





Feasibility of Establishing a

UK Wide Injury Database

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Summary

Background

- 1. In the UK, accidents and consequent injuries result in significant emotional and financial costs to individuals and families as well as to employers and the state, in terms of lost earnings, lost production and treatment costs. Accidents and injuries are a main cause of serious and permanent disability with many more people suffering shorter term disabilities.
- 2. Reliable and up to date injury data are required by a wide range of public and private stakeholders. It is used to shape local and national policy, prioritise resources, develop public awareness campaigns, understand relative risk, and design safety into new products and services. Data on non fatal injuries, where the burden of cost and disability is so high, is of particular importance.
- 3. Until 2002, the UK had, in the form of the Home Accident Surveillance System and Leisure Accident Surveillance System (HASS/LASS), arguably the best injury database in the world. Since then there have been repeated calls for reinstatement of such data collection. Demand for access to the now outdated 2002 data has grown year on year and in the last three years alone it has increased by 40 percent per annum¹. The UK is now one of the few developed countries which no longer collects such information and makes it readily accessible to all users.
- 4. From the HASS/LASS data we were able to determine that every year in the UK about 4,000 people died from accidental injuries in the home and that in 2002, 2.7 million attended A&E for treatment for their injuries. Just taking injuries to children in and around the home, the cost to society was estimated to be £9.46 billion. This is seven times larger than estimates of £1.23 billion for injuries on the road in the same year².
- 5. In the UK we have good information about deaths but it is clear that without up to date information on injuries we cannot update these costs to society, nor track over time the development and performance of cost effective policies and programmes to address the prevention of non fatal injuries.
- 6. In July 2008, the EU issued a Regulation³ requiring Member States to monitor accidents and harm to health caused by those products subject to Community harmonisation legislation. The UK is a signatory to this and implementation is required by 1 January 2010.
- 7. The EU has also published a Recommendation⁴ to Member States which requires that each should make better use of existing data and develop injury

¹ The archive of the HASS/LASS data is now accessed through the RoSPA website

² Roberts, DiGuiseppi and Ward (1998) Childhood injuries: extent of the problem, epidemiological trends and costs. *Injury Prevention* Vol4 Issue 4 Supplement Action on Injury 10-16.

³ Regulation (EC) No 765/2008 9 Jul 08.

⁴ EC Recommendation 2007/C164/01 18 Jul 07.

surveillance and reporting systems to identify injury trends which are emerging all the time in new products, materials, and leisure/ sports equipment. In addition, the data should be sent to the European Injury Database to assist with EU wide public health surveillance, international benchmarking, and prevention of injuries.

- 8. As well as the EU calling for improved data collection and dissemination, several UK Government reports and policies recognise the need for data to allow issues to be identified and interventions to be monitored and evaluated.
- 9. While much data is collected within the NHS, it is insufficient to establish the circumstances in which an injury occurs. The focus of the NHS data is on treatment and diagnosis. It is not designed to aid learning from experience to prevent injuries in the future.
- 10. These are the reasons why it is essential to restart data collection across the UK.

The injury database study

- 11. In partnership with the Electrical Safety Council and Intertek, RoSPA⁵ has commissioned this study on the feasibility of setting up a new UK-wide injury surveillance system which is capable of contributing to the European Injury Data Base (IDB). The objective of the proposed database is to facilitate the prevention of injury (both accidental and intentional) by providing data for research, policy development, the development and evaluation of injury prevention programmes, risk assessment, and product development.
- 12. This report:
 - Calls for improved data from Government Departments and Agencies.
 - Summarises the findings from interviews and questionnaires that have been distributed since the start of the project (October 2007).
 - Outlines the essential features of surveillance systems based on international examples, and
 - Proposes options for data collection, analysis and dissemination in the four home countries in the UK.
- 13. Throughout the study we have worked closely with the South West Public Health Observatory (SWPHO) which has a leading function on accidental injury within the Association of Public Health Observatories.
- 14. In this report, our analysis of gaps in UK injury data collection shows there is no one database that can currently provide data at national, regional and local levels and fulfil all policy, research and development needs. With the cessation of the HASS & LASS data collection we have lost information to help us detect emerging and changing trends as well as the only detailed information source on home and leisure injuries.

⁵ The partners are grateful for additional funding from the British Aerosol Manufacturers' Association (BAMA) and UK Cleaning Products (UKCPI) and support from the Department of Health.

A new system

- 15. Drawing on the injury surveillance models used elsewhere and the expert advice of those consulted, the report recommends that the key requirements of a new system would be to:
 - Include <u>all</u> injuries, regardless of intent.
 - Be as representative as possible at both regional and national level.
 - Have a minimum time lapse of a few months between data collection and data availability.
 - Have as much information about the victim, their injuries and their causation as possible.
 - Include free text about the incident to give information essential to injury prevention.
 - Include information where a product is involved about its type, size and shape; and
 - Have the capacity to be linked to work at the European level on database development, health promotion, and work on setting standards.
- 16. In particular, potential users expect to have access to summary statistics at no cost such as those (formerly) provided by the DTi (and subsequently by RoSPA, for the HASS & LASS data), together with periodic reports on injury topics such as those (formerly) produced by the DTi and by the European IDB.
- 17. The research shows that a new system based on A&E data is feasible and clearly indicates we need to utilise existing data as well as collecting new data.

Options

18. Two options for renewed UK data collection have been identified.

- a. The first is to introduce an expanded A&E dataset into a sample of hospitals whereby staff (e.g. at reception) enter data into a modified A&E IT system. At the centre of this method are two short free text fields describing reason for attending and how the injury occurred including the presence of a product. This would be supported by drop down menus for detail about location, mechanism of injury, intent, and activity.
- b. The second is to initiate a system based on more comprehensive questionnaire style interviews by dedicated interview staff of injured people whilst waiting for treatment or after admission. This would cover all injuries in a selection of hospitals similar to that undertaken by European Hospitals submitting data to the IDB or to the American system, NEISS. This was the data collection method used by HASS/LASS.

- 19. In both options, additional information from the national minimum dataset could provide a general picture of injury occurrence and trends. It could also provide national denominators for regional or local data.
- 20. In Wales, a pilot study is underway to test data collection in major A&E Departments and in Scotland there are plans to test the feasibility of using an existing A&E system to collect data on all injuries. Similar pilots need to be conducted in England, to test both options above. All of these datasets will need to be integrated into a UK-wide surveillance system.

Recommendations

- 21. The following recommendations are made in Section 7.1 of the report:
 - The Welsh Emergency Department Data Set, which collects a minimum data set from A&E departments, is taken as the basis for a six month pilot for data collection in at least one hospital in England. This would be Option a. above.
 - That data collection using full interview (Option b. above) should also be piloted in at least one hospital in England for a similar period.
 - These two methods should be reviewed at the end of the pilot period to allow an evaluation of the added value of collecting extended data on injuries. The data could be sent to the EU IDB to begin English compliance with the EU Recommendation and Regulation.
 - In parallel, the Commissioning Data Set already collected in A&E Departments in England should be assessed then improved and extended to provide more comprehensive data than at present.
 - A data management centre needs to be established to co-ordinate, manage, collate, analyse and disseminate UK data collected under this proposal. Existing structures of the Injury Observatory for Britain and Ireland (IOBI) and South West Public Health Observatory could form the basis for such a central Analysis and dissemination centre.
 - The cost of the exploratory exercise in England should lie with the Department of Health.
 - Full UK Government support is given to the EU funded project INTEGRIS (Improved methodology for data collection on accidents and disabilities – integration of European injury statistics) especially where it would complement data linkage already undertaken by Public Health Observatories.
 - A new Accidental Injury Task Force should be set up to steer the multiagency work needed to complete this exploratory work in preparation for integration of English data with data collected in Scotland, Wales and Northern Ireland.

Costs

- 22. Based on experience overseas and with the HASS/LASS system, the costs of this exploratory exercise in English hospitals are estimated to be in the region of £90,000 to include the setting up costs for data collection and anonymisation, analysis, verification, and reporting on the framework for a future system.
- 23. Beyond this, the ongoing costs of carrying out data collection from a representative sample of say 10 English hospitals (one from each Strategic Health Authority) are estimated at about £1.25m per annum assuming 250,000 cases, plus other necessary IT set up costs.
- 24. The collation and analysis of the data to turn it into useful information and disseminate it to stakeholders could cost up to about £500,000 a year depending whether existing resources within the health sector are used or a new team is set up.
- 25. Once established, the operation of a UK injury surveillance system would be of the order of £1.75m per year, in addition to the existing costs in Wales, Scotland and Northern Ireland. It is assumed that costs of modest modifications to the English Commissioning Data Set would be carried out as an ongoing part of NHS information and IT service development.

