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FOREWORD

Access to quality and reliable injury information remains one of the most difficult challenges facing the agencies responsible for crime reduction and health improvement. There are significantly high levels of injuries caused by accidents, assaults and deliberate harm. However, a lack of resources, poor information technology and a lack of commitment to preventing injuries have, historically, hampered the development of good injury information. Consequently, we are very pleased to note the progress that has been made in assembling consistent and reliable data and to support the proposals for the next phase of development for Injury Information Systems in Merseyside.

Accurate information about the concentration and distribution of injuries on Merseyside is vital to inform the strategies and actions of practitioners and service providers responsible for injury prevention and care management. It is for this reason that other key agencies and emergency services have joined this collaborative initiative to improve injury information and data systems.

Merseyside Police, working in partnership with several Accident and Emergency Departments and Liverpool University, has investigated the levels of bottle and glass related injuries across Merseyside in order to target social marketing campaigns and measure the impact of operations such as "Crystal Clear". Merseyside Fire Service is examining fire and smoke related injuries and death and is implementing targeted programmes to prevent these incidents. The Mersey Regional Ambulance Service is also sharing information through this multi-agency initiative.

The challenge now is to create a sustainable way forward for common data collection and management information systems for Merseyside. It is envisaged that injury information will become more easily available, particularly as the routine electronic capture and analysis of data is consolidated. For the next three years we expect that such work needs to be encouraged and carefully supported.

We will ask the two main sponsoring Partnerships involved in Merseyside, the Health Action Zone Partnership (HAZ) and the Safer Merseyside Partnership (SMP) to consider providing additional resources to enable this work to continue into phase 2 from 2003/04 and beyond. In addition, the Partnership will be recruiting new members to this injury information systems initiative.

We are grateful for the participation and guidance of colleagues from key agencies in Merseyside who took part in the Injury Information Seminar in June 2002 and contributed to the future development of this strategy.

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Accident Strategy Convenor
Health Action Zone

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Head of Safer
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December 2002

GLOSSARY OF TERMS

Accident

The standard dictionary definition of an accident is an unforeseen event or one without an apparent cause¹. This is perhaps why there is a move away from using this as a term for prevention purposes and it is now more likely to be defined as unintentional injury (see types of injury).

Burn

As a generic term burn may be used to describe thermal injuries destroying some or all of the layers of cells forming skin. These can be caused by hot liquids (scalds), hot solids (contact burns), chemicals (chemical burns), or flames (flame burns)². Within the proposed data set the terms used are burn (flame burn), non-direct fire, burn or scald and other fire related injury (smoke inhalation etc). However, it should be noted that hospitals have had a responsibility to collect data on firework injuries around the time of November 5th for the Department of Trade and Industry, and this has therefore been included as an additional category on the proposed data set.

Domestic Violence

The term 'domestic violence' shall be understood to mean any violence between current or former partners in an intimate relationship, or any other family member, wherever and whenever it occurs. The violence may include physical, sexual, emotional or financial abuse.³

Injury

Injury is damage to the body occurring with a short length of time from exposure to thermal, mechanical, electrical or chemical energy or the absence of essentials to life. Examples of the latter may be drowning, strangulation or freezing⁴. Sometimes 'injury' and 'trauma' are used interchangeably (see trauma). Work by the North West Public Health Observatory on behalf of TIIG demonstrates how injury is defined by different agencies. Classification of injury severity is also included⁵.

Intelligence

Used in the military sense intelligence is information that can be used for planning.

Road Traffic Accidents

Injuries involving any mode of transport on the roads (e.g. cars, motorcycles, bicycles) and the individuals affected (e.g. drivers, passengers, cyclists, pedestrians). Reported to the police these form part of STATS 19 Data sponsored by Department of the Environment, Transport and the Regions (DETR)⁶.

Surveillance

Surveillance is the ongoing systematic collection, analysis and interpretation of health data which is essential to the planning, implementation, and evaluation of

health practice and is closely integrated with the timely dissemination of derived information to those who need to know. The final link of the surveillance chain is in the application of these data to prevention and control.

Surveillance System

A surveillance system includes a functional capacity of data collection, analysis and dissemination linked to public health programmes. An Injury Surveillance System can be further classified into 'active' or 'passive' surveillance. In active surveillance, interviews are conducted with individuals following incidences of injury. However this is time consuming and expensive in terms of both human and financial resources. The Home and Leisure Accident Surveillance System is an active system. Passive surveillance allows for information to be collected as part of other activities following an incident of injury. This is through agencies involved in an incident and may include health, police, ambulance, fire or other services. The Trauma and Injury Intelligence Group is developing a passive system.

Trauma

Trauma is the term used to indicate disorders due to wounds or injuries⁷.

Types of injury

The term injury is often prefixed with the words intentional or unintentional. This is the correct manner in which to refer to accidents and assaults. Intentional injury includes injuries that are inflicted by a conscious action and hence includes both assaults and intentionally inflicted self-harm. However, it also encompasses legal intervention by police for example, or an act of war. Unintentional injury may be perceived as what was previously termed 'accident'. This is more easily described as an injury that has occurred as a product of an accidental or unintended event. A third category is undetermined intent.

Violence

The intentional use of physical force or power (threatened or actual) against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation⁸.

ABBREVIATIONS

AED - Accident and Emergency Department or Casualty Department

HAZ - Health Action Zone

IISDP- Injury Information Systems Development Project

TIIG - Trauma and Injury Intelligence Group

SECTION ONE: INTRODUCTION TO TIIG

1.1 INTRODUCTION

Intentional and unintentional injuries are responsible for the deaths of 5 million people each year globally and 20,000 deaths in the UK. There are 30 million resultant medical interventions⁹. The World Health Organisation specified violence as the 3rd leading cause of death in the 15 – 44 year group¹⁰. The cost to the individual and the NHS is considerable with an estimated cost to the NHS alone of £1.6 billion.

Although anyone can experience injury, the poorest in society appear to be at greatest risk. Injury is therefore a significant contributor to observed health inequalities.

The lack of readily available data poses a major problem to the formulation of effective strategies for injury prevention. Information is required not only to assess the extent of the problem, but also to set baselines and monitor and evaluate preventative work. Although some data are routinely collected they do not provide the necessary depth and detail to address the causes of intentional and unintentional injuries. Previous research carried out in three AEDs in the Merseyside area into assaults has demonstrated the efficacy of additional data collection. It is hoped to extend the work to allow data collection to inform other areas of prevention and to build upon the successes of the supplementary data collection associated with the Operation Crystal and Crystal Clear Campaigns.

The Trauma and Injury Intelligence Group has received funding from the Safer Merseyside Partnership and Merseyside Health Action Zone to address the issue of data provision in the prevention of intentional and unintentional injuries.

