=1

Table I. Southport and Ormskirk Hospital NHS Trust AED data fields' completion rates [Data sample June 2008]

Data fields	Field categories	Completion (%)	Notes
Arrival date	DD:MM:YYYY	100	
Arrival time	HH:MM:SS	100	
Gender	Male Female Unknown	100	
Age	YY	100	
Area of residence	Middle Super Output Area	99	
Arrival mode	Brought in by ambulance Other	100	Other = 80%
Referral source	General medical practitioner Self referral Local authority social services Emergency services Work Educational establishment Police Health care provider: same or other Other General dental practitioner Community dental service	100	Other = 26%
Incident time	DD:MM:YYYY	0	
Incident date	HH:MM:SS	0	
Incident location	Home Work Educational establishment Public place Other	100	Other = 8%
Patient group (Injury type)	Road traffic accident Assault Deliberate self-harm Sports injury Firework injury Other accident Other than above	99	Other accident = 38% Other than above = 54%
Attendance category	First accident and emergency attendance Follow-up accident and emergency attendance – planned Follow-up accident and emergency attendance – unplanned	100	
First diagnosis			
Attendance disposal	Admitted to hospital bed/became a lodged patient of the same health care provider Discharged – follow up treatment to be provided by general practitioner (GP) Discharged – did not require any follow up treatment Referred to A&E clinic Referred to fracture clinic Referred to other out-patient clinic Transferred to other health care provider Died in department Referred to other health care professional Left department before being treated Left department having refused treatment Other	100	Other = 0%

4. Lancashire Teaching Hospital NHS Foundation Trust

The trust consists of the Royal Preston Hospital and Chorley and South Ribble Hospital, which both contain AEDs and fall under the same information department. They currently use the Quadramed patient IT system. After consultation with the departments an agreement has been reached for the trust to have full participation in the TIIP.

4.1 Current data collection

The trust currently collects the national minimum dataset for AED data collection. Over the sample time period, the hospital trust had 10,130 AED attendances. After reviewing the data sample provided it is evident that completion levels are high across most of the mandatory fields (see Table 2).

4.2 Alcohol data collection and future developments

At present no alcohol-related injury data are being routinely collected by the AEDs. Previously, a paper-based information form was being used to collect additional alcohol information from all assault attendances to the Royal Preston Hospital AED. This system did not prove successful, producing low completion levels, and the extra resources spent entering the data into a database did not prove sustainable.

Following discussions with the AED staff, the trust has agreed in principle to adapt the current dataset to incorporate the proposed alcohol-related injury questions. After consulting with the IT systems provider regarding alterations, concern was expressed regarding the length of time it will take for changes to be made and also the cost which will be incurred. This was expressed as a possible barrier to alterations in the system.

4.3 Key steps

- Data sharing protocols to be signed by all the relevant parties and regular data exchange to commence.
- Data has been requested by TIIP for the period of April 2006 to September 2008. Once data are received an in-depth analysis of intentional and unintentional injuries in Lancashire will be conducted.
- A practical strategy for altering the IT system needs to be agreed. If any fiscal costs are to be incurred, these must be calculated, quantified and the funds identified. Similarly the length of time which any changes will take must be quantified so this can be incorporated into the project scheduling.

Table 2. Lancashire Teaching Hospital NHS Foundation Trust AED data fields' completion rates [Data sample June 2008]

Data fields	Field categories	Completion (%)	Notes
Arrival date	DD:MM:YYYY	100	
Arrival time	HH:MM:SS	100	
Ethnic group	White British White Irish Any other Asian background Any other black background Any other ethnic group Any other mixed background Any other white background Bangladeshi or British Bangladeshi Black/black British African Black/black British Caribbean Chinese Indian or British Indian	100	Not stated = 0.4%, Patient not asked = 4.2%

Data fields	Field categories	Completion (%)	Notes
	Mixed white & Asian Mixed white black African Mixed white black Caribbean Pakistani or British Pakistani Not stated Patient not asked		
Incident location	Work Educational establishment Public place Sport School sport School playground School other Public park/playground Public building Playing out Other location Other Nursery Hospital Home Home other Holiday HMP Garden College/university	100	Other location = 7%, Other = 47%
Gender	Male Female Unknown	100	
Age	YY	100	
Area of residence	Middle Super Output Area	98	
Arrival mode	Brought in by ambulance Dropped off On foot Helicopter/'air ambulance' Other PETT vehicle Police escort Private transport Public transport Taxi Voluntary ambulance Other - private transport	99.9	Other = 0.3%
Incident date	HH:MM:SS	0	
Patient group (Injury type)	Road traffic accident Assault Deliberate self-harm Sports injury Firework injury Other accident Brought in dead Other than above	100	Other accident = 26.7%; Other than above = 47.5%

5. Royal Blackburn Hospital

The Royal Blackburn hospital has agreed to full participation in the TIIP. A data sharing protocol has been agreed and signed and full data flow is expected to be established in the following months. They currently use the isoft IT system. Consultation with AED staff regarding the additional proposed alcohol questions commenced on the 2nd October, through the Urgent Care Sustainability meeting.

5.1 Current data collection

The trust currently collects the national minimum dataset for AED data collection. Over the sample time period, the hospital trust had 1,862 AED attendances. After reviewing the data sample provided it is evident that completion levels are high across most of the mandatory fields (see Table 3).

5.2 Alcohol data collection and future developments

At present no additional alcohol-related injury data are being collected by the department. Following discussions with AED staff, the trust has agreed in principle to adapt the current dataset to incorporate the proposed alcohol-related injury questions. At the last consultation, a final agreement was reached to add them in April 2009. To date, there have been issues surrounding the changing of key personnel in both the hospital and the PCT, meaning implementation was delayed while new appointments became familiar with the project. TIIP staff will provide reception staff with training and support regarding the additional questions where required. This will include communicating the aims and benefits of the additional questions, and their implementation and impacts elsewhere.