Conclusion

- 26. Given the calls for improved data from Government Departments and agencies and a wide range of stakeholders, the time is right to set up an injury surveillance system which will enhance injury prevention work in the UK, track product safety and fulfil our European obligations for data collection and analysis.
- 27. Whilst acknowledging the cross Departmental interests in the collection, analysis and dissemination of injury data, the Department of Health should take the lead role in providing the necessary resources to implement the findings of the exploratory exercise. The costs of such a surveillance system are small in relation to the costs to individuals, society, and the UK health sector.







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1. Introduction

1.1 Injury as a public health issue

Injuries are, after cardiovascular diseases, cancer and respiratory diseases, the fourth most common cause of death in the UK and European Member States. In children, adolescents and young adults accidents and injuries are the leading cause of death. Many survivors of severe injuries suffer life-long impairments. Accidents and injuries are a main cause of chronic disability among younger people leading to a heavy and largely avoidable loss of life years in good health.

The World Health Organisation (WHO) estimate that, globally, injuries are responsible for one in six years lived with disability and there is evidence that the disabilities are becoming more serious.

As well as those seriously and permanently disabled, many more again suffer minor, short-term disabilities. The costs of injury are immense, not only in terms of lost economic opportunity and demands on national health budgets, but also in terms of personal suffering. (Holder *et al* 2001). It is for these reasons that reliable information is required, especially on non fatal injuries where the burden of cost and disability is so high.

There is strong evidence that injuries can be prevented by making living and working environments, as well as products and services we use, safer. There is also a known link between the consumption of alcohol and drugs and the number of both accidents and intentional injuries, in particular domestic violence against women and children.

In the UK we have good information about deaths but development of cost effective policies and programmes to address the prevention of non fatal injuries is being hampered by lack of data. The importance of data to spot emerging trends cannot be overstated as new products, materials, leisure and sports equipment, and risky behaviours are emerging all the time. A current example is garden trampolines. Consultants in Emergency Medicine and injury prevention practitioners know there is problem locally because they see the injured attending for treatment, but there is no means by which to judge how big this problem is nationally in terms of severity of injury or of numbers. A regional or national picture would help inform preventive messages to users and provide direct information to manufacturers to improve instructions or design.

Another example is Government policy to improve health through physical activity and access to sport. Whilst it is important that such health gains are maximised it should not be at the expense of health losses through injury. For example, it has been estimated for Scotland that one in five non-fatal unintentional injuries in children result from sport or recreational activities (Kirkwood and Pollock, 2008). Currently a missing link in the ability to calculate these indices of relative risk is lack of data on mechanism and cause of injury.

1.2 The need for injury surveillance

Good data are required so that the extent of the problem can be identified, resources allocated to its prevention, and effective solutions identified so as to bring about the greatest reductions in a cost effective manner.

The EU¹ recommends that Member States should "Make better use of existing data and develop, where appropriate, representative injury surveillance and reporting instruments to obtain comparable information, monitor the evolution of injury risks and the effects of prevention measures over time and assess the needs for introducing additional initiatives on product and service safety and in other areas."

Furthermore it has issued Regulation (EC) 765/2008 on 9 July 2008 setting out requirements for accreditation and market surveillance relating to the marketing of products stating in Article 18 2(b)² that: *"Member states shall establish adequate procedures in order to monitor accidents and harm to health which are suspected to have been caused by those products" (i.e. those subject to community harmonisation legislation - safety legislation).* The UK is a signatory to this and implementation is required by 1 January 2010.

Good injury data is essential to support the UK Government's Staying Safe: Action Plan and the Public Service Delivery Agreement 13 indicator of *"Reducing hospital admissions caused by unintentional and deliberate injury to children and young people*"³

The WHO has developed Guidelines for Injury Surveillance (Holder *et al* 2001) to assist countries in developing effective injury prevention strategies by providing advice on the systematic collection of data on injuries. The standard definition of "surveillance" as used by WHO is the "*ongoing, systematic collection, analysis, interpretation and dissemination of health information*". In other words through the keeping of injury records classified according to a standard system together with a means for providing statistics and reports it provides information on the size of the problem (how many, where and when) and the cause (how the injury happened).

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:218:0021:0029:EN:PDF

¹European Commission Recommendation on the prevention of injury and the promotion of safety (2007/C164/01 of July 18, 2007 (CELEX-Nr. 32007H0718)

²Europe Commission Regulation (EC) No 765/2008 of the European parliament and of the council of 9 July 2008 laying down procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No 3052/95/EC. Available from:

³HM Treasury (April 2008) PSA Delivery Agreement 13: Improve children and young people's safety. Available from: <u>http://www.hm-treasury.gov.uk/d/pbr_csr07_psa13.pdf</u>

WHO's attributes of a good surveillance system:

- Simplicity the system should produce the data needed but in the most simple and straightforward way in order to reduce demand on busy staff;
- Flexibility The system should be easy to change so that new types of information can be added;
- Acceptability The system will only work if people are willing to participate and end users receive the information they need;
- Reliability Users should have confidence in the accuracy of the data;
- Utility The system should be practical and affordable and not put an unnecessary burden on staff or resources;
- Sustainability The system should be easy to maintain and update and be fit for purpose;
- Timeliness The system should be able to generate up to date information whenever that information is needed; and
- Security and confidentiality Records on individual cases should be kept confidential nor should individuals be recognisable in reports. (Holder *et al* 2001)

From the information gathered, the effectiveness of interventions can be monitored and evaluated and with information collected over time, trends can be identified and tracked. It is the bringing together of the data collections or databases with the subsequent analysis interpretation and dissemination which defines a surveillance system. Without the second part we only have a data collection or database.

2. <u>A study to assess the feasibility of setting up a new injury database</u> for the UK

Until 2002 the UK had an injury surveillance system for home and leisure accidents run by the then Department of Trade and Industry (DTi)⁴. The aim of the system was to gain an in-depth understanding of how and why home and leisure accidents occurred and to enable steps be taken to prevent them in the future.

It began in 1978 when the government started collecting details of home accidents that caused an injury serious enough to warrant a visit to hospital. Several years later data on leisure accidents were added. The database holding these A&E attendance details was HASS (Home Accident Surveillance System) and LASS (Leisure Accident Surveillance System). Every year in the UK almost 4,000 people died in accidents in the home. From HASS and LASS we know that 2.7 million attended accident and emergency departments seeking treatment (RoSPA, 2008a). Just taking the cost to society of injuries to children in and around the home is estimated to be £9.46 million. This compares with estimates of £1.23 million for injuries on the road in the same year (Roberts DiGuiseppi and Ward, 1998).

Data were analysed and annual reports publicly released (DTi 2003). In addition the analysis team at the DTi provided, on request, information on injury types. More information about HASS/LASS is given in Appendix 1.

Examples of use of HASS/LASS

Analysis of HASS/LASS data showed that there had been a marked increase in accidents involving gardening and DIY products. On looking more closely at the data it was possible to identify age and sex of the injured users, accident cause and products involved. This enabled improvements to the design of these products to be identified together with the development of awareness raising campaigns about their safe use. Subsequent analyses of the data showed substantial reductions in injuries as a result.

Problems were identified with other types of products which were then addressed by contribution to revisions to British and International Standards. Information from the injury cause fields also led to local campaigns in conjunction with safety groups such as RoSPA and the Consumers' Association aimed at promoting safer choices in purchasing and use.

In 2002 the DTi ceased its collection of injury data for its HASS and LASS due to a change in priorities. Since this time the database has been accessible through RoSPA's website and is now used by 70,000 visitors per year and it has seen a year on year growth of 40%. In addition to the publicly accessible data, detailed searches can be completed by RoSPA's Information Centre. Most (37%, 112 out of 302) of the enquiries in the last year were from people who did not state their organisation or are members of the public. But those who can be identified by sector come from manufacturers, service industries, charities, the health sector, academia, local and central government, and the media.

⁴Many of the DTi's responsibilities are now undertaken by BERR (the Government Department for Business Enterprise and Regulatory Reform)

RoSPA, in partnership with Electrical Safety Council and Intertek, commissioned this study on the feasibility of setting up a new UK-wide injury surveillance system⁵ which is capable of contributing to the European Injury Data Base (IDB) described more fully in Section 5.3. The objective of the proposed database is to facilitate across the UK the prevention of injury (both accidental and intentional) by providing data for research, policy development, the development and evaluation of injury prevention programmes, risk assessment, and product development.