A major element of TIIG's activity is the establishment of an Injury Surveillance System for Merseyside. This is being addressed by the Injury Information Systems Development Project (IISDP), an innovative project attempting to address a previously under-resourced area of need. This document places the project into a strategic framework, which allows understanding of the scope of project and enables discussion on the future direction of TIIG on Merseyside.

1.2 HISTORICAL AND POLITICAL CONTEXT

This section provides the background and political context for the Injury Information Development Systems Project (IIDSPP). Reference is made to influential UK policy and the global context which is now supported by World Health Organisation Guidelines. The historical development of injury surveillance is traced by exploration of sentinel events demonstrating good practice and is brought up to date highlighting the work commissioned by the Safer Merseyside Partnership. Finally, a brief outline is given of national sources of injury information.

UK Policy

The publishing in 1991 of The Health of the Nation marked a return to earlier values of preventing ill health and provided the first national strategy to improve the health of the population. Although subject to widespread criticism it nevertheless placed health improvement high on the NHS agenda and recognised the importance of partnership working. Its approach was strengthened by the White Paper 'Saving Lives: Our Healthier Nation'. This Paper intended to complement the government's strategy to radically re-organise health service delivery which was laid out in the NHS Plan. A realisation that many factors impact upon health status was emerging. These were recognised to include crime, unemployment and poverty. The White Paper redressed the main criticism of its predecessor: its failure to acknowledge health inequalities. The establishment of numerous area based community regeneration, crime reduction, and health and education initiatives such as Sure Start sought to reduce these inequalities, which are also addressed by Borough Health Plans and Health Improvement Programmes (HImps).

Targets for the prevention of accidents were set within Health of the Nation and the subsequent document Saving Lives: Our Healthier Nation. Likewise, related local policies and strategies set targets in relation to intentional and unintentional injuries. As health and other services are challenged to become more evidence-based and performance driven, the need for data to facilitate targeting, monitoring and evaluation is increasingly important.

The lack of a substantial evidence base remains problematic for both intentional and unintentional injury. This problem is symptomatic not only of the lack of data, but also of the huge inconsistencies in approaches to the collection of data on injury at all levels, from local to global¹¹.

World Health Organisation (WHO) Guidelines (2002)

The most recent development in this field, by the WHO, represents the most ambitious attempt to set an international standard for injury surveillance, which will enable cities, regions, and nations to be compared in terms of intentional and unintentional injury. Their 'injury surveillance guidelines' provide information on the purpose of, scope for, and importance of injury surveillance systems, and offer a practical approach to the development of a system. The document

therefore serves as the most comprehensive approach to injury surveillance completed to date.

In order to promote comparability and data compatibility, data codes are provided. These codes are based upon the International Classification for External Causes of Injury (ICECI) and ICD-10, and therefore enable data to be captured at a variety of levels of detail.

Historical Development of Injury Surveillance Systems

Australia was the first nation to recognise the importance of injury surveillance. Their 1986 National Injury Surveillance and Prevention Project was the first comprehensive scheme worldwide, and it was therefore used as a basis for schemes in Canada and later, in Glasgow (CHIRRP).

The British Medical Association¹² has identified three local/regional injury surveillance systems as examples of good practice. The first of these is a multi-agency project in Newcastle, which involves the NHS, the police and an academic department of child health. Its focus is on severe unintentional injuries. Secondly, Glasgow's derivative of the Australian scheme is identified. Finally, a collaborative project, developed in Wales, is discussed. The All Wales Injury Surveillance System (AWISS), which was set up as a partnership featuring the University of Wales and the Welsh Office, has been utilised to monitor injuries at a regional level¹³.

Injury surveillance also has an important role to play in community safety, particularly with regard to assault and aggravated robbery. In 2000 it was noted at government level that strategies to address issues of community violence would benefit from injury data gathered at AEDs in addition to police data. Sivarajasingam & Shepherd identified the substantial extent of AED attendances resulting from offences not reported to the police and furthermore suggested that these could be 3 – 10 fold higher than those reported¹⁴. Work was undertaken by Goodwin & Shepherd on the development of an assault patient questionnaire to be used in an AED and the results have since been utilised in the Crime and Disorder auditing process¹⁵. Similar work has since been undertaken by the Safer Merseyside Partnership; this is outlined later in this section.

Local Context and Work Undertaken in the North West and Merseyside

In 1998 the North West Accident Task Force undertook a consultation exercise which led to a proposed core minimum data set for injury data collection. The project recommended that AEDs implement the dataset, although no implementation pilot study was carried out.

The work that has been carried out on Merseyside to date has been valuable but largely adhoc. One such example was a project on linking police RTA data to AED attendances by Atherton et al in 1996¹⁶. Consultants and other hospital staff have also carried out other work, and this has largely been in response to locally identified priorities. However, no attempt has been made, to date, to consolidate or coordinate these efforts. Hence much good work has gone unnoticed on a

wider scale. Relevant local initiatives are identified in the HAIG Associates report commissioned by TIIG (discussed in a later section of this report).

The exception to this trend relates to the consideration of intentional injuries on Merseyside. The work begun by Merseyside Police and facilitated by the Safer Merseyside Partnership has been effective in reducing the number of assaults and, in particular, glass related injuries in the city centre. This work was begun during 1997/8 when the police undertook 'Operation Crystal', in response to a number of violent incidents in Liverpool town centre involving bottles and glasses. Following the success of the campaign a number of agencies came together to plan a further campaign, 'Crystal Clear', during the summer months. This campaign was evaluated by ECRU at the University of Liverpool by Young & Hirschfield in 1999¹⁷.

Whilst demonstrating the benefits of the campaign, the evaluation also brought attention to the efficacy of the use of AED hospital data for the monitoring of assaults. Analysis of the data also highlighted the problems of under-reporting of violent incidents to the police. The patterns which emerged provide valuable intelligence for strategic planning, especially when used in conjunction with police data.

The Assault Patient Questionnaire completed in three hospitals in Merseyside is now used for the evaluation and monitoring of the ongoing interventions of 'Crystal Clear'. It is used routinely to estimate under-reporting in police recorded crime data, and is used to identify local crime prevention priorities during the course of the Crime and Disorder Reduction Partnerships' audit and strategy preparation process.

Current National Sources of Injury Information

Several Injury Surveillance Systems, which contribute to planning for the prevention of injury, are in existence. These are outlined below, along with their major shortfalls. For a detailed review of data sources and initiatives, the reader should consult work undertaken for TIIG by the North West Public Health Observatory (NWPHO)¹⁸.