5.3 Key next steps

- Regular data exchange to commence in April 2009.
- Data has been requested by TIIP Lancashire for the period of April 2006 to September 2008. Once data are received an in-depth analysis of intentional and unintentional injuries in Lancashire will be conducted.
- To monitor the implementation, and provide training where required, of the additional data collection.

Table 3. Royal Blackburn Hospital AED data fields' completion rates [Data sample June 2008]

Data fields	Field categories	Completion (%)	Notes
Arrival date	DD:MM:YYYY	100	
Arrival time	HH:MM:SS	100	
Gender	Male Female Unknown	100	
Age	YY	100	
Area of residence	Middle Super Output Area	99	
Arrival mode	Brought in by ambulance (including helicopter/'air ambulance') Car Other Walked in Taxi Public transport	100	Other = 0.3%
Referral source	General medical practitioner Self referral A & E Staff Ambulance Brought in by others Brought in by parent Consultant Direct referral Emergency call	100	Other = 0.1%

Data fields	Field categories	Completion (%)	Notes
	Other Police Sent by others Staff health		
Incident time	DD:MM:YYYY	0	
Incident date	HH:MM:SS	0	
Incident location	Home Work Educational establishment Public place Other	0	
Incident type	Accident at educational establishment Accident at work Accident in public place Alleged assault Accidental trauma at home Cycling Other Direct referral to specialty Road traffic accident Sports Injury	100	Other = 80%
Patient group	Accident - others Assault Deliberate self harm Dental/Oral/Surgery/MaxFax Dermatology Dermatology Ear nose & throat Elderly falls Medical Obstetric/gynaecology Ophthalmic Orthopaedic (non trauma) Other/not in department Paediatric Psychiatric Road traffic accident Social problems Surgical Urology	100	Medical = 73%
Attendance disposal	Admitted to hospital bed/became a lodged patient of the same health care provider Discharged – follow up treatment to be provided by general practitioner Discharged – did not require any follow up treatment Referred to A&E clinic Referred to fracture clinic Referred to other out-patient clinic Transferred to other health care provider Died in department Referred to other health care professional Left department before being treated Left department having refused treatment Other	100	Other = 0.0%

6. Royal Lancaster Infirmary

Royal Lancaster Infirmary is part of the University Hospitals of Morecambe Bay Trust. TIIP project officers have been in contact with the trust since April 2008. Royal Lancaster Infirmary has agreed to participate fully in the TIIP.

6.1 Current data collection

The trust currently collects the national minimum dataset for AED data collection. Over the sample time period, the hospital trust had 4,214 AED attendances. After reviewing the data sample provided it is evident that completion levels are high across most of the mandatory fields. (see Table 4).

6.2 Alcohol data collection and future developments

At present no additional alcohol-related injury data are being collected by the department. The trust is currently undergoing an IT system change to the Lorenzo system, which forms part of the National Program for Information Technology (NPfIT). After initial discussions with the hospital it was agreed that the first aim of the TIIP project in Lancashire is attainable. When protocols are signed, the current AED dataset will be shared with TIIP and its partners as part of the ISS.

The second part of the project regarding the collection of alcohol-related information will be difficult to achieve on schedule due to the current change in the IT system. It is considered impractical to integrate additional questions into the IT system while this change is taking place. Implementation of the Lorenzo system is due for completion towards the end of 2009. Once the system is up and running, discussions will take place to identify the potential to incorporate the additional questions and bring the AED in line with the rest of Lancashire. It is possible that TIIP and the trust will be able to have influence over the content of the new Lorenzo system; steps will be taken to contact the system providers to engage in consultation.

Efforts should be invested in continued communication between TIIP and the hospital to demonstrate the benefits of the TIIP system, build relationships and ensure continued involvement. A benefit of the delay in the implementation of additional data collection is that experience can be drawn from other AEDs in Lancashire in the implementation of TIIP.

6.3 Key next steps

- Data protocol to be signed by all the relevant parties and regular data exchange to commence.
- Data has been requested by TIIP for the period of April 2006 to September 2008. Once data are received an in-depth analysis of intentional and unintentional injuries in Lancashire will be conducted.
- Start discussions with Connecting for Health regarding the AED data collection on Lorenzo.
- Continue communication with the hospital about TIIP to ensure they remain involved in the project.

Table 4. Royal Lancaster Infirmary AED data fields' completion rates [Data sample June 2008]

Data fields	Field categories	Completion (%)	Notes
Arrival date	DD:MM:YYYY	100	
Arrival time	HH:MM:SS	100	
Gender	Male Female Unknown	100	
Age	YY	100	
Area of residence	Middle Super Output Area	97	
Arrival mode	Brought in by ambulance (including helicopter/'air ambulance') Other	100	Other = 73%

Data fields	Field categories	Completion (%)	Notes
Referral source	General medical practitioner Self referral Local authority social services Emergency services Work Educational establishment Police Health care provider: same or other Other General dental practitioner Community dental service	100	Other = 10%
Incident time	DD:MM:YYYY	0	
Incident date	HH:MM:SS	0	
Incident location	Home Work Educational establishment Public place Other	100	Other = 39%
Patient group)	Road traffic accident Assault Deliberate self-harm Sports injury Firework injury Other accident Brought in dead Other than above	100	Other accident = 29%; Other than above = 64%
Attendance category	First accident and emergency attendance Follow-up accident and emergency attendance – planned Follow-up accident and emergency attendance – unplanned	100	
Attendance disposal	Admitted to hospital bed/became a lodged patient of the same health care provider Discharged - follow up treatment to be provided by general practitioner Discharged - did not require any follow up treatment Referred to A&E clinic Referred to fracture clinic Referred to other out-patient clinic Transferred to other health care provider Died in department Referred to other health care professional Left department before being treated Left department having refused treatment Other	100	Other = 0.3%

7. Blackpool Victoria Hospital

Blackpool Victoria Hospital is part of the Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust, which TIIP project officers have been in contact with since September 2008. Blackpool Victoria Hospital has agreed to participate fully in the TIIP.