This report outlines:

- the call for improved data from Government Departments and Agencies;
- summarises the findings from questionnaires that have been distributed since the start of the project (October 2007);
- outlines the essential features of surveillance systems based on international examples; and
- proposes options for data collection, analysis and dissemination in the four home countries in the UK.

This feasibility study has been undertaken by a combination of methods but much has relied on desk research, questionnaires and interviews with key stakeholders on a one to one basis as well as at conferences and workshops, meetings with database designers and administrators both in the UK and overseas⁶, and meetings with Officials of key Government Departments with an interest in the collection and use of injury data. Throughout the study we have worked closely with the South West Public Health Observatory (SWPHO) who have a leading function on injury within the Association of Public Health Observatories.

⁵The partners are grateful for additional funding from the British Aerosol Manufacturers' Association (BAMA) and UK Cleaning Products (UKCPI) and support from the Department of Health.

⁶ Through interviews at the World Conference on Injury Prevention and Safety Promotion in Merida, Mexico in March 2008,

3. Policy context for the need for injury data in the UK

There are many calls for improved data collection and analysis from the EU as well as from UK Government Departments and Agencies.

3.1. EU Working Group of Governmental Experts on Injury Prevention and Safety Promotion

Further to the EU Council's recommendation an implementation document was released by the Working Group of Governmental Experts on Injury Prevention and Safety Promotion which provides the key areas for consideration in implementing the Council Recommendation on the prevention of injury and the promotion of safety.

"In order to tackle the data and information gaps, Member States are advised to develop and maintain the collection of stable injury data and make the resulting information available for integration into the European Injury Data Base (IDB)." (Working Group of Governmental Experts on Injury Prevention and Safety Promotion, April 2008)

3.2. Department of Health

In October 2002, the Department of Health published Preventing Accidental Injury: Priorities for Action - A Report to the Chief Medical Officer from The Accidental Injury Task Force. The Foreword to the report was signed by Ministers of the Department of Health, Department for Transport, Office of the Deputy Prime Minister, Department of Trade and Industry, Department of Work and Pensions, and the Department for Culture, Media and Sports. It called for co-ordinated cross boundary working including the improved collection of data.

"A key step to improving understanding of injury at a local level and to introducing more targeted interventions is to improve data on injury collected by A&E Departments and in General Practice. All nationally collected data should be collected according to the core minimum data set recommendations, already agreed by data collectors during the PHIS (Public Health Information Strategy, Department of Health 1996) consultation phase". (Department of Health, 2002)

The Measuring and Monitoring Injury Working Group to the Accidental Injury Task Force published its report on what is required to measure and monitor injury

"... there is a need for a lead on information at the national level to provide support on information and analytical issues to enable monitoring of progress and to lead developments to improve accidental injury data for the future and its availability to users by liaising with individual information holders at local, regional, and national level.." (Measuring and Monitoring Injury Working Group, 2002).

3.3. The Health Protection Agency

The Health Protection Agency supports the need for improved data collection as suggested in the consultation document - A Children's Environment and Health Strategy for the United Kingdom

"Ensuring accurate surveillance of unintentional injuries, both locally and nationally, is essential to enable proper and full evaluation of the effectiveness of initiatives aimed at reducing unintentional deaths and injuries amongst children and young people. It would be prudent to review current injury surveillance throughout the UK to ensure that the impact of initiatives to prevent unintentional injuries can be fully evaluated" (Capleton et al. 2008).

3.4. The Healthcare Commission and Audit Commission

In its 2007 report 'Better Safe than Sorry', the Healthcare Commission and Audit Commission recommended

"Providing support to restore and manage the Home Accidents Surveillance System and the Leisure Accidents Surveillance System currently held by RoSPA, which will enable data to be used in the prevention of unintentional injuries, including the design of safer products and environments as the databases were originally intended". (Healthcare Commission and Audit Commission, 2007)

3.5. The Department for Children Schools and Family

The Department for Children Schools and Family (DCSF) published its Staying Safe Action Plan in which it states that

"Several organisations also said that there was not currently enough information on accident rates – more data needs to be collected – and they would like to see one agency leading on accident prevention". (DCSF, 2008)

3.6. Report to the Secretary of State for Health from Cardiff University

The research group into violence prevention at Cardiff University published a report detailing the potential for reduction in violence by partnership working and data sharing - known as the Cardiff model.

"Emergency Departments (EDs) can contribute distinctively and effectively to violence prevention by working with Crime and Disorder Reduction Partnerships (CDRPs) and by sharing, electronically wherever possible, simple anonymised data about precise location of violence, weapon use, assailants and day/time of violence......Data sharing provides a new objective measure of community violence which helps the public, the police, local government and the Home Office to understand the true size of the problem" (Shepherd, 2007).

3.7 Children's National Service Framework – Wales

The National Service Framework sets out the quality of services that children, young people and their families have a right to expect and receive in Wales. Key action 2.38 states:

"Children and Young People's Framework Partnership Plans (under Core Aim 6) include mechanisms for the prevention of accidental injuries in children that include: • Monitoring of accidental injuries in children using effective data collection systems (see 7.21);

• Promotion of home safety, including safety equipment loan schemes in deprived areas and the safe storage and disposal of medicines;

- Safe play areas which are easily accessible for children;
- Traffic-calming measures in densely populated areas and near schools;

• School policies to encourage pupils to behave safely on their journeys to and from school". (Welsh Assembly Government, 2005a)

3.9 Welsh Assembly Government – Tackling Child Poverty

The Strategy of the Welsh Assembly Government for Tackling Child Poverty details the 3 year strategy designed to meet the 2020 target of eradicating child poverty. The document refers to injury and injury prevention on a number of occasions. One target in particular is particularly relevant:

"Accidental injuries will be monitored through A&E department attendances, sorted by age bands and case mix and provided to the All Wales Injuries Surveillance Centre" (Welsh Assembly Government, 2005b).

3.9. Scottish Child Safety Alliance

In December 2007 the Child Safety Strategy; Preventing Unintentional Injuries to Children and Young People in Scotland was published which stated that:

"Accessible, relevant and timely data and information are needed to allow problems to be identified, solutions to be proposed, progress to be monitored and outcomes to be evaluated. Scotland is fortunate in having an emergency department information system (EDIS) in most hospitals, which can provide detailed information on children and young people attending their A&E departments. This information needs to be more fully exploited". (Scottish Child Safety Alliance, 2007)

3.9. The Scottish Government

In 1999 the Scottish Government published its White Paper "Towards a Healthier Scotland" which sets out the Government's vision for improving health for all in Scotland. Section 73 refers to safety and accidents with the following commitments:

"To develop national criteria for data collection; to encourage local interagency accident prevention work; to develop a website database of best practice". (The Scottish Office, 1999)

3.10 Department of Health, Social Services and Public Safety (DHSSPS) Northern Ireland

In November 2004 the DHSSPS published the Home Accident Prevention Strategy & Action Plan 2004-2009. Chapter 3 refers to improved injury data collection by the following action points:

Action 12: DHSSPS in partnership with HSS board and Trusts will work together to implement modifications to Accident & Emergency (A&E) systems to gather additional Home Accident information. Target date: April 2006 Action 13: DHSSPS in partnership with the HSS Boards and Trusts and the voluntary sector will agree a Minimum Data Set for the collection of data relating to Home accidents, by IT systems in A&E departments and minor injuries units. Target dates: Minimum Data Set to be agreed by December 2004. Data Collection to be piloted in at least one Trust by April 2005. Data collection to be implemented fully by April 2006

Action 14: DHSPS in partnership with HSS Boards and Trusts will develop a central service for the collection, analysis and interpretation and dissemination of home accident data. Target date: April 2006. (Department of Health, Social Services and Public Safety, 2004).

4. Data needs of injury prevention professionals

In the previous Section we have outlined some of the calls from Government itself for better data so as part of the current study we set out to try to establish the data needs of potential users across a wide range of professions. This was undertaken through interviews and questionnaires.

The aim of this information gathering exercise was to establish the following:

- who will use an injury surveillance system and for what purpose;
- what it is about HASS/LASS they find valuable and why they want a new system;
- scope of the surveillance system (i.e. what data, injury mechanisms need to be covered);
- the type of system they need (as opposed to what they want/would like);
- how representative does it need to be;
- how up to date what time lag in data being available is acceptable; and
- what annual or search costs they would be prepared to accept.