- The Home and Leisure Accident Surveillance System (HASS/LASS) provide the most comprehensive current information made available on unintentional injury in the UK. The Department of Trade and Industry (DTI) sponsor this annual survey, in which attendees at a sample of 18 hospital Accident and Emergency Departments (no Merseyside hospitals are involved) are interviewed. The questionnaire collects data on a number of categories and enables tables to be collated on key reasons for attendance at AED and major causes of injury. However, these relate only to home and leisure related injuries; RTAs and workplace accidents are therefore excluded.
- Information collected on road traffic accidents (Stats 19) is made available by the Department of Transport, Local Government and the Regions (DETR).

- The Trauma Audit and Research Network (TARN) collect data relating to severe trauma and injury. The criteria for inclusion to this database include admission to a hospital ward for longer than 72 hours, referral to a specialist unit and death. The dataset also excludes several very common injuries. Perhaps most importantly however, as originally intended under its previous guise as the Major Trauma Outcome Study (MTOS), its focus lies with the evaluation of hospital care given to trauma patients and the outcome of their injuries.
- The Health and Safety Executive sponsor RIDDOR (Incident Contact Centre), this provides a mandatory system for the reporting of workplace accidents and injuries.

Summary

As indicated by the work carried out by the NPHO for TIIG there is a great breadth of injury related data available within the UK. Yet it is clear that the information available comprises many small data sets that are largely activity, issue, or cohort based, and do not easily lend themselves to comparison. Similarly, whilst there is a great deal of work taking place at the local level, the importance of which is not doubted, this tends to be locally focused and largely uncoordinated. Consequently the incidence of injuries cannot be compared, initiative outcomes are rarely disseminated, and best practice is not shared across Merseyside.

The Injury Systems Development Project represents a coordinated and sustainable approach to the resolution of these issues. It has learned from the experience of similar injury surveillance systems elsewhere and builds upon local successes and strengths, such as the work on assault prevention in Merseyside (see Young & Douglass, forthcoming¹⁹).

The project is innovative for several reasons. Firstly, although multi-agency work has featured in previous projects, the range of partners has never been so extensive and inclusive. Secondly, previous projects have largely focused on single hospitals. The TIIG project probably represents the first attempt to develop an injury surveillance system in the UK which is both comprehensive and regional in scale. Having benefited from the recent release of the WHO guidelines, and the advent of European comparative initiatives, it will aim to enable international comparisons to be made.

The project builds upon the assault data collection facilitated by the Safer Merseyside Partnership, yet widens its scope to include unintentional injuries. Geographically it also seeks to broaden the areas previously examined, by the involvement of all six Merseyside hospitals. Its later development will explore data collection within newly emerging models of primary care provision, such as the Walk-in Centre. Although starting with NHS sources of data, the project also intends to explore how a more complete picture of injury incidence and causation can be obtained by combining information from other agencies.

1.3 STRUCTURAL OVERVIEW

Key Stakeholders

The Trauma and Injury Intelligence Group (TIIG) is a multi-disciplinary collaborative partnership involving several key stakeholders, with support from the North West Regional Task Force for Accident Prevention. The group was first convened in November 2000. The following organisations are all represented on the TIIG Group:

- Department of Public Health (University of Liverpool)
- Environmental Criminology Research Unit (ECRU) (University of Liverpool)
- Health Authorities (subject to organisational restructuring as of 1st April 2002)
- Mersey Regional Ambulance Service (MRAS)
- Merseyside Fire Service
- Merseyside Police
- North West Public Health Observatory (NWPHO) (Liverpool John Moores University)
- Safer Merseyside Partnership (SMP)

It is acknowledged that TIIG's key stakeholders may change. Indeed, fundamental organisational change has taken place within the NHS since the inception of TIIG. Therefore, alteration in the structure of the TIIG is possible. As the Injury Information System becomes established, the requirement to consult and involve both providers and beneficiaries of TIIG's intelligence will emerge.

Structure of TIIG

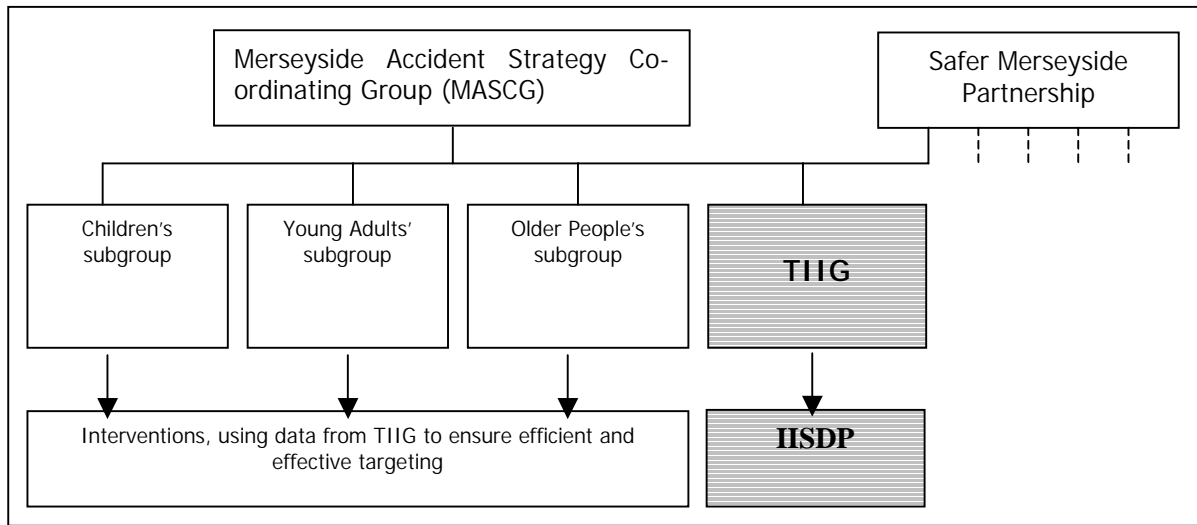
A diagrammatic representation of the structure surrounding TIIG can be seen in figure one. TIIG is one of four sub-groups of the umbrella group, the Merseyside Accident Strategy Co-ordinating Group (MASCg). Terms of reference for the MASCg can be found in a related document²⁰. TIIG is chaired by Dr John Reid, Merseyside Health Action Zone Convenor for Accident Prevention.

Three of the sub-groups of MASCg take an intervention-based approach, and are structured as age cohorts:

- Children and Young People
- Young Adults
- Older People

Their role is therefore to address injuries in children, young adults and older people respectively, and they do so by implementing HAZ funded interventions. In order to enable effective allocation of these resources, the groups are required to identify priority areas or target groups, whether these be issue based, or focused by indicators of vulnerability and risk. Baseline data is also needed to enable benchmarking and to allow interventions to be monitored and evaluated. The three groups require information from a variety of sources in order to perform these tasks. This is the remit of the fourth group: The Trauma and Injury Intelligence Group (TIIG).

Figure 1: The Structure of TIIG



Sources of Funding

TIIG is in receipt of funding from Merseyside Health Action Zone, the Home Office Robbery Reduction Fund and the Safer Merseyside Partnership.