7.1 Current data collection

Data was not received in time to form part of this report. An amended version will be produced when the data has been received.

7.2 Alcohol data collection and future developments

At present no additional alcohol-related injury data are being collected by the department. Following discussions with AED staff, the trust has agreed in principle to adapt the current dataset to

incorporate the proposed alcohol-related injury questions. It is anticipated that altering the current IT system at reception to include the additional alcohol-related questions should not present any major barriers. However during consultation the trust highlighted that they may need additional funding for staff training and/or IT system alteration costs. The trust is currently considering the feasibility of adapting the current IT system to incorporate the additional questions and calculating their needs to achieve these aims. These will be discussed with Blackpool PCT and TIIP officers so that a strategy can be devised.

7.3 Key next steps

- Data protocol to be signed by all relevant parties and regular data exchange to commence.
- Once the data protocols have been signed, regular data provision (monthly) should occur from the information department to TIIP via the secure NHS email address at LJMU.
- Data have been requested by TIIP Lancashire for the period of April 2006 to September 2008. Once data are received an in-depth analysis of intentional and unintentional injuries in Lancashire will be conducted.
- A discussion between Blackpool Victoria Hospital, Blackpool PCT and TIIP will take place to devise a strategy to implement the additional alcohol-related information

8. Injury levels in Lancashire

8.1 Data issues

In order to maintain patient anonymity, all admission counts less than five have been suppressed.³

8.2 Royal Lancaster Infirmary

The Royal Lancaster received 4,214 attendances to the AED during June 2008 (Table 6). Almost all (94%) of the attendances fall into the categories of *other accident* or, *other than above*. This leaves 6% of attendances in the definable injury groups with the highest being road traffic accidents at just under 3%. Overall more attendances were male (55%). The large majority of assault attendances (70%) and sport injury attendances (87%) were male, however 70% of deliberate self-harm attendances were female.

Table 6. Injury group of attendances to Royal Lancaster Infirmary AED by gender June 2008.

Injury group	Total	
	N	%
Assault	34	0.8
Deliberate self-harm	10	0.2
Other accident	1242	29.5
Other than above	2714	64.4
Road traffic accident	113	2.7
Sports injury	101	2.4
Total	4214	100.0

A third (33%) of all attendances were aged between 30-59, however Figure 1 demonstrates the differing age demographic between the injury groups. Almost seventy percent (67%) of attendances for assaults were aged between 15-29, 70% of deliberate self-harm attendances were aged between

³ *** denote that numbers less than five have been suppressed in line with patient confidentiality and if there is only one number <5 in a category then two numbers will be suppressed at the next level (e.g. <10) in order to prevent back calculations from totals.

15-29, where as the majority (42%) of attendances for road traffic accidents were aged between 30-59.

Figure 1. Injury group of attendances to Royal Lancaster Infirmary by age group, June 2008.

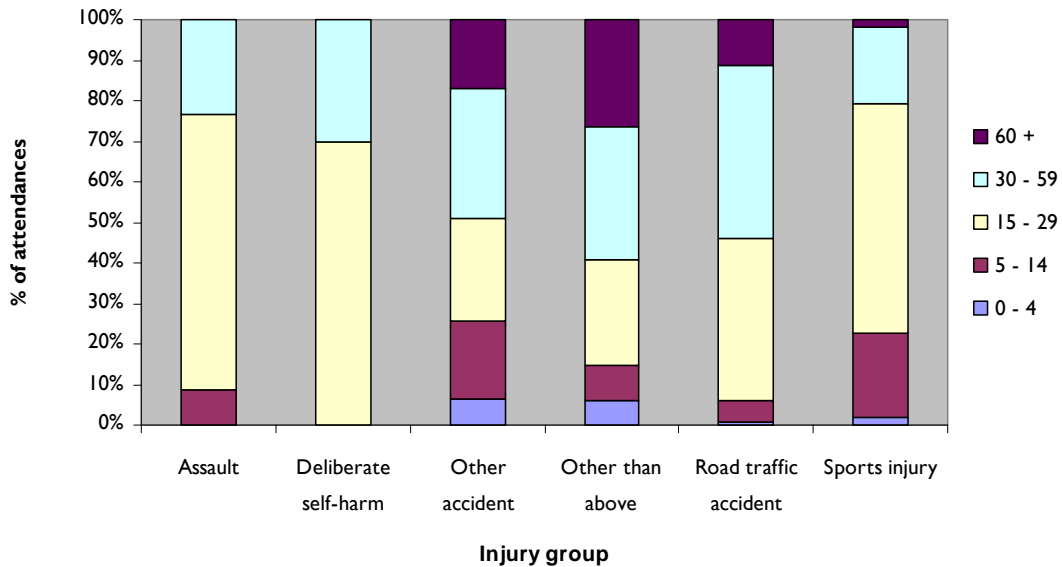


Table 7 presents the busiest days and times for attendances at the Royal Lancaster Infirmary AED and shows that over a third (36.5%) of all attendances were on Sundays and Mondays. The busiest times for the department are between 10.00am and 11.59am where a quarter of the total attendances presented. There are variations between peak attendance days and times with the differing injury groups. For example the majority (56%) of assault attendances attended on Fridays, Saturdays and Sundays with a quarter of them between them hours of 10.00pm and 1.59am.