Existing users of the HASS/LASS database, managed by RoSPA, and potential new data users come from the public, the private sector, charities, and include professionals such as:

- Injury prevention programme managers;
- Product designers and risk managers from manufacturing, service & retail;
- Teachers, academics & researchers;
- Trading Standards Officers;
- Politicians, civil servants, and local government officials; and
- Journalists.

Questionnaires were distributed at the RoSPA Home Congress in 2007, they were placed on the HASS/LASS part of the RoSPA website with emails sent to users to direct them to the questionnaire. In addition, a Stakeholder workshop was held in October 2007 with the objective of obtaining views from a cross section of interested parties. A total of 72 questionnaires were completed.

In answer to the question *What would you use the data for?* it is evident that injury data provides users with the ability to influence policy and practice at various levels, evaluate the effectiveness of existing programmes, and focus on priority areas for injury prevention (see Figure 1). It provides a foundation for evidence-based practice and product design.



Figure 1: Potential use for the Injury data.

It is clear from our research there is wide support for access to an up to date searchable injury database:

- include <u>all</u> injuries, regardless of intent;
- be as representative as possible at both regional and national level;
- have a minimum time lapse of a few months between data collection and data availability;
- have as much information about the victim, their injuries and their cause as possible;
- include free text about the incident to give information essential to injury prevention;
- include information where a product is involved about its type, size and shape; and
- have the capacity to be linked to work at the European level on database development, health promotion, and work on setting standards.

Survey respondents expect to have access to summary statistics at no cost such as those provided by the DTi, and subsequently by RoSPA, for the HASS/LASS data, together with periodic reports on injury topics such as those produced by the DTi and by the European IDB.(RoSPA, 2008b & DG SANCO, 2006a)

5. Data available in the UK

The main uses for injury data are to set and influence policy and practice at various levels, undertake research, evaluate the effectiveness of existing programmes, and focus on priority areas for injury prevention to encompass evidence-based practice and product design.

In the UK there are many different databases which fulfil different functions. Several contain data routinely collected by the health services and Government Departments covering road, fire and occupational injuries.

5.1 Routine nationally collected health data

- A&E datasets;
- Inpatient datasets; and
- Mortality statistics.

5.1.1 A&E datasets

England and Scotland have an A&E dataset which is mandatory for that country. In England its main purpose is administrative to enable the Department of Health's Payment by Results Team to establish national tariffs for commissioning Emergency Care Services and for Trusts to calculate their own reference costs. The aim is to collect data across all types of A&E department including minor injuries units and walk in centres that can receive and treat injured patients (Health and Social Care Information Centre, 2005).

The demographic details of patients are collected by reception staff and the clinical details in the course of consultations and assessments.

Table 1 shows the relevant fields collected by the existing A&E datasets for England and Scotland as well as that currently proposed for Wales. Those that are mandatory are marked in red. The numbers in brackets next to the field names indicate the number of codes in each field and these are described more fully in Appendix 2.

For example, in England since the announcement in April 2005 that the national collection of the minimum data would be mandatory, the submission of data by hospitals has increased year on year. The coverage is not yet complete across all NHS hospitals but it is improving. The first year's data will be released in November 2008 to those with licence to access the inpatient data. Earlier analysis has indicated that data quality may be an issue for some of the data items collected. It is not until an assessment has been completed that we will know what the coverage and data quality issues are.

The geographical indicators present in the data derived from the patient's address might allow limited local and regional area analyses.

Other than diagnoses and anatomical area injured, the key England mandated fields relevant to injury are:

A&E Incident location type - home, work, educational establishment, public place, other

A&E patient group - road traffic accident, assault, self harm, sports, firework, other accident, dead on arrival, other than above.

The content of these two fields on their own are rather inadequate for injury prevention and policy making purposes. However, more information can be gained from cross tabulating information under the headings of birth date, sex and patient group to give baseline information on, for example, the number of 15 year old boys injured in sporting accidents; however, the dataset does not provide information of what sport or how the injury occurred.

England A&E CDS ¹	Scottish Data sot ²	Wales PROPOSED EDDS ³	Wales current AWISS ⁴
BIRTH DATE	YEAR OF BIRTH YYYY	BIRTHDATE	AGE
		BIRTH DATE STATUS	AGE BAND (19)
SEX (4)	PERSON CURRENT GENDER (5)	SEX	SEX (3)
PTS USUAL ADDRESS	x	PTS USUAL ADDRESS	ADDRESS
ADRRESS FORMAT CODE			
POSTCODE OF USUAL ADDRESS	x	POSTCODE OF USUAL ADDRESS	POST CODE
Х	x	DATE OF INCIDENT	DAY OF INCIDENT/ DATE OF
			INCIDENT
Х	x	TIME OF INCIDENT	TIME OF INCIDENCE
ARRIVAL DATE yyyy/mm/dd	ARRIVAL DATE & TIME (14 characters)	A&E ATTENDANCE ADMIN ARRIVAL DATE	x
ARRIVAL TIME using 24 hour clock		A&E ATTENDANCE ADMIN ARRIVAL TIME	TIME OF ATTENDANCE
Х	DATE OF 1 ST FULL CLINICAL ASSESSMENT	DATE SEEN – TRAIGE YYYY/MM/DD	х
INITIAL ASSESSMENT TIME	TIME OF 1 ST FULL CLINICAL ASSESSMENT	TIME SEEN – TRIAGE	x
TIME SEEN FOR TREATMENT			
A&E ATTENDANCE CATEGORY (3)	A&E ATTENDANCE CATEGORY (3)	NEW OR FOLLOW UP ATTENDANENCE (2)	To be incorporated in NEW AWISS.
A&E PT GROUP (8)	X	A&E ATTENCANCE GROUP (7)	PT GROUP (MAY BE CHANGED TO
			INTENT) (10) INTENT ⁴
A&E INCIDENT LOCATION TYPE (5)	PLACE OF INCIDENT (8) 2 levels	INCIDENT LOCATION TYPE (14)	LOCATION (12) ⁴
			PLACE OF ACCIDENT
ANATOMICAL SIDE (4)	x	ANATOMICAL SIDE 1-6 (5)	SIDE OF BODY (6)
ANATOMICAL AREA (36)	x	ANATOMICAL AREA 1-6 (40)	ANATOMICAL SITE (39) 2 levels
Х	x	A&E PRESENTING COMPLAINT 1 & 2	PRESENTING COMPLAINT ⁴
		255 free text(longest text field submitted by trusts)	Free text field
Х	TRIAGE CATEGORY (5)	TRIAGE CATEGORY (9)	TRIAGE CATEGORY(9)
DIAGNOSIS SCHEME IN USE; (5)	DIAGNOSIS 1-3 (21)	A&E DIAGNOSIS 1 -6 (34)	DIAGNOSIS (25) 2 levels
A&E DIAGNOSIS 1 & 2 (39) 2 levels			
INVESTIGATION SCHEME IN USE (1)	INVESTIGATION TYPE 1-3 (11) 2 levels	A&E INVESTIGATION 1-6 (17)	x
A&E INVESTIGATION 1 ST AND 2 ND (25)			
ETHNIC CATEGORY (must not be used)	x	ETHNIC GROUP	ETHNIC GROUP
SOURCE OF REFERREL FOR A&E	REFERRAL SOURCE (7) 2 levels	SOURCE OF REFERRAL (16)	REFERRAL SOURCE (16)
PROCEDURE SCHEME IN USE (for Tx) (5)	PROCEDURE 1-3 (14) 2 levels	A&E TREATMENT 1-6 (12) 2 levels	TREATMENT (14)
A&E TREATMENT FIRST AND SECOND (56)]		
2 levels			

TARLE 1 Summary	of the fields	collected in the	A&F dataset	(England and	Scotland) t	he prop	need FDDS (Walae)	& AWISS ((Wales)
TADLE I Summary			AC Ualasel	(England and	Scolland) l	ne propo	JSEU EDDS (vvale5	α Αντίος (vvales)

A&E MIN DATA SET ¹	Scottish Data set ²	PROPOSED EDDS ³	AWISS ⁴
A&E ATTENDANCE DISPOSAL (12)	DISCHARGE DESTINATION (9) 2 levels	A&E ATTENDENCE DISCHARGE (11)	DISPOSAL (7)
	DISCHARGE TYPE (7) 2 levels		
	REFERRED TO 1 – 3 (8) 2 levels		
A&E ARRIVAL MODE (2)	ARRIVAL MODE (11)	ARRIVAL MODE (9) 2 levels	ARRIVAL MODE
		AMBULANCE INC. No.	AMBULANCE NO.
X	x	ACTIVITY AT TIME OF INJURY (9)	TYPE ³ (46) 2 levels (to be replaced by ACTIVITY) ⁵ ACTIVITY ⁴ (9)
X	x	A&E ADDITIONAL INCIDENT DETAILS (255	x
		character alpha-numeric)	
Х	х	MECHANISM OF INJURY (14)	MECHANISM OF INJURY (14)
		ROAD USER	ROADUSER
			LOCATION OF RTA
			SAFETY DEVICE USED
			VEHICLE
			ROAD TRAFFIC COLLISION ⁴
x	x	PRODUCT INVOLVEMENT 175 Free text field	PRODUCT INVOLVEMENT Free text
Х	х	X	ASSUALT ⁴ (11) 2 levels
X	х	ALCOHOL INDICATOR Y/N	x
X	x	SPORT (27)	SPORT ⁴ (26)

Red text is mandatory (or in the case of AWISS routinely collected), black text is optional GREEN text are new items to be collected by AWISS & suggested for a "medium dataset") Number in brackets is the approximate number of codes for that field.