SECTION TWO: STRATEGIC DIRECTION

2.1 VISION AND PHASING

This section provides an overview of the strategic direction of the Trauma and Injury Intelligence Group. At its inception the TIIG steering group agreed a strategic vision and terms of reference for the group:

Strategic Vision

To take a strategic approach to injury prevention across Merseyside with particular reference to injury intelligence and working with partners from all sectors of the Merseyside community.

Terms of Reference

The Terms of Reference for the TIIG group are as follows (in bold). Where necessary, these have been elaborated on by TIIG officers to provide further indication of their potential.

- 1. To inform the HAZ partnership in accident and injury intelligence**
- 2. To oversee appropriate action**
[To enable the strategic vision to be realised, for example]
- 3. To make available systematically the best evidence**
[In order, for example, to facilitate evidence-based work in the field of injury prevention which may include underpinning strategy, setting targets, identifying trends and providing baseline monitoring and evaluation of the effectiveness of injury prevention work across Merseyside]
- 4. To work jointly with a variety of partners on other related initiatives (e.g. Robbery and violent crime)**

TIIG Programmes of Activity

It was envisaged that the TIIG project should develop in three main phases as follows:

Phase 1: to March 2003

The TIIG project is still in phase 1 of its intended development. The phase has already seen the completion of initial scoping studies and mapping of injury information initiatives intended to inform the Merseyside Accident Prevention Strategy Co-ordinating Group of major gaps and opportunities. This has resulted in two completed reports^{21 22} and a database²³ of injury surveillance agencies and contacts. However, the Injury Information Systems Development Project (IISDP), with which this strategy primarily deals, is ongoing and is discussed further in Section 2.2.

Phase 1 required the appointment of Project and Technical Development Officers and the development of AED and other information systems. This phase will culminate with the dissemination of lessons learned during the project experience across the North West Region. This has been supported by the North West Task Force for Accidents by deployment of the Public Health Development Fund. Attempts will also be made to share good practice and lessons learnt amongst wider public health community.

Outputs of phase one include the strategy for forward development, the TIIG data set, data sharing and dissemination protocols, and output reports as described in section 2.2.

Phase 2: April 2003 – March 2004

Phase two of the TIIG project will be characterised by the maturing of initial data systems that were fostered in Phase 1. In particular, efforts will be targeted towards the improvement of information collection systems in order to improve the quality and reliability of injury information.

Phase two will require consideration of the further relevance of these systems to the (maturing) strategies; hence great emphasis will be placed upon illustrating the application of TIIG information, which will be subject to rigorous analysis.

The need for an enhanced regional approach to the strategic development of TIIG must also be considered. This will require a regional commitment to the TIIG approach and the adaptation of AED information systems to facilitate regional comparisons to be made. Such development will require regional AED information policy to promote standardisation of key injury information fields and substantial political support will also be needed.

Phase 3 (Final): April 2005 onwards

It is intended that TIIG will launch into a longer-term, fully operational Merseyside Injury Surveillance System in phase three. It is envisaged that this final stage will involve considerable input from the North West Public Health Observatory (NWPHO). Substantial information is already published at a regional level, amongst which is STATS19 in respect of road traffic accidents and Hospital Episode Statistics (HES). The latter covers all in-patient care within NHS Hospitals in England and the NWPHO already acts as a 'safe haven' for this data. It has therefore been suggested by the Measuring and Monitoring Injury Working Group²⁴ for the (national) Accidental Injury Task Force that Regional Public Health Observatories will have a key role in the measuring and monitoring of injury at both a local and a regional level.

2.2 OUTCOMES AND OUTPUTS

Successful development of the TIIG Project will depend upon the realisation of a series of short to long-term outcomes. These are to be achieved through a series of more specific primary and secondary outputs:

Intended Outcomes

The following are intended, long-term outcomes of the TIIG project:

- To develop a functional injury information system whose data flows include regular incoming data from AED departments and other data providers, and regular outgoing aggregated data reports to regular and adhoc users of the TIIG service. Diagrammatic representations of how this system may function can be seen in Figures 3-4.
- To provide information which may be used to reduce intentional injuries (assaults) by producing a multi-agency referral mechanism enabling the provision of intelligence on:
 - Domestic Violence
 - Assaults (Stranger related violence)
 - Violence related to alcohol
- To provide information which may be used to reduce unintentional injuries (Accidents) by responding to emerging trends:
 - Falls in Older People
 - Road Traffic Accidents
 - Home Safety in the under 5years
 - Young People and Alcohol
- As a consequence of the above, to contribute to a reduction in the burden of injury placed upon NHS services.
- As a consequence of the above, to contribute towards the targeting of police activity in the reduction of crime-related violence.
- As consequence of the above, to encourage the appropriate usage of NHS services by trauma and injury patients. This may contribute to the service development of individual service providers, examples being Walk-In Centres and Minor Injury Units.

Primary Outputs

The intended outputs of the project have been separated into primary and secondary outputs. The following are tangible and therefore considered primary, whilst the 'secondary outputs' result from the process undertaken to deliver the primary outputs.

Data Related Items:

1. A Core (Minimum) Data Set. This is the structural basis for injury related data collection in each of Merseyside's 6 AED departments (attached as appendix 1).
2. Hospital Profile Reports detailing the processes by which data is collected in AEDs; the structure of AED-collected information and the scope of injury related information; data flows within the department.
3. Individual Data Sources: Overview Reports (e.g. Ambulance Service, Fire service, RTA data) featuring collection protocols and instruments, data flows and likely forward development.
4. A data analysis and dissemination protocol, setting out the procedures by which data collected by TIIG may be disseminated (attached as appendix 2).

Progress Reports; Topic & Data Specific Reports:

1. Progress reports on the TIIG project are prepared monthly or bi-monthly for the TIIG steering group meeting.
2. During the course of the project, TIIG officers have identified specific areas that require consideration, and are of relevance to the TIIG project as a whole. For this reason, short reports will be produced on a periodic basis as appropriate. This list is likely to include the following areas:
 - Ethnicity.
 - Patient Confidentiality and Caldicott.
 - Data Users and Targets: Overview Report.

Secondary Outputs

The following have been identified as secondary outputs of the TIIG project:

1. To raise awareness within agencies of the need to take an evidence-based approach to planning for the prevention of trauma and injury.
2. To facilitate the networking of agencies involved in injury prevention and treatment across Merseyside.
3. To place injury prevention higher on the agenda of key stakeholders and agencies.