Table 7. Peak day and times for attendances to Royal Lancaster Infirmary AED by injury group, June 2008

Injury group	Peak days (%)	Peak times (%)
Assault	Friday, Saturday and Sunday (55.9)	22:00 – 01:59 (26.5)
Deliberate self-harm	Sunday (30.0)	00:00 – 01:59 (30.0)
Other accident	Monday and Wednesday (40.7)	10:00 – 13:59 (32.0)
Other than above	Sunday and Monday (39.8)	14:00 – 17:59 (25.2)
Road traffic accident	Monday, Wednesday and Friday (46.0)	18:00 – 19:59 (17.7)
Sports injury	Tuesday and Wednesday (35.6)	16:00 – 19:59 (30.7)
Total	Sunday and Monday (36.5)	10:00 – 11:59(25.1)

The most common source of referral to the AED was self referral (61%) with the emergency services the second most common at (26%) (Table 8).

Table 8. Sources of referral for attendances to Royal Lancaster Infirmary AED, June 2008.

Source of referral	N	%
Educational establishment	16	0.4
Emergency services	1096	26.0
General dental practitioner	***	0.0
GP	56	1.3
Other	428	10.2
Police	27	0.6
Self referral	2567	60.9
Work	22	0.5
Unknown	***	0.0
Total	4214	100.0

The majority (97%) of attendances to the AED were first time attendances for that incident (Table 9). Table 10 shows the arrival mode to the Royal Lancaster Infirmary AED and that seven in ten (72%) attendances arrived by foot, with 27% arriving by ambulance .

Table 9. Attendance category of attendances to Royal Lancaster Infirmary AED, June 2008.

Attendance category	N	%
First accident and emergency attendance	4087	97.0
Follow-up accident and emergency attendance planned	5	0.1
Follow-up accident and emergency attendance unplanned	122	2.9
Total	4214	100.0

Table 10. Arrival mode of attendances to Royal Lancaster Infirmary AED, June 2008.

Arrival mode	N	%
Brought in by ambulance	1129	26.8
Foot	3052	72.4
Helicopter	***	0.2
Other	24	0.6
Unknown	***	0.0
Total	4214	100.0

Table 11 shows the disposal method for attendances to the Royal Lancaster Infirmary AED. For all the attendances to the AED, 39% were discharged and did not require any follow up treatment and 21% were discharged with follow-up treatment with their general practitioner. Of all the attendances, 20% were admitted to a hospital bed or became a lodged patient.

Table 11. Method of disposal of all attendances to Royal Lancaster Infirmary AED, June 2008.

Disposal method	N	%
Unknown	***	0.0
Admit to hospital bed/became a lodged patient	829	19.7
Discharge - follow up care by general practitioner	881	20.9
Discharged - did not require follow up treatment	1651	39.2
Left - before being treated	124	2.9
Left - refused treatment	21	0.5
Other	11	0.3
Patient died in department	8	0.2
Refer to fracture clinic	386	9.2
Refer to orthopaedic clinic	106	2.5
Refer to other health care provider	77	1.8
Referred to A&E clinic	90	2.1
Restore to ward	***	0.0
Transfer to other health care provider	27	0.6
Total	4214	100.0

8.3 Chorley and South Ribble Hospital and Royal Preston Hospital

Chorley and South Ribble Hospital and Royal Preston Hospital AEDs received 10,130 attendances during June 2008. Over seven in ten (74%) of attendances were registered in the category of *other accident*, and *other than above*. The largest attendance for a specific injury group category is for falls attendances (15%). Table 12 shows the injury groups for attendances by gender; overall more attendances to the AED were male (53%). The large majority of assault attendances (67%) and sports attendances (83%) were male, however, falls were predominately female (53%).

Table 12. Injury group of attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital by gender, June 2008.

Injury group	Male		Female		Total	
	N	%	N	%	N	%
Assault	142	67.3	69	32.7	211	2.1
Deliberate self-harm	26	63.4	15	36.6	41	0.4
Fall	722	46.6	826	53.4	1548	15.3
Other accident	1567	57.8	1143	42.2	2710	26.7
Other than above	2334	48.5	2478	51.5	4812	47.5
Road traffic accident	237	55.8	188	44.2	425	4.2
Sports injury	319	83.3	64	16.7	383	3.8
Total	5347	52.8	4783	47.2	10130	100.0

Figure 2 shows the age differences for attendances to Chorley and South Ribble Hospital and Royal Preston Hospital. Over a third (35%) of all attendances were aged between 30-59 years old. Attendances for assault (62%), 54% of deliberate self-harm attendances were aged between 15-29 and road traffic accidents (47%) were predominantly aged between 15-29 years old.

Figure 2. Injury group of attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital by age group , June 2008.