Abreviations:

Tx= Treatment X= not collected PT = patient

<u>References for Table 1:</u>

¹NHS accident and emergency attendance CDS (Commissioning Data Set) type, NHS data dictionary and model service [online] available from: <u>http://www.datadictionary.nhs.uk/data_dictionary/messages/commissioning_data_set/accident_and_emergency_attendance_cds_type_fr.asp</u> accessed August 27 2008

² Nicol. A. (2008) The A&E data set for ISD's A&E data mart & <u>http://www.datadictionaryadmin.scot.nhs.uk/isddd/17087.html</u> 3 Hospitals in Scotland use this system

³ Townsend, J and Wilson K (October 2008) EDDS (Emergency Department Data Set) project documentation Data descriptions vers 0.7

⁴ Pockett, R. (2007) All Wales injury surveillance system (AWISS) manual and documentation. University of Wales.

As can be seen from the second column in Table 1 the Scottish dataset has the potential to collect more data relevant to injury prevention but on closer examination, very few fields are mandatory limiting its practical usefulness.

Currently in Wales there is no mandated A&E dataset although one is being prepared for trialling during the latter part of 2008. Development of this Emergency Department Data Set (EDDS) takes into account the business requirements for performance management of 24 hour consultant led emergency services in Wales as well as those for injury surveillance. The relevant mandated data fields are yet to be confirmed but are likely to be incident location type, anatomical area, diagnosis, ethnic group, treatment. The proposed Welsh dataset EDDS in the third column of Table 1 provides what may be called a medium level dataset. It includes more fields than the minimum datasets but fewer than the European IDB or The USA's NEISS (see Section 5.3 for further details). However, it has been designed to take the top level headings from the EU IDB database and put them into a format that could be capable of collection through A&E departments. The fields for AWISS are also shown because, whilst not a mandated A&E system it does collect information from Welsh A&E departments for injury surveillance, including road traffic, assaults, and sports injuries, and is currently the only data sent to the EU IDB.

For full detail on these fields for the English, Welsh and Scottish datasets see Appendix 2.

5.1.2 Inpatient datasets.

Each home country has its own inpatient dataset. In England it is Hospital Episodes Statistics (HES), in Wales Patient Episodes Database for Wales (PEDW), in Scotland Scottish Morbidity Record (SMR1).

The primary purpose of these inpatient databases is to allow analyses of admitted patient care within each of the health services. The databases are individual records which include information on demographics, diagnoses recorded using the international classification of diseases coding ICD-10, treatment and length of stay. The ICD-10 classification includes 'external cause' codes which provide supplementary information on injuries (see http://www.who.int/classifications/apps/icd/icd10online/). The geographical indicators present in the data derived from the patient's address allows limited local and regional area analyses.

5.1.3 Mortality data

Information on deaths and cause of death is recorded in each country and summary reports are made available on-line. Mortality data also includes ICD-10 codes.

5.1.4 Specialist health data

- AWISS
- TARN
- International Burn Injury Database
- ICNARC

- Local bespoke A&E databases
- Ambulance data

AWISS is the All Wales Injury Surveillance System. It is a computerised injury surveillance system designed to collect and collate information on injuries treated in accident and emergency (A&E) departments in Wales. As it is collected locally it is able to support local injury prevention and research (Pockett, R. 2007).

TARN is The Trauma Audit Research Network based at the Hope hospital in Salford. It is a voluntary national comparative audit of patients' outcomes and processes of care following admission to hospital with severe trauma (TARN, 2008).

The International Burn Injury Database collects national and international data about burn injuries severe enough to require assessment or admission by specialised services. (International Burn Injury Database, 2008).

ICNARC is the Intensive Care National Audit and Research Centre. It is a national, comparative audit of patient outcomes for intensive care and high dependency units. (ICNARC, 2008)

Local bespoke A&E databases are available throughout the UK such as the Trauma & Intelligence Group (TIIG, 2008) in Liverpool who focus on assault and the West Midlands Accident & Emergency Surveillance Centre (WMAES, 2008) in Birmingham.

Ambulance services record information on call outs and some studies have provided useful information based on this data. An example of this is the East Midlands Ambulance Service whose data on falls in deprived areas led to improved multi agency falls services in their area (Stephenson, 2008). Unfortunately, however, there is a lack of standardisation across services in the way data is recorded which limits its usefulness outside the local area.

5.1.5 Non – health databases

- STATS19
- Fire Statistics
- RIDDOR
- Drowning
- Police Recorded Assaults

Government Departments collect data for their own policy and research purposes. The largest and longest running of these is the STATS19 database based on police reports covering road traffic accidents in Great Britain. The Department for Transport publishes an annual casualty report which gives tables and reports on road traffic casualties in Great Britain (Department for Transport, 2008).

The Fire Statistics, UK are published as annual bulletins presenting detailed statistics on fires, casualties and false alarms attended by fire and rescue services in the United Kingdom. (Communities and Local Government, 2008).

RIDDOR is the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995). According to these regulations employers, the self-employed and those in control of premises must report specified workplace incidents by post, phone or on line to the Health and Safety Executive (HSE, 2008).

The RoSPA UK drowning database collects information relating to fatalities of UK residents from drowning. The data is obtained from police, coastguards, RNLI and coroner reports, as well as collecting information from press cuttings (RoSPA, 2008c).

The Home Office website provides statistics on police recorded assaults at national and local geographical levels. <u>http://www.homeoffice.gov.uk/rds/</u>

5.1.6 Surveys and Studies

- Health Survey for England
- British Crime Survey

There is potential for questions about injury or treatment of injury to be included in the Health Survey for England, the British Crime Survey, and appropriate other national, regional and even local surveys. All of these can be important sources to fill specific gaps. The Health Survey for England is available at the regional level, but the British Crime Survey only provides information at the national level because of the structure of the samples.

In-depth studies are commissioned to answer specific questions and can, therefore, be suitable for use at national, regional or local level depending on their structure. For example, there is potential to use longitudinal surveys such as the ALSPAC (Avon Longitudinal Study of Parents and Children) studies children born in the 90s in the Bristol area. This has included questions on child injuries and has been studied intensively enabling exploration of factors influencing injuries (University of Bristol, 2008).

5.2 Analysis of the gaps in injury data collection

Figure 2 maps the policy, research, and practice areas onto what is currently available from different data sources. These areas were developed from our literature searches, policy documents, and responses to the questionnaire and interviews.

The first column shows areas for which the HASS/LASS data could have been used. The next block of columns indicates which of the existing hospital data sources have sufficient data to enable coverage of these areas⁷.

In some areas of the UK local hospital data is used for local injury prevention purposes and is reflected in the first column under the heading of specialist databases.

The importance of Figure 2 is that it shows there is no one database that can currently provide data at all levels and fulfil all policy, research and development needs. With the cessation of the HASS/LASS data collection we have lost information to help us detect

⁷ HES - Hospital Episodes Statistics for England, PEDW – Patient Episode Data for Wales, SMR1 – Scottish Morbidity Record

emerging and changing trends as well as the only detailed information source on home and leisure injuries.