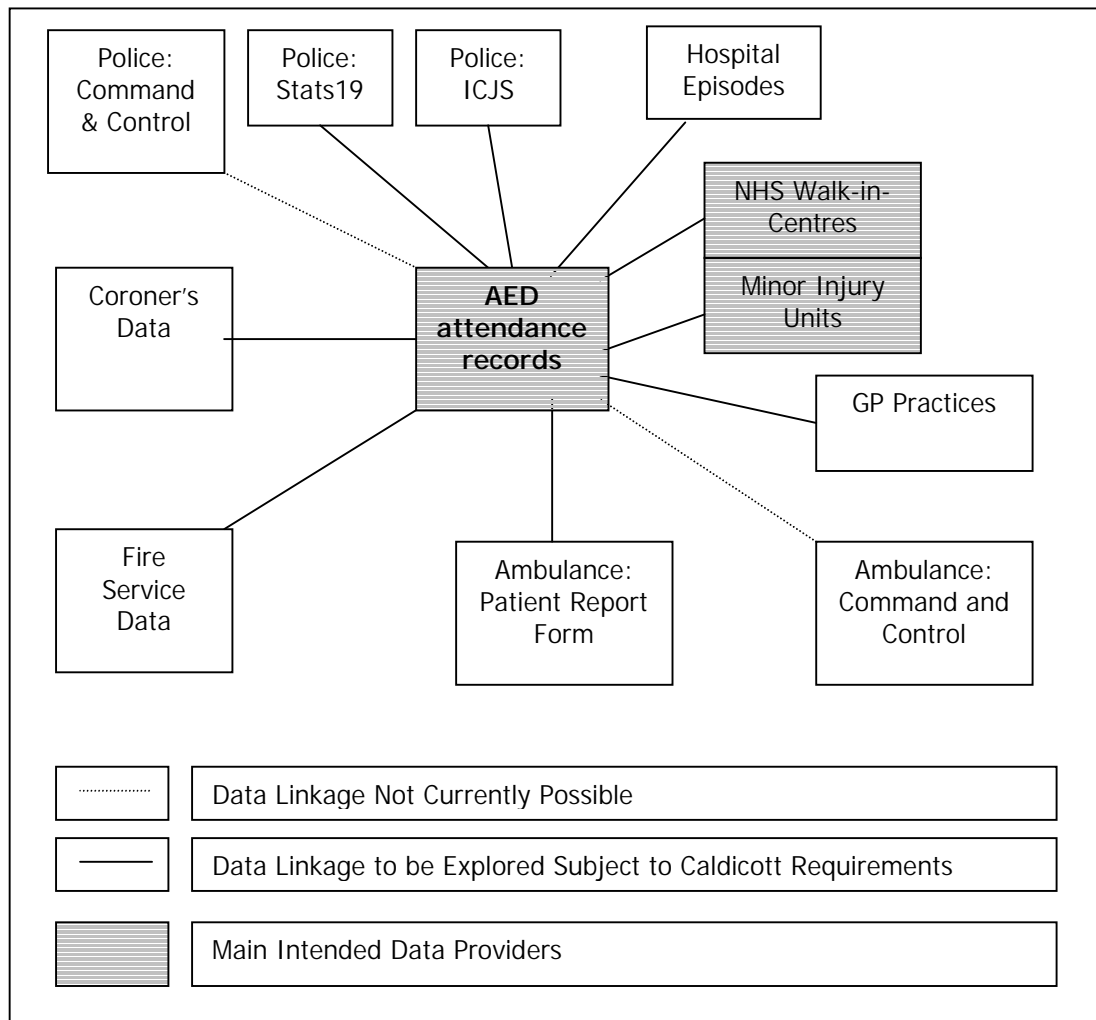
As the project progresses it is likely further outputs both primary and secondary will be identified in consultation with key stakeholders.

SECTION THREE: THE PROPOSED TIIG 'SYSTEM'

3.1 POTENTIAL TIIG DATA SOURCES

The main potential contributors to the TIIG data system are illustrated in figure 2 (this list is not exhaustive). The data collected by Merseyside's six AED departments will be central to the injury surveillance system. This is largely due to the fact that they represent the most comprehensive single 'collector' of data relating to intentional and unintentional injury²⁵. Yet they are also the least developed in regular injury surveillance terms and are therefore the main priority for the IISDP²⁶. However, the IISDP will also need to consider walk-in centres and minor injury units as equally important providers, as these expand the number of patients they see and may begin to treat a larger share of all injuries.

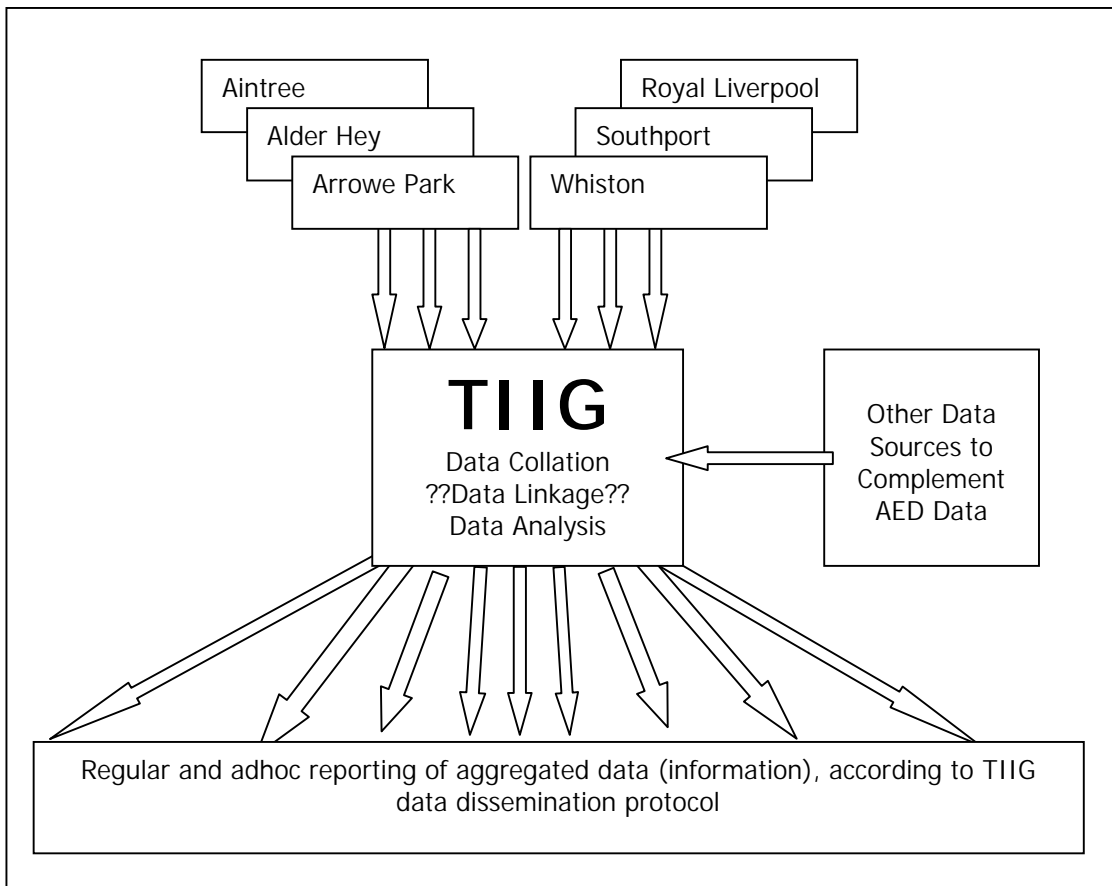
Figure 2: Components of the TIIG Data Provision System:



3.1 THE OPERATION OF THE TIIG SYSTEM

Figure 3 illustrates how it is envisaged that the TIIG injury surveillance system will operate, with TIIG at its centre. The central hub will collate data from a variety of sources, link it to other sources where feasible or useful (and bearing Caldicott and data protection requirements in mind), and disseminate this data according to TIIG's data dissemination protocol (attached as appendix 2).

Figure 3: TIIG Data Flows



Information will undoubtedly be required in different formats and over different time periods, depending upon the needs of its user. For example, some agencies will request information at regular intervals, whereas others may require data on a more adhoc basis. The likely users of data will be identified in a separate report (see hard outputs). The protocol will set out the terms by which this data may be disseminated, and it is crucial that this protocol is adhered to, as this forms part of the Caldicott (data protection) agreement with each the of six hospitals who are to provide data.

SECTION FOUR: CONSULTATION

4.1 INTRODUCTION TO THE TIIG WORKSHOP

The Trauma and Injury Intelligence Group (TIIG) Seminar held on 27 June 2002 at the Fire Service Training Centre focussed on the Injury Information Systems Development Project. Invitations were extended to representatives across Merseyside from Primary Care Trusts, A & E Departments, Police, Ambulance, Fire Service, Community Safety, Sure Start, Age Concern, Housing Associates and others having injury prevention within their remit. The seminar had the following aims:

- Raise the profile of the Trauma and Injury Intelligence Group
- Motivate and involve key stakeholders - both users and providers of data
- Consult and involve the wider public health community

To achieve the stated aims the seminar was devised to consist of presentations and workshops. The initial presentations set out to demonstrate the importance of intelligence in the prevention of intentional and unintentional injuries and speakers were chosen to reflect this aspiration. Mr Paul Joy from the Merseyside Fire Service explained the use of data in informing the planning of an Electric Blanket Safety Campaign on Merseyside in 2001 (carried out by Merseyside Fire Service in conjunction with the older person's subgroup).

Chris Young from the University of Liverpool then presented on the use of Health Agency data in Crime Reduction on Merseyside. The focus of this was the work that developed from the evaluation of the 'Crystal Clear' Campaign, which pioneered the use of AED data in crime prevention in Merseyside and was influential in the development of TIIG.

These presentations were followed by an overview of the development and progress of TIIG to date with specific reference to the development of a core data set.

The workshops, which were structured to reflect the age related subgroups of the MASCG, were focussed as follows: Children (with a focus on RTAs), Young Adults (with a focus on alcohol) and Older People (frail and vulnerable populations). Workshops were therefore planned to reflect the three sub-groups whilst focussing on priority injury issues within each group.

4.2 SUMMARY OF FINDINGS: CURRENT PROBLEMS

Findings from the workshops have been divided into 'Current Problems', 'Solutions' and 'the Way Forward' to reflect responses to questions. Common themes and sub-themes could be traced in responses to workshop questions and these have been used to structure narrative and highlight issues relevant to the development of the Injury Surveillance System.

The first question discussed problems in accessing data for injury prevention work. At a basic level all three workshops highlighted simply knowing what information was available and from whom. There are traditional routes through which information flows - an example given in the workshops was Police RTA information through to Local Authorities for use in engineering and education interventions. However, as new organisations come into being (both Sure Start and Primary Care Trusts (PCTs) were cited) information may be required by a wider audience who may not be aware of its sources.

Quality of data with analysis was also perceived as a difficulty particularly at a useable level. Activity, geographical, and age-related examples were given. A particular problem with data about the location of the occurrence of injuries can be seen. However, the problem of incompatibility of data was discussed not only between agencies but also departments, and furthermore changes over time to systems and definitions are contributory factors. A specific example provided was the differences in severity of injury classifications.

Ethical issues were also cited in relation to confidentiality, access and data sharing. For example, although prevented by Caldicott, a very simple way to identify and target those at risk (from a potentially fatal house fire or a fall, for example) would be to refer the contact details of a patient to a risk assessment/injury prevention agency when they present with an injury that has been caused in similar circumstances. There are also issues surrounding the appropriate time to ask questions regarding an injury, particularly those of sensitive nature. The police, for example, prefer to guess a person's age rather than ask. It was noted that, in some instances, a neighbour or relative provides information on an injury and its accuracy may therefore be dubious.

Participants also felt that disseminated information often failed to reach the right person and that ineffective inter-agency working and problems with boundaries exacerbated this problem.

4.3 SUMMARY OF FINDINGS: INFORMATION REQUIRED FOR TARGETING

The groups were asked to discuss what information they would require to target injury prevention more effectively. The emerging themes are categorised under headings:

Specific Information

Some of the specific information requirements have been addressed in the proposed data set (comments in brackets) or previously discussed. One group acknowledged that most of the requirements are on the data set with the proviso of more detailed location information, the example being given of 'Borough Road' or the name of licensed premises. The use of gazetteers (e.g. attached to an

AED IT system) is seen as offering the potential to improve the quality of data covering the place of occurrence of injuries.

The importance of the following data items was stressed during the workshops:

- Dates and times (on proposed data set)
- Ages (on proposed data set)
- Postcode of usual address (Only to a given 'postcode sector' level to ensure confidentiality i.e. omitting the last two letters which would allow for identification of approximately 30 houses – postcode sector (approx 2000 homes) is on proposed data set)
- Home Address (This is unlikely due to issues of confidentiality, even though it was suggested that this may assist with social classification)
- Severity of injury (Indicated on data set through diagnosis and disposal)
- Type of injury (certain categories on data set)
- Postcode of incident (likely to be problematic if outside the home, as injured person would frequently not know)
- Activity (this needs to be addressed)
- ICD10 Codes (certainly would be useful and is requested, if possible, on data set).

Roles of Other Organisations

An understanding of the roles of other organisations was seen as important and it was felt that more inter-agency liaison would be useful and may engender a shared responsibility. Possible sharing of targets would develop an appreciation of how these could be met through inter-agency working.

It was also felt important to have an awareness of other initiatives, the example being provided of Lancashire Partnership.