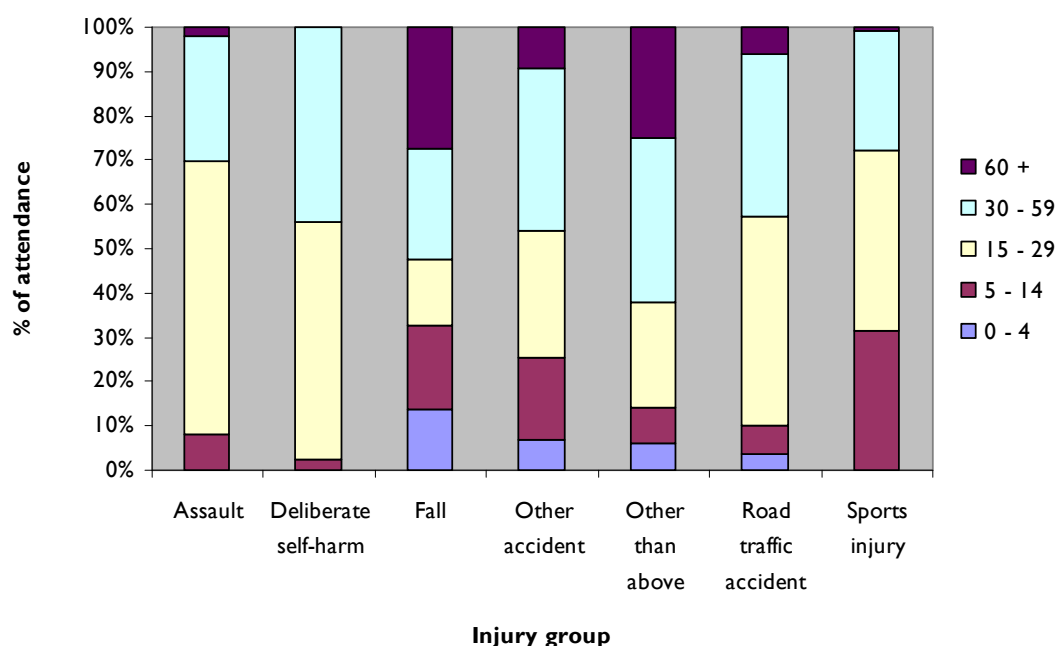


Table 13 displays the busiest days and times for attendances at the AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital by gender, June 2008, and shows that over a third (36.6%) of all attendances were on Sundays and Mondays. The busiest times for the department are between 2.00pm and 7.59pm where a over a third of the total attendances presented. There is variation between peak attendance days and times for the differing injury groups. For example the majority (56%) of assault attendances attended on Fridays, Saturdays and Sundays with a quarter of these between the hours of 10.00pm and 1.59am.

Table 13. Peak day and times for attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital by gender, June 2008.

Injury group	Peak days (%)	Hours (%)
Assault	Sunday (28.4)	22:00 - 01:59 (25.1)
Deliberate self-harm	Saturday, Sunday and Monday (61.0)	00:00 - 03:59 (34.1)
Fall	Sunday and Monday (38.7)	12:00 - 19:59 (56.2)
Other accident	Sunday and Monday (36.1)	16:00 - 19:59 (27.7)
Other than above	Sunday and Monday (36.0)	14:00 - 19:59 (33.5)
Other than Above	Saturday (19.2)	12:00 - 13:59 (46.2)
Road traffic accident	Monday (23.3)	14:00 - 19:59 (48.2)
Sports Injury	Monday (21.7)	14:00 - 19:59 (45.4)
Total	Sunday and Monday (36.6)	14:00 - 19:59 (37.7)

Over four in ten (47%) incident locations were recorded as *other*. The most common specified places were in the home (16%) and in a public place (10%) (Table 14). The majority of attendees to Chorley and South Ribble Hospital and Royal Preston Hospital arrived by private transportation (58%) with 22% arriving by ambulance, as displayed in Table 15.

Table 14. Incident location of attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital, June 2008.

Location	N	%
College/university	10	0.1
Educational establishment	39	0.4
Garden	129	1.3
HM Prison service	13	0.1
Holiday	83	0.8
Home	1587	15.7
Home other	154	1.5
Hospital	13	0.1
Nursery	24	0.2
Other	4796	47.3
Other location	756	7.5
Playing out	136	1.3
Public building	23	0.2
Public park/playground	40	0.4
Public place	1053	10.4
School other	118	1.2
School playground	115	1.1
School sport	69	0.7
Special event	8	0.1
Sport	362	3.6
Work	602	5.9
Total	10130	100

Table 15. Arrival mode of trauma attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital, June 2008.

Arrival mode	N	%
Unknown	***	0.1
Ambulance	2175	21.5
Dropped off	971	9.6
Foot	250	2.5
Helicopter	11	0.1
Other	35	0.3
PETT vehicle	***	0.0
Police escort	71	0.7
Prison escort	21	0.2
Private transport	5920	58.4
Public transportation	415	4.1
Taxi	249	2.5
Voluntary ambulance	***	0.0
Total	10130	100.0

The majority of attendees (45%) to Chorley and South Ribble Hospital and Royal Preston Hospital AEDs were discharged and did not require any follow-up treatment. A fifth (19%) of attendees were discharged but required follow up treatment with their general practitioner, and 14% had to be admitted to the same hospital or became a lodged patient of the same health care provider.

Table 16. Disposal method of attendances to AEDs covered by Chorley and South Ribble Hospital and Royal Preston Hospital, June 2008.

Disposal method	N	%
Admitted to Avondale Unit	9	0.1
Admitted to Chorley and South Ribble district general hospital	5	0.0
Admitted to Healey/Yarrow ward	26	0.3
Admitted to hospital bed/became a lodged patient of the same health care provider	1438	14.2
Admitted to Royal Preston hospital	207	2.0
Died in department	17	0.2
Discharged - did not require any follow-up treatment	4600	45.4
Discharged - follow-up treatment to be provided by general practitioner	1877	18.5
Left department before being treated	303	3.0
Left department having refused treatment	58	0.6
Other	18	0.2
Police custody	13	0.1
Referred to A&E Clinic	382	3.8
Referred to fracture clinic	715	7.1
Referred to other healthcare professional	167	1.6
Referred to other outpatient clinic	277	2.7
Transfer to other healthcare provider	18	0.2
Total	10130	100.0

8.4 Royal Blackburn Hospital

The Royal Blackburn Hospital received 1,863 attendances to AED during June 2008. Within the dataset there are two fields which encompass the commissioning dataset⁴ Injury group field, *Incident type* and *Patient group*. Part of the purpose of this report is to display the type of data that is being collected, therefore a table for each data field has been created. Table 17 shows the incident type for AED attendance at the Royal Blackburn Hospital. Eight in ten of the attendances were identified in incident type as *other*, with 15% identified as a direct referral to a speciality. Table 18 displays the patient group for AED attendances to the Royal Blackburn Hospital; 73% of attendances were categorised as medical, 8% surgical and 4% as accident – others.

Table 17. Incident type of attendances to Royal Blackburn Hospital AED by gender, June 2008.