									29	
		Exis	sting Hospita	l data		Spe	cialist		Surveys &	& Studies
	HASS & LASS	A&E Min Data Set (e.g. England)	Inpatient/ HES PEDW SMR	Wales A&E AWISS	Local bespoke A&E data	Special Inpatient databases	National database (Occup- ational, Drowning etc.)	Fire & Road	National Health & Crime Surveys	In depth studies
Use of data		-			-					
National strategic policy development and monitoring	J	J	J	J	x	J	J	J	J	J
Research (at national level)	J	J	J	J	x	J	J	J	J	J
Regional strategic policy development and monitoring	x	J	J	J	√ some d∕bases	J	?	J	√ (HSE)	J
Local injury prevention policy & programme definition, monitoring & evaluation	x	√(limited)	J(limited)	J	J	?	x	J	x	J
Research (at local level)	X	√(limited)	J(limited)	J	J	?	x	J	X	J
Risk assessment (product & service)	√ detailed	X	X	?	√ some d∕bases	√ some products	x	√ some products	x	J
Product & service development	√ detailed	X	x	?	√ some d∕bases	√ some products	x	√ some products	x	J

CODE:

1	Available	√ some d/bases	some d/base collect full data		
?	don't know yet				
X	No				
√ some products	not all product/ specific selection of products				
		Figure 2: Potential uses of existing data sources			

5.3 The European and US surveillance systems

During the 1990s the European Commission supported the Member States in collecting data about Home and Leisure Accidents, in particular about product-related accidents in view of consumer safety interests in the internal market. This database was known as EHLASS (European Home and Leisure Accident Surveillance System).

In 1999 the European Injury Prevention Programme set up a successor to EHLASS whose purpose is to facilitate injury prevention in the Member States and at EU level - through trans-national aggregation and harmonization of data, and through reporting and benchmarking. This new database is the European Injury Database (IDB). The data are analysed and periodic high level reports provided.

The IDB contains unique details on the mechanism of the accident, the activity of the victim, and related products. Details of the data fields collected can be found in Table 2 with greater detail in Appendix 4. From 2007 onwards most IDB countries started to extend data collection from Home and Leisure accidents to all injuries.

The system is based on Accident and Emergency data from Member hospitals. The following countries are or have been participating members: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom. (In the period HASS/LASS was active, UK data were provided for EHLASS and then the IDB. Since 2002, however, UK-wide data have not been available).

The data are aggregated at EU level and in a standardised way and made available through a central database (DG SANCO 2006b).

In the USA the National Electronic Injury Surveillance System (NEISS) was set up to collect patient information from each NEISS hospital for every emergency visit involving an injury associated with consumer products. In 2000 NEISS was expanded to collect data on all injuries but the NEISS was still commissioned by NEISS (CDC) to collect the product related information. The NEISS data are available from the Centre for Disease Control and Prevention website (http://www.cdc.gov/ncipc/wisqars/)via the Web-based Injury Statistics Query and Reporting System (WISQARS). This system provides high level data and injury maps illustrating the geographical spread of injury risk across the USA.

It is also possible to query NEISS at the following site: <u>http://www.cpsc.gov/LIBRARY/neiss.html</u>. A search on this site provides summary statistics and incident descriptions on a selected number of cases

Systems such as IDB and NEISS are currently regarded by those managing surveillance systems in other countries as the Gold Standard. It requires that an interviewer be present in A&E departments to interview injured people, or for injured people to consent to having an interview at a later date, as used by NEISS. (Interviews were also used by HASS/LASS where 25% of cases were by interview and where an interview was not possible the clerk would transcribe from medical notes (75%)). Among the advantages are:

• Details of the mechanism of injury and the factors leading to it can be collected;

- Detailed information on products can be collected, necessary for risk assessment and product development as well as for public health programmes;
- High data quality and consistency;
- Length of stay can be obtained from medical notes (or eventually through data linkage);
- Interviewers collecting data to a common format across the sample of hospitals.

Its main disadvantages are:

- Cost of operation (see Section 6.1);
- The space needed to accommodate an additional person in a busy A&E department.

5.4 Comparison of data fields in IDB, NEISS, WHO and HASS/LASS

Table 2 is a comparison of the main data fields collected by the IDB, NEISS together with the WHO's recommended minimum dataset and, for comparison, the old UK HASS/LASS. Its function is to describe the data fields collected by the major databases to illustrate which fields may be required for any new UK injury database.

The fields collected differ according to the function of the database. All collect data on age, sex, place of occurrence, treatment and follow up/disposition, type of injury, and all have a narrative for describing the circumstances

For an all injuries database the fields present in the IDB or proposed by WHO work well as different modules can be called up according to the intent (unintentional, violence/self harm) and whether it was a transport or sports injury or whether there was a product involved. The main difference between the databases is the level of detail in the coding. For example the IDB has 67 pages of product related information and NEISS has 163. More detail on fields in each of these databases can be found in Appendix 3. It should be remembered that the IDB, NEISS and HASS/LASS data at this level of detail are acquired through interview of the injured person or through extractions from free text field or hospital notes. The WHO proposals are more concise having a regard for data collection in hospitals in all countries of the world especially those where resources may be limited.

EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴	
Mix of Interview/ medical notes	Taken from medical notes	INTERVIEW/medical notes	x	
UNIQUE NATIONAL RECORD NUMBER	CASE NUMBER	CASUALTY NO.	x	
identifies specific record		HOSPITAL	x	
RECORDING COUNTRY (34)	USA	UK	x	
AGE OF PT at time of incident	AGE OF PATIENT		AGE (8)	
	DOB			
SEX OF PT (3)	GENDER OF PATIENT (3)	SEX (2)	SEX (3)	
COUNTRY OF PERMANENT RESIDENCE at time of incident use from recoding country	х	POST CODE	RESIDENCE	
DATE OF INJURY	x	DAY /DATE	DATE OF INJURY	
TIME OF INJURY	x	TIME OF ACCIDENT	TIME OF INJURY (7)	
DATE OF ATTENDANCE	x	DATE OF ACCIDENT	x	
TIME OF ATTENDANCE	x	TIME OF ATTENDANCE	x	
TREATMENT & FOLLOW UP (10)	DISPOSITION OF CASE (8)	OUTCOME/DISPOSAL (10) 2 levels	DISPOSITION (5)	
INTENT (7)	WHETHER INTENTIONALLY INFLICTED (4)	x	INTENT (8)	
		LOCATION (32)		
		Accident in home/garden only: kind of building, is this normal residence	PLACE OF OCCURANCE (11)	
			MECHANISM OF INJURY (12)	
	X	ACCIDENT MICHANSINI, CAUSE (15)	External cause of injury (ICD 10 classification)	
ACTIVITY WHEN INJURED (10) (2 levels).	x	ACTIVITY what were you doing at the time of the accident? (9) 2 levels	ACTIVITY (7)	
		TYPE LA (LEISURE) OR HA (HOME)		
OBJECT/SUBSTANCE PRODUCING INJURY (67 pages)	PRODUCTS INVOLVED 163 pages of codes.	ARTICLE INVOLVED (type, brand, condition, age, child resistant mechanism, fuel/ power)	x	
TYPE OF INJURY (26) (2 levels)	DIAGNOSIS (70+)	INJURIES (16) 2 levels	NATURE OF INJURY (9)	
PART OF BODY INJURED (7) (3 levels for some body parts)	BODY PART AFFECTED (60 +)	PART OF BODY INJURED (54)	x	

 TABLE 2: Summary of the fields collected in the EUIDB, NEISS, HASS&LASS and WHO recommendations
EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴
NARRATIVE description of the event leading to the injury "what went wrong" 120 spaces free text	COMMENTS 2 lines of 71 spaces each.	COULD YOU DESCRIBE AS FULLY AS POSSIBLE HOW THE ACCIDENT OCCURRED (free text)	INCIDENT SUMMARY free text field describing circumstances
x	RACE & ETHNICITY/ OTHER RACE AND/OR ETHNICITY (4)	х	RACE/ ETHNICITY
TRANSPORT INJURY EVENT (3) apply transport module	x	x	х
AM TRANSPORT	x	x	AM TRAFFIC
AM ADMISSION	x	x	x
AM VIOLENCE	x	x	AM ASSAULT
AM INTENTIONAL SELF – HARM	x	x	AM SUICIDE
AM SPORTS	x	ANY SPORT OF EXERCISE INVOLVED IN THE ACCIDENT? WAS A THERE A REF, COACH OR TEACHER PRESENT?	x
		SPECIAL STUDIES ONLY	ALCOHOL USE (2)
X	X	BLOOD ALCOHOL (MG/100ML) SS1 SS2 NAME TEL ADDRESS.	OTHER PSYCHOACTIVE SUBSTANCE USE (2)
	ADDITIONAL MODULE	ES (not mapped)	
	FIRE INVOLVEMENT (4)	BROUGHT IN BY AMBULANCE?	INJURY SEVERITY (4)
	EACH VISIT REGARDLESS OF PREVIOUS VISITS = NEW CASE	IF ACCIDENT INVOLVED OTHER PATIENTS: NUMBER OF PTS & ACCIDENT REFERENCE CASUALTY NO.	
	DATE OF TX	FALL INVOLVED? WHAT KIND OF FALL? E.G. STAIRS, LADDER.	
	WORK RELATED (4)		