Good Quality Information

There is a need to understand the uses of the data (exploration of injuries, co-ordinated responses and the general prevention of injury?) when considering the provision of intelligence. The data should also be capable of being used for seasonal analysis and identification of trends. Furthermore, it should be proactive and make use of the data archive.

Linkages

This was cited in two respects: firstly between information and outcomes (specifically Key Performance Indicators -KPIs), and secondly other data sources. In the latter category Ambulance data was noted, as was the Elderly standardisation on the Electronic Patient Record. The effect of poly-pharmacy on falls in the elderly was highlighted and whether it is possible to provide linkages via the drug lists. An interesting point raised related to the potential links to the private sector in respect of alcohol and databases of sales, which should be explored.

System

The proposal of an active on-line surveillance system with the capability of two-way communication was discussed. When discussing different methods for the recording of data, the Six Sigma process, used in the private sector by Jaguar Limited, was highlighted.

4.4 SUMMARY OF FINDINGS: OPPORTUNITIES AND WAY FORWARD

Question three discussed opportunities in respect of the provision of information. Once again, common themes could be observed within the three workshops:

Strategies

A number of strategies likely to be influential in the future development of the project were highlighted. Amongst these were: Our Healthier Nation and the World Health Organisation Guidelines. It was also felt that the implementation of the recommendations from the National Accident Task Force were important.

Organisations/Initiatives

The Local Strategic Partnerships were perceived as key agencies providing opportunities. The importance of thinking regionally was also highlighted. A number of initiatives discussed were also seen to offer opportunities. These included: Neighbourhood Traffic Schemes, Lancashire Partnership and the appointment of Specialist Nurses as the National Service Frameworks are implemented.

Strategic and Operational Issues

It was felt the Trauma and Injury Intelligence Group created an opportunity to co-ordinate efforts in a different way. Funding opportunities were cited as an issue and a number of operational issues remain to be addressed at different levels.

Data could be used to raise the profile of injury and the use of a joint agency group for feedback and follow-up of action points. Contacts should be maintained through regular seminars, networking and email. Automated data flows could be used to increase speed and there is a need for clear protocols.

Use of a data set should be encouraged and would lead to use of common language. However, there are practical issues to be addressed. These include awareness of the AED environment and division of data items both at registration and after/following treatment. The view that a separate form for assaults should be used outside of registration was expressed.

Strong feelings were expressed about the need for training for those collecting data. Additionally, there is a need to engage with them to communicate why data is required and how it is used in targeting interventions. The results of any analysis should also be fed back to relevant staff. There was also a plea for a 'fun' way to collecting data with children.

APPENDIX 1: TIIG CORE DATA SET

Category	Field No. (ref only)	Field Heading	Possible Responses (level 1)	Possible Responses (level 2)
Personal	1	Date of Presentation		
	2	Time of Presentation(Triage?)		
	3	Postcode (Sector)	From Postcode Sector File (eg L25 4)	
	4	Sex/Gender	As A&E CDS Type	
	5	Age		
	6	Ethnicity	As (Admitted Patient Care) CDS Type	
	7	Unique ID (audit purposes) NB-Not NHS Number		
Linkage	8	A&E Arrival Mode	As A&E CDS Type	
	9	A&E Attendance Category	As A&E CDS Type	
	10	Source of referral to A&E	As A&E CDS Type	
Incident	11	Date of Incident		
	12	Approx Time of Incident		
	13	Incident Cause	Unintentional Injury (Accident) Intentional Injury/Assault Intentional Injury - Self (Self Harm)	
	14	Accident Type	Drowning/immersion Electrical Injury Fall Fall - from height Fireworks Injury Non-drowning Asphyxia Poisoning RTA Burn Non fire burn or scald injury Other Fire related injury Other Transport Accident (Non-road traffic) Sports Unknown/Not Specified Other	Free text
	15	Where did the incident happen?	Street or Road Public Transport Retail/Storage/other service premises Bar/Pub Nightclub/Disco Green space/Park Recreation/Sports area Waterway/Sea Airport Work Premises Education Public Building - unspecified Home Other Not Answered	Name: Free text Name: Free text Name: Free text School - Name (from list) Other - Free Text Bathroom Bedroom Garden/Yard Living Room Kitchen Stairs Other - Free Text Free Text
	16	If home, was this your home? (or someone elses?)	Y N Not Answered	
	17	Whilst undertaking paid Employment?	Y N Not Answered	

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	18	Was there an appliance or product involved? eg Cooker, pan, door.	Y - please indicate N Not Answered	Free Text
	19	Was intoxication (by drink or drugs) a factor in the incident?	Y N Not answered	Free Text (eg smells of drink)
Assaults	20	How many people attacked you?		
	21	Gender of the attacker(s)?	M F M&F Don't Know Not Answered	
	22	Have been assaulted by the attacker(s) before?	Y N Not Answered	
	23	Relationship with the attacker?	Partner Ex-partner Family Member Acquaintance/friend Bouncer/Door staff Stranger Work Client or Customer Work Mate/Colleague Other Not Answered	Free Text
	24	With what were you attacked?	Body Part Blunt Object Glass Bottle Knife Firearm Other Not Answered	Free Text
	25	What was the motive for the attack?	Theft Sexual Racial Domestic Other Not Answered	Free Text
	26	Has this been reported to a police officer?	Y N I intend to Report the incident Not Answered	
	27	Do you believe that your attacker was under the influence of an intoxicating substance (legal or otherwise)?	Y N Don't Know Not Answered	
Consequences	28	Disposal of Patient from A&E	Died in A&E Brought in Dead Transferred to.... Referred to.... Discharged	
	29	Diagnosis Scheme in Use	As A&E CDS Type	
	30	Diagnosis First	As A&E CDS Type	
	31	Diagnosis Second	As A&E CDS Type	
	32	(Diagnosis Third)		

APPENDIX 2: DISSEMINATION PROTOCOL

The Trauma and Injury Intelligence Group (TIIG) wish to ensure the intelligence disseminated via them is of a prescribed quality and standardised to address the needs of a number of agencies. However, it is also important that the data providers are confident in the appropriateness and use of intelligence derived from the data. This protocol therefore sets guidelines for the dissemination of intelligence.

Regular Reporting:

Annual Summary Reports

These will be useful for those with a remit of reporting on specific areas or indicators on an annual basis and would also contribute to the comparison of trends between geographical areas and time periods.

Quarterly Reports

It is envisaged that these will facilitate strategic planning and monitoring and will therefore be provided in a standardised form to cover the following time periods:

January – March
April – June
July-September
October-December

It is proposed to set up a database for the distribution list and encourage interested users to join by encouragement of agencies to register interest. The list of users will be updated through:

- a) Merseyside Accident Strategy Group (MASCG)
- b) Partners involved in the TIIG
- c) Sub-groups of MASCG
- d) Workshops and publicity events
- e) Regular agency review surveys

The format of the report is not yet finalised. However, it is expected to enable area-based comparisons. These reports will cover the subjects facilitated by the TIIG core data set.