Incident type	Male		Female		Total	
	N	%	N	%	N	%
Accident at educational establishment	***	100.0	***	0.0	***	0.1
Accident at work	***	100.0	***	0.0	***	0.1
Accident in public place	9	52.9	8	47.1	17	0.9
Accidental trauma at home	16	40.0	24	60.0	40	2.1
Alleged assault	***	90.9	***	9.1	***	0.6
Cycling	***	50.0	***	50.0	***	0.1
Direct referral to specialty	125	43.7	161	56.3	286	15.4
Other	758	50.7	737	49.3	1495	80.2
Road traffic accident	***	75.0	***	25.0	***	0.4
Sports injury	***	100.0	***	0.0	***	0.1
Total	929	49.9	934	50.1	1863	100.0

⁴ The CDS *ibid*.

Table 18. Patient group of attendances to Royal Blackburn Hospital AED by gender, June 2008.

Patient group	Male		Female		Total	
	N	%	N	%	N	%
Accident - others	39	53.4	34	46.6	73	3.9
Assault	***	90.0	***	10.0	***	0.5
Deliberate self harm	***	40.0	***	60.0	***	0.3
Dental/Oral/Surgery/MaxFax	***	0.0	***	100.0	***	0.2
Dermatology	***	100.0	***	0.0	***	0.1
Ear nose & throat	***	20.0	***	80.0	***	0.5
Elderly falls	***	16.0	***	84.0	***	1.3
Medical	696	51.4	657	48.6	1353	72.6
Obstetric/Gynaecology	***	2.9	33	97.1	34	1.8
Ophthalmic	***	0.0	***	100.0	***	0.1
Orthopaedic (non trauma)	9	37.5	15	62.5	24	1.3
Other/not in department	11	45.8	13	54.2	24	1.3
Paediatric	47	54.7	39	45.3	86	4.6
Psychiatric	16	48.5	17	51.5	33	1.8
Road traffic accident	***	71.4	***	28.6	***	0.4
Social problems	***	0.0	***	100.0	***	0.1
Surgical	65	45.5	78	54.5	143	7.7
Urology	22	75.9	7	24.1	29	1.6
Total	929	49.9	934	50.1	1863	100.0

Just under a third (30%) of all attendances were aged between 30-59. However Figure 3 demonstrates the differing age demographic between the injury groups. Almost eighty percent (78%) of attendances for accidental trauma at home were aged 60 plus, where as the majority (64%) of attendances for alleged assault were aged between 30-59 years old. It should be noted that Figure 3 does not reflect the trends other AED datasets have shown. This may be down to coding but is an issue that will be followed up by TIIP officers.

Figure 3. Injury group of attendances to Royal Blackburn Hospital AED by age group, June 2008.

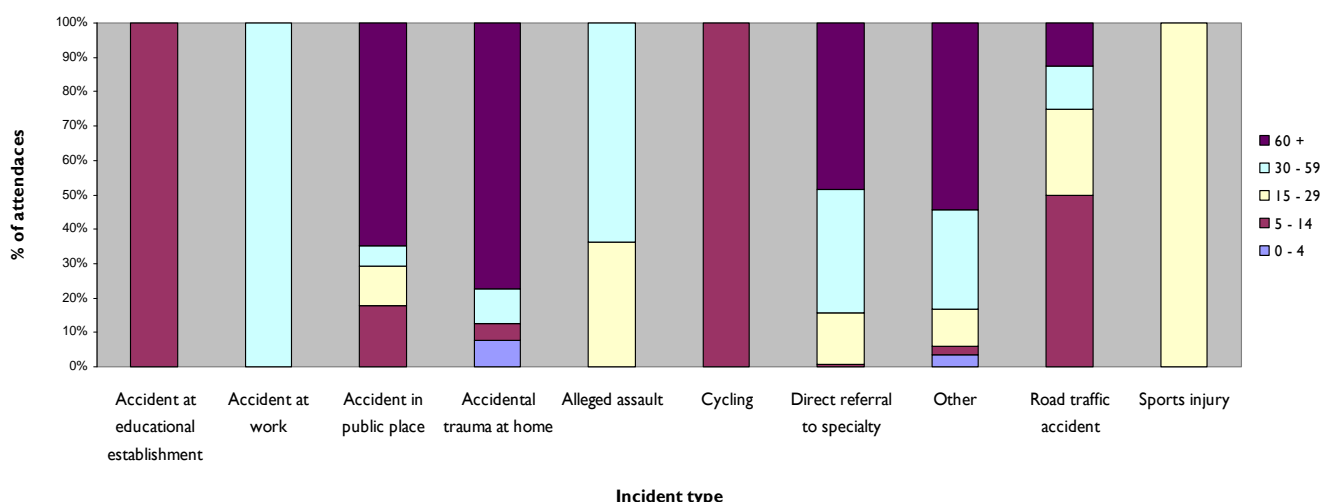


Table 19 displays the busiest days and times for attendances at the Royal Blackburn Hospital AED and shows that half (50%) of all attendances were on Sundays, Mondays and Tuesdays. The busiest times for the department are between 4.00pm and 7.59pm when a quarter of the total attendances presented. There are variations between peak attendance days and times across injury groups. For example the majority (64%) of assault attendances attended on Tuesdays, Wednesdays and Thursdays with a 46% of them between the hours of 10.00pm and 3.59am. It should be noted that these table

does not reflect the trends other AED datasets have shown. This may be down to coding but is an issue that will be followed up by TIIP officers.

Table 19. Peak day and times for attendances to Royal Blackburn Hospital AED by injury group, June 2008

Incident type	Peak days (%)	Peak times (%)
Accident at educational establishment	n/a	n/a
Accident at work	n/a	n/a
Accident in public place	Friday, Saturday, Sunday and Monday (82.4)	12:00 – 17:59 (52.9)
Accidental trauma at home	Wednesday Thursday and Friday (60.0)	18:00 – 19:59 (20.0)
Alleged assault	Tuesday Wednesday and Thursday (63.6)	10:00 – 15:59 (54.5)
Cycling	n/a ³	n/a ³
Direct referral to specialty	Tuesday and Wednesday (51.4)	16:00 – 19:59 (45.8)
Other	Sunday and Monday (36.1)	10:00 – 13:59 (22.7)
Road Traffic accident	n/a	n/a
Sports injury	n/a	n/a
Total	Sunday Monday and Tuesday (50.4)	16:00 – 19:59 (25.2)

n/a = due to insufficient numbers analysis was not conducted.