References for Table 2: ¹ Consumer Safety Institute The injury database (IDB) coding manual: Data dictionary version 1.1 June 2005, pp.6 ² NEISS coding manual. January 2008 ³ DTI Manual (provided to Clerks) obtained from RoSPA & 24th (final) report of the Home and Leisure accident surveillance system ⁴ Holder, Y. *et al.* (2001) Injury surveillance guidelines. WHO. pp.29-39

6. Filling the gaps - options for collecting injury data as part of a surveillance system

6.1 Options for data collection systems

In previous Sections we have presented:

- the data currently available in the UK;
- what people have said to us that they need from a surveillance system; and
- data collected by the gold standard surveillance systems.

From this we have identified gaps in UK data collection.

There are well established routine and specialised systems for collecting inpatient data in each of the home countries but these only cover the more severe injuries requiring hospitalisation. For surveillance of the full range of injuries, for detecting when there is not a problem through an absence of injuries, and for assessing the burden of injury, information on the more minor injuries is also necessary. These can only be collected through the A&E departments. However, as we have seen the A&E systems in England and Scotland are not suitable on their own because only minimal information is currently collected. Neither the inpatient nor the A&E systems are currently capable of collecting the detailed information for prevention of home and leisure injuries, and especially the detail required for injury surveillance relating to products.

Figure 3 shows the options for filling the gaps identified. It clearly indicates we need to utilise existing data as well as collecting new data as proposed in the last two columns.

The first option is to start a system based on interviews of injured people covering all injuries in a selection of hospitals similar to that undertaken by European Hospitals submitting data to the IDB or to the American system, NEISS. This was the data collection method used by HASS/LASS (see Section 4.2.3).

The second option is to introduce an expanded A&E dataset into a sample of hospitals whereby staff either at reception or at triage (Nurse) enter data into a modified A&E IT system. This model is in use in Australia (Queensland,

http://www.qisu.org.au/modcore/HomePage/frontend/index.asp and Victoria, http://www.monash.edu.au/muarc/VISU/) and in several A&E departments in the UK. At the centre of this method are two short free text fields describing reason for attending and how the injury occurred including the presence of a product. This would be supported by drop down menus for detail about location, mechanism of injury, intent, and activity.

In both options, additional information from the national minimum dataset could provide a general picture of injury occurrence and trends. It could also provide national denominators for regional or local data.

	Exisiting Hospital			Specialis	t		Surveys	& Studies	Sample Hosp	of A&E Ditals
	A&E MDS (e.g. England)	Wales A&E AWISS	Local bespoke A&E data	Special Inpatient databases	National database (Occupational, Drowning etc.)	Fire & Road	National Health & Crime Surveys	In depth studies	Data collection by interviews	Data collected by Hospital staff
Use of data National strategic policy development and monitoring	J	J	X	J	1	J	J	1	J	1
Research (at national level)	J	J	X	J	J	1	J	J	J	J
Regional strategic policy development and monitoring	J	J	√ some d∕bases	J	?	J	?	J	?	?
Local injury prevention policy & programme definition, monitoring & evaluation	√limited	J	J	?	x	J	x	J	√ local data	√ local data
Research (at local level)	Jlimited	J	J	?	X	J	x	J	√local data	J local data
Risk assessment (product & service)	x	?	√ some d∕bases	✓ some products	X	✓ some products	x	J	✓ detailed	√ Itd free txt

CODE:

1	Available	√ some d/bases	some d/base collect full data
?	don't know yet	√ detailed	specific details such as product type, age,
X	No	√local data	data collected locally can be used locally
√ some products	not all product/ specific selection of products	√ Itd free text	free text field providing limited information

Figure 3: Options

6.2 How much extra data needs to be collected?

6.2.1 Data collection by interview

We have proposed two options for collecting data. The interview method is considered to be the gold standard due to its data quality and level of detail. The interviewers need to be well trained and motivated and the coding manual well set out. An example of the interview sheet for HASS/LASS is given at Appendix 4. Table 2 and Appendix 3 give an indication of the level of detail from which the free text can be coded to give information on products, location of injury, and activity leading to the injury.

Table 3 shows the relevant injury data fields collected by NEISS, HASS&LASS, and the EU IDB. The final column is our proposal for the fields that should be collected by interviewers. It can be seen that much of the information is already collected through the English A&E CDS. The advantage of collecting information by this means is that greater levels of detail can be collected especially regarding the events and activities leading to the injury, the product or services involved. As can be seen in Table 3 the NEISS interviewer can subsequently code the product involved very precisely given the 163 pages of product codes in their manual. Similarly the IDB uses codes covering 70 pages for products in their coding manual. Using interviewers also allows for better completion of data fields as there will be few 'unknowns' given the detail which can be extracted from the free text descriptions.

As noted in Section 5.3 high quality data can be consistently recorded across a number of hospitals but there is a cost associated with this. When HASS/LASS was operating this was in the region of £5 per case collected. NEISS is about \$5 per case and at the Austrian IDB hospitals it is about \in 5.8 per interview or \in 12 per case collected. In these and other major data bases identified these costs are borne by the Government. This includes the interview and subsequent coding. A separate designated IT system may be necessary for this with regular uploading to a central data warehouse for addition to a database and subsequent analysis.

As previously noted (see Appendix 1) there were about 250,000 cases collected annually by HASS/LASS across about 16 hospitals with an estimated running cost of data collection about £1.25m annually.

IT systems have improved in terms of capacity and ability since the days of HASS/LASS and modern systems can undertake some of the coding from free text providing the interviewers are well trained and motivated to fill out the details appropriately. Such systems are also able to undertake data verification and error reporting as well as being capable of transmitting encoded data to a central server at regular intervals thus improving speed of data availability for analysis.

Whilst labour rates have increased since the days of HASS/LASS is it anticipated that the improvements in IT systems would balance these and that a cost of £5 per case collected is probably realistic.

6.2.2 Data collected by hospital staff

By its very nature and its reliance on staff in busy departments this option can only collect a subset of information, but carefully chosen menus and attention to detail in staff training and management with this option can deliver useful information. It must be recognised that quality and completeness may be affected during very busy times as the first priority of staff is to treat the injured.

From interviews with people running surveillance systems in other countries the keys to success are:

- Keeping the time to gather this extra information to less than 2 minutes per case;
- Training and management of staff;
- Ensuring that there is feedback of information to those involved in data collection so that they feel that they are stakeholders in local injury prevention activities.