Specialised Reporting

In addition to regular reporting it is acknowledged, due to the growth in evidence-based policy, that various agencies will require data for the following purposes:

- a) Bids for funding
- b) The requirement to monitor progress on Key Performance Indicator (KPIs) coming on stream from government departments examples being DoH, DTLR, HO.
- c) Specific areas of work, examples being falls prevention, RTAs, Assaults and home accidents to children.
- d) Health Improvement and Modernisation Plan (HIMP) and other health targets

The high demand for intelligence envisaged will necessitate dissemination protocols. Data may only be disseminated subject to the following criteria:

The Application Process:

1. TIIG reserve the right to request that applications for data be made in writing. TIIG will work towards the development of an on-line request form to facilitate applications on-line.
2. TIIG expect requests for data to be as specific as possible, in order to aid their processing. TIIG will endeavour to make all information required to aid this process available to applicants, through the production of 'data source summary' guides.

The TIIG Data Product:

3. Data will normally only be supplied in aggregate form (to protect the anonymity of patients and therefore uphold the principles of Caldicott).
4. It may be necessary, however, to provide disaggregate data in some circumstances (for example, the police currently receive anonymised data from the assault patient questionnaire). The distribution of such data will be subject to approval by the TIIG steering group, and a written proposal illustrating the intended purpose for the data will be required. In this case, the TIIG patient identifier field will be removed to prevent the agency in question approaching the data provider directly (for more information about an A&E attendance). In other words, data will be fully anonymised.
5. Except in the circumstances outlined in point 4 above, the minimum time period for which aggregate data will be disseminated is one month. This will prevent the identification of 'unusual' cases or individuals in data sets covering extremely small periods (for example: could you tell me the number of patients attending hospital X with gun shot wounds in the week beginning...?).

TIIG Intelligence as a Platform for Further Research:

6. If TIIG intelligence is to be used as a baseline for further research (utilising the patient identifier field) the above criteria will still apply. However data providers will be approached for permission via TIIG, prior to their names being given to a researcher. It is expected a researcher will be required to adhere to the organisation's process for ethical approval if this is appropriate to the study.

Use of Ambulance (and other) Command and Control Data

7. TIIG feels that special precautions are required to ensure compliance with Caldicott Guidelines when using ambulance command and control data. This data will not be disseminated as in point 4, without first amending the grid reference from 1m to 100 metre accuracy (for example, easting 365487 would be rounded to 365500, northing 555428 would be rounded to 555400). This will ensure that the identification of individual households is not possible. The same rules would apply to other data sets that feature a full 1-metre grid reference (such as police or fire command and control) if they are used by TIIG.

THIS PROTOCOL MAY BE SUBJECT TO CHANGE AS DECIDED BY THE TIIG PARTNERSHIP

NOTES

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- ¹ The *Collins English Dictionary* (Second Edition 1989)
- ² Adapted from: *A simple guide to burn treatment*. A project of the International Society for Burn Injuries in collaboration with the World Health Organisation http://www.who.int/violence_injury_prevention/definitions.htm
- ³ Developed from the Home Office definition by Worst Kept Secret Campaign: A domestic violence prevention project on Merseyside 2001
- ⁴ Injury Surveillance Guidelines World Health Organisation 2001 http://www.int/volence_injury_prevention/index.html
- ⁵ Accident, Injury and Trauma Information in Merseyside, the North West and Nationwide – North West Public Health Observatory 2001 www.nwpho.org.uk/information
- ⁶ Injury Prevention (2001), BMA.
- ⁷ *Blacks Medical Dictionary* (34th edition 1984)
- ⁸ World Health Organisation. *Violence: A Public Health Priority*. Working document EHA/SP1/POA http://www.who.int/violence_injury_prevention/definitions.htm
- ⁹ British Medical Association (2001) *Injury Prevention* Prepared under the auspices of the Board of Science and Education of the British Medical Association (BMA)
- ¹⁰ World Health Organisation (2002) *Violence: A Public Health Priority* Working Document EHA/SP1/POA
- ¹¹ British Medical Association (2001) *Injury Prevention* Board of Science and Education
- ¹² British Medical Association (2001) *Injury Prevention* Board of Science and Education
- ¹³ Lyons et al (2002) *Development and use of a population based injury surveillance system: the All Wales Injury Surveillance System (AWISS)* *Injury Prevention* 2002;8:83-86
- ¹⁴ Sivarajasingham V & Shepherd J P (2001) *Trends in community violence in England and Wales 1995-1998: an accident and emergency perspective* *Emergency Medicine Journal* 2001;18:105-109
- ¹⁵ Goodwin V & Shepherd JP (2000) *The development of an assault questionnaire to allow AED departments to contribute to Crime and Disorder Act Local Crime Audits* *Journal Accident and Emergency Medicine* 2000;17:1-2
- ¹⁶ Atherton J, Norbury P & Rees D (1996) *Bridging the Gap in Accident Statistics* Wirral Accident Research Network
- ¹⁷ Young C & Hirschfield (1999) *Crystal Clear – Reducing Glass Related Injury: An evaluation conducted on behalf of Safer Merseyside Partnership* Department of Civic Design University of Liverpool
- ¹⁸ NWPPO (2001): *Accident, Injury and Trauma. Information and Intelligence Initiatives in Merseyside, the North West, and Nationwide*, <http://www.nwpho.org.uk/reports/tiig.pdf>
- ¹⁹ Young, C. & Douglass, J. P. (forthcoming): "Community Safety and Crime and Disorder Act local crime audits: the use of, and outputs from, an assault patient questionnaire within accident and emergency departments on Merseyside", in *Journal of Accident and Emergency Medicine*.
- ²⁰ <http://www.nw-taskforces.org.uk/accidents/pages/MASCGToR.pdf>
- ²¹ Haig Associates (June 2001): *Trauma and Injury Intelligence. Report for Merseyside HAZ MASCG*, Unpublished
- ²² NWPPO (2001): *Accident, Injury and Trauma. Information and Intelligence Initiatives in Merseyside, the North West, and Nationwide*, <http://www.nwpho.org.uk/reports/tiig.pdf>
- ²³ Database of Information and Initiatives as accompaniment to report above.
- ²⁴ Measuring and Monitoring Injury Working Group (May 2002): *Report to the Accidental Injury Task Force*, Department of Health. Available from: <http://www.doh.gov.uk/accidents/accinjuryreport.htm>
- ²⁵ BMA, 2001
- ²⁶ Haig Associates (June 2001): *Trauma and Injury Intelligence. Report for Merseyside HAZ MASCG*, Unpublished
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