Table 20 depicts the mode of arrival for all attendances to Royal Blackburn Hospital AED. Four in five (84%) attendees arrived in an ambulance with 15% arriving by car. Three quarters (75%) of attendees initiator of attendance was via ambulance, with 8% on request of the GP. It should be noted that this table does not reflect the trends other AED datasets have shown. These may be down to coding but is an issue that will be followed up by TIIP officers.

Table 20. Arrival mode of attendances to Royal Blackburn Hospital AED, June 2008.

Arrival mode	N	%
Ambulance	1569	84.2
Car	271	14.5
Other	***	0.2
Public transport	***	0.1
Taxi	12	0.6
Walked in	6	0.3
Total	1863	100.0

Table 21. Source of referral to Royal Blackburn Hospital AED, June 2008.

Source of referral	N	%
AED staff	24	1.3
Ambulance	1404	75.4
Brought in by others	114	6.1
Brought in by parent	10	0.5
Consultant	***	0.1
Direct referral	65	3.5
Emergency call	66	3.5
GP request	141	7.6
Other	***	0.1
Police	6	0.3
Self referral	21	1.1
Sent by others	***	0.1
Staff health	7	0.4
Total	1863	100.0

8.4 Southport and Ormskirk Hospital NHS Trust

The AEDs within the Southport and Ormskirk Hospital NHS Trust received 6,841 attendances during June 2008. Over half (54%) of these attendances were identified as *other than above* and 38% were identified as *other accident*. Table 22 shows the injury group by gender; overall more attendances were male (53%). The large majority of sport injury attendances (85%) and assault attendances (76%) were male.

Table 22. Injury group of attendances to AED covered by Southport and Ormskirk Hospital NHS Trust, June 2008

Patient Group	Male		Female		Unknown		Total	
	N	%	N	%	N	%	N	%
Road traffic accident	131	56.2	102	43.8	0	0.0	233	3.4
Assault	68	75.6	22	24.4	0	0.0	90	1.3
Deliberate self harm	27	56.3	21	43.8	0	0.0	48	0.70
Sports injury	109	84.5	20	15.5	0	0.0	129	1.9
Other accident	1374	52.4	1246	47.5	2	0.1	2622	38.3
Other than above	1884	50.7	1835	49.3	0	0.0	3719	54.4
Total	3593	52.5	3246	47.4	2	0.0	6841	100.0

The highest percentage of attendances (28%) were aged between 30-59 years old. However Figure 4 demonstrates this differs between injury groups. For example 65% of assault attendances were aged between 15-29, whereas the majority of road traffic attendances were aged 30-59 years old (42%).

Figure 4. Injury group of attendances to AEDs covered by Southport and Ormskirk Hospital NHS Trust by age group, June 2008.

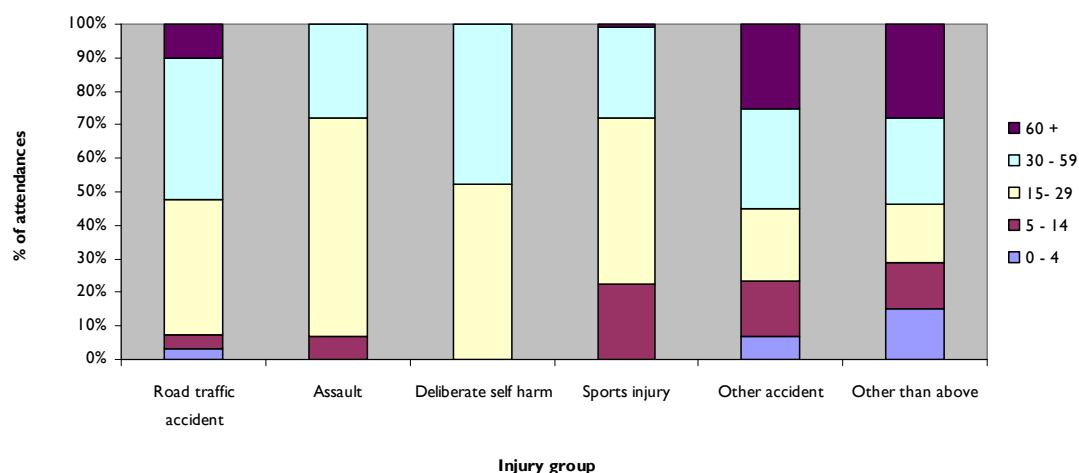


Table 23 depicts the mode of arrival for all attendances to Southport and Ormskirk Hospital NHS Trust AEDs. One in five (20%) attendees arrived in an ambulance with 80% arriving by *other* form of transport. Of all attendees, 56% self referred to AEDs, with 26% being recorded as other and 8% being referred by the emergency services (Table 23).

Table 23. Arrival mode of attendances to Southport and Ormskirk Hospital NHS Trust AEDs, June 2008.

Arrival mode	N	%
Ambulance	1345	19.7
Other	5496	80.3
Total	6841	100.0

Table 23. Source of referral of attendances to Southport and Ormskirk Hospital NHS Trust AEDs, June 2008.

Source of referral	N	%
GP	185	2.7
Self referral	3850	56.3
Social services	***	***
Emergency services	528	7.7
Work	***	***
Educational establishment	14	0.2
Police	28	0.4
Health care provider	454	6.6
Other	1776	25.9
Total	6841	100.0

For all attendances to Southport and Ormskirk Hospital NHS Trust AEDs, the home was the most common location for the incident (63%), followed by public place (19%) and other (10%) (Table 25). Table 26 shows the disposal method for attendances to Southport and Ormskirk Hospital NHS Trust AEDs. For all attendances, 41% were discharged without any follow up treatment required, 18% of all attendances were admitted to hospital, and 16% were discharged but required follow treatment from their GP.

Table 25. Incident location of attendances to Southport and Ormskirk Hospital NHS Trust AEDs, June 2008.

Incident location	N	%
Home	4279	62.5
Work	274	4.0
Educational establishment	314	4.6
Public place	1327	19.4
Other	647	9.5
Total	6841	100.0

Table 26. Disposal method of attendances to Southport and Ormskirk Hospital NHS Trust AEDs, June 2008.

Attendance disposal	N	%
Admitted to hospital	1260	18.4
Discharged - follow up treatment with GP	1098	16.1
Discharged - no follow up treatment	2801	40.9
Referred to A&E clinic	47	0.7
Referred to fracture clinic	471	6.9
Referred to other out-patient clinic	170	2.5
Transferred to other healthcare provider	159	2.3
Died in department	9	0.1
Referred to other health care professional	637	9.3
Left department before being treated	158	2.3
Left department having refused treatment	31	0.5
Total	6841	100.0

Over a third (36%) of all AED attendances to Southport and Ormskirk Hospital NHS Trust AEDs occurred on Sundays and Mondays, with the peak hours for attendances to the departments between 10.00am and 11.59am. Table 27 presents the peak days and peak hours for attendance to Southport and Ormskirk Hospital NHS Trust AEDs between the differing injury groups. There are wide

variations between peak attendance days and times between the injury groups. For example assault attendances peak on Saturdays and Sundays (60%) and between 2.00am and 5.59am (27%), whereas deliberate self-harm attendances peak on Sunday and Tuesdays (56%) and between the hours of 10.00pm and 3.59am (56%)

Table 27. Peak days and times for attendances to Southport and Ormskirk Hospital NHS Trust AEDs by injury group, June 2008

Patient group	Peak days (%)	Peak times (%)
Road traffic accident	Monday, Tuesday and Friday (50.2)	16:00 – 17:59 (15.9)
Assault	Saturday and Sunday (60.0)	02:00 – 05:59 (27.8)
Deliberate self-harm	Sunday and Tuesday (56.3)	22:00 – 03:59 (56.3)
Sports injury	Sunday and Monday (34.1)	16:00 – 21:59 (43.4)
Other accident	Sunday and Monday (38.2)	10:00 – 11:59 (15.2)
Other than above	Monday (20.2)	10:00 – 11:59 (15.2)
Total	Sunday and Monday (35.5)	10:00 – 11:59 (14.8)

9. Project overview

9.1 Information systems

There is a plethora of different information systems in AED departments across the UK, and Lancashire AED systems are similarly varied. Across Lancashire there are five different information systems used in AEDs which capture and hold varying levels of data, although of a similar nature. Combining a number of differing information system creates a variety of problems, especially around translating the data into a comparative form. Barriers exist in making additions to existing systems, and extracting that additional information.

The Department of Health is currently undertaking the NPfIT, an initiative to move the National Health Service to a central electronic system of patient records. However, implementation of this programme has been delayed. It should be noted that whilst TIIP welcomes a national system and hopes to work alongside it in the future, an immediate response is required to tackle current public health issues. This is a challenge for TIIP officers and the information departments in Lancashire AEDs to work together to resolve.

9.2 Data quality

Data quality is at the heart of good decision making and the TIIP system is only as useful as the quality of data which it receives. Part of TIIP's ethos is to strive to continually improve the quality of data collected in AEDs, and therefore provide the best evidence to agencies to improve public health.

While the completeness of the fields of data collected in Lancashire are, in general, good, the quality of data collected could be improved. Details of possible individual improvement have been included in this report but it is neither inclusive nor exhaustive. The face of public health is continually changing and with it the information required. The TIIP system should provide the framework for the dataset to continually evolve to suit providers and the needs of the user. Regular consultation is required between the PCT, AEDs, MADE users and TIIP to determine whether the data captured is fit for purpose.

9.3 Human resources issues

Front line staff (reception staff and nurses) are crucial to data capture in AEDs and any changes and alterations to current IT systems must occur with the backing of staff. Any alterations must take place with careful consideration and respect. Any project which attempted to implement actions without the support of the staff would be difficult to achieve.

It is imperative that AED staff are offered the support of the TIIP members and PCTs. This includes both reception and triage staff, who are key to the accurate collection of data, and staff in information departments who extract and collate the data. Regular consultation with feedback will be required to demonstrate the work, highlight the benefits of the project, and consider any concerns regarding the practicalities of implementation. Constant feedback by TIIP to data providers is essential for the TIIP to develop and to be sustainable.

10. Conclusion

The TIIP has progressed significantly since its inception. All AEDs in Lancashire have agreed to work with the TIIP partners in the pursuit of the project aims, and this is a significant achievement. Data has been shared by most required parties and the first aim of regular data flow should be complete by April 2009. Few barriers are expected to this aspect of the project, yet open and regular communication between TIIP and key personnel is essential.

All AEDs in Lancashire have agreed in principle to provide data for the purpose of TIIP, which achieves the first aim of the project. The second aim of the project will prove more challenging to achieve. Currently all AEDs are working to find solutions to the possible barriers to additional data collection. Although TIIP officers believe this aim is achievable, it will not be possible in the original time frame. The Royal Blackburn Hospital; Preston and Chorley Hospitals; Southport and Formby District General Hospital and Ormskirk and District General Hospital; and Lancaster Royal Infirmary are all taking positive steps in collecting additional alcohol-related injury data, while Blackpool Victoria are formulating a strategy. To achieve the second aim of the project further funding will be required to ensure a sustainable system can be put in place and all the project aims are met.