	LISA NEISS ¹	11K HASS & 1 ASS ²	FILIDB ³	Proposed Field England (interview)
		Hospital records &	Hospital records &	
Nethod of collection	Hospital records	Interview	Interview	Hospital records
	Hospital staff collected. External person codes. Sample survey from		External person/ hospital	
Who collects data	CPSC In depth	External person	staff	Hospital staff
DOB	DOB automatically	DOB or AGE	Yes	A&E CDS
Age	calculates the AGE (code)	AGE (Years & month) or DOB	Age (3 spaces)	A&E CDS
Gender	Yes (3)	SEX (2)	SEX (3)	A&E CDS
Date of incident	No	DATE OF ACCICENT?	DATE OF INJURY	DATE OF INJURY
Time of incident	No	TIME OF ACCIDENT?	TIME OF INJURY	TIME OF INJURY
Location (Home etc	INCIDENT LOCALE (9)	LOCATION (32)	PLACE OF OCCURANCE (14) 2 levels	Could add more codes to A&E CDS.
Presenting complaint	No	No	No	Free text description, coded after
Mechanism of Injury/ injury cause	COMMENTS / free text description	ACCIDENT MECHANSIM/ CAUSE (13)	Free Text description	Detailed in free text description, coded after
Intent	INJURY INTENT (4 codes)	No	INTENT (7)	Detailed in free text description, coded after or could add more codes to A&E CDS
Body Part	BODY PART AFFECTED (60 +)	PART OF BODY INJURED (54)	PART OF BODY INJURED (7) 3 levels	Could use A&E CDS
				Could use A&E CDS or use develop more
Diagnosis	DIAGNOSIS (70+ codes)	INJURIES (16) 2 levels	TYPE OF INJURY (26)	detailed coding
Treatment	No (only Tx time)	No	No	Could use A&E CDS
(Discharged, referred	DISPOSITION OF CASE	OUTCOME/DISPOSAL (10)	TREATMENT & FOLLOW	Could use A&E CDS
etc)	RACE (4 codes & free text	2 127613		Could use Ade CDS
Ethnic group	for "other")	No	No	A&E CDS?
Activity	COMMENTS / free text description	ACTIVITY what were you doing at the time of the accident? (9) 2 levels	ACTIVITY WHEN INJURED (10) 2 Levels	Detailed in free text description, coded after
Product involved	Product involved (163 pages of codes)	ARTICLE INVOLVED (type, brand, condition, age, child resistant mechanism, fuel/ power)	OBJECT/SUBSTANCE PRODUCING INJURY (25) 2 LEVELS (70 PGS OF CODES)	More detail on product in free text description
Free text description	COMMENTS Include: body part, diagnosis, sequence of events, product involved, location of incident (2 lines 71 spaces)	CAN YOU DESCRIBE AS FULLY AS POSSIBLE HOW THE ACCIDENT HAPPENED? Product involvement, precise actions, contributory factors	NARRATIVE description of the event leading to the injury "what went wrong" 120 spaces free text	Free text description
Address & Post code	No	No	No	Could use A&E CDS
Additional Injury Modules Transport/ violence/ sports?	FIRE INVOLVEMENT & OCCUPATIONAI	FALLS, SPORTS, BLOOD ALCOHOL	ADMISSION, TRANSPORT, VIOLENCE, INTENTIONAL SELF HARM, SPORTS	Expand on intent/ violence/ sports/road user

References for Table 3:

¹CPSC (2008) NEISS coding manual. January 2008

² Department for Trade and Industry (2003) 24th (final) report of Home & Leisure Accident Surveillance System [online]. Available from: <u>http://www.rospa.com/hassandlass/reports.htm</u> accessed August 11 2008.

³ Consumer Safety Institute (2005) The injury database (IDB) coding manual: Data dictionary version 1.1 June 2005, pp.6

As Table 4 shows there are systems for collecting data throughout the UK but they would need adaptation and piloting to examine the feasibility of handling an extended dataset through A&E departments.

	Northern Ireland	Scotland	Wales	England
A&E Minimum dataset	Yes	Yes but very few fields mandatory	Yes in development (EDDS)	Yes
System which could collect expanded A&E dataset	NIRAES	EDIS feasibility being investigated	Local IT system would need to be adapted	IT systems would need adaptation
Inpatient data	Not yet known	Scottish Morbidity Record (SMR1)	Patient Episode Data for Wales (PEDW)	Health Episode Statistics (HES)

Table 4: Summary of existing national hospital data and/or data collection systems in the four home countries

The Welsh proposed EDDS medium dataset is a reduced version of the main IDB fields (see Table 2 on page 27) and is currently being piloted for cost and feasibility of routine collection in major A&E departments in the first instance. As shown in Table 3 (page 32) additional fields will be required in the A&E IT systems in order for these data to be collected routinely across Wales.

In Scotland there is an A&E system capable of collecting injury data. The Queensland hospital management system called EDIS (Emergency Department Information System) has been purchased for use in Scottish hospitals. A module lies within the data collection tool for the collection of injury data and this goes quite a way to collecting the detail required to undertake detailed risk assessments and product and service development. However, the injury data are currently only collected in one hospital, (Royal Alexandra Hospital in Paisley) although versions of the EDIS system are installed in 20 of the Scottish hospitals. What is required is an assessment of the data quality and completeness of recording in the Royal Alexandra Hospital in advance of a pilot study in other hospitals to test the cost and feasibility of collecting data through the injury module currently programmed (but not used) in the system.

In England we have not identified an IT system currently capable of collecting injury data additional to that required by the CDS (minimum) dataset collected by every hospital. The English commissioning dataset could be expanded into a medium dataset such as that being piloted in Wales. However, this is a very expensive and time consuming

exercise⁸ requiring agreement from a number of parties. We have been advised that this is unlikely to be taken forward unless it can be considered alongside changes required by different commissioning practices in the future.

However, depending on the outcome of reviews of data quality and completeness within the England CDS it may be possible to revise, at lesser cost and a shorter timescale, the items under the headings A&E Incident location type (i.e. currently the categories of home, work, educational establishment, public place, other) and A&E patient group (currently road traffic accident, assault, self harm, sports, firework, other accident, dead on arrival, other than above). This has the potential to provide information from every A&E Department in England.

Table 6 shows for Wales (EDDS) Scotland (EDIS) and England (CDS) the relevant injury data fields that are currently collected or in the case of Wales currently being piloted.

The final column shows the fields that we propose be collected to provide sufficient information for injury surveillance purposes. For England in the final column it can be seen that nine of the 19 fields we propose are already collected through the A&E CDS, two further fields could be collected in this way if the contents of the A&E incident location type and A&E patient group could be expanded which leaves seven new fields to be collected (or nine if these two groups cannot be expanded adequately).

The Table indicates that these new codes are capable of being collected by A&E staff as they are already in the EDDS pilot (Wales) or in EDIS (Scotland). It is proposed to collect information on presenting complaint, additional incident details and product involvement through short free text fields suitable for subsequent recoding. Depending on the outcome of these trials this could be a routine system for collecting data in a sample of hospitals in England.

Until the Welsh and Scottish trials are complete we do not have an estimate of costs for this proposal. However, on talking to Consultants in Emergency Medicine we understand that at busy times in A&E departments additional data collection over and above the minimum is not possible. However, willingness to participate and to collect through these busy times might be enhanced if a contribution is made to extra staff resources. In this light we have estimated £30,000 per annum per hospital.

Whilst the principle of adding fields to a hospital IT system to collect extra data may be straightforward, in practice it is not believed to be. Even in Wales where the number of hospitals is relatively small and there are few IT providers the same challenges exist. In Scotland the main IT provider already has the capability or near capability in place through EDIS, but in England the situation is more complex. There are about 300 A&E departments in England with IT provision contracted through Local Service Providers (LSP) by the NHS Information Centre for Health and Social Care. It is understood that in order to change the contract detailing what is collected, all hospitals served by that LSP have to agree to the change and then a Data Set Change Notice (DSCN) has to be issued. This is a costly and time consuming process and out of proportion to the potential benefit gained for our sample of hospitals. However, it is possible for individual hospitals to decide to amend their system and it is hoped that this might be the preferred way forward.

⁸ We have been advised by the NHS Information Centre for Health and Social Care that this could be £25m and take 5 years. The lesser cost for changes to the contents of the drop down menus could be of the order of £250,000

6.3 How many hospitals

The size of the original HASS/LASS sample averaged 16 hospitals across the UK, but A&E units are now larger than they were in 2002 therefore a smaller number may be sufficient. For example, one hospital in each Strategic Health Authority in England (10 hospitals) plus those potentially available in Wales (currently 7), Scotland and Northern Ireland (no information as yet). However, care will need to be taken to ensure geographical representativeness for urban, rural and coastal areas as well as size of hospital.

In the USA NEISS collects information from 64 hospitals which translates into about 265,000 cases per annum. In Austria about 5000 cases are collected through six IDB hospitals. About one third are interviews with in-patients and two thirds with out-patients. Obviously the larger the sample the more accurate the estimates of injury occurrence but this needs to be balanced against cost of collection and analysis. These estimates can only be calculated in detail on a national basis but can be supplemented by use of the A&E dataset for England, the inpatient data and information from other databases and surveys.

Table 5 gives indicative costings for 10 English hospitals on the basis described in Sections 6.1 and 6.2 above.

	Data collection by Interviewer	Data collection by hospital staff	Amend English CDS	EDDS (Wales)	EDIS (Scotland)
Per case cost	£5 – to be confirmed	N/A	N/A	To be determined	To be determined
	by English pilot			by current pilot study	by feasibility
Annual costs	£1.25m to	£300,000	N/A		study
Based on 10	be	to be			
English	confirmed	confirmed			
hospitals	by English	by English			
	pilot	pilot			
Set up costs	To be	To be	£250,000-		
	determined	determined	£500,000		
Analysis and	£500 000	£500 000	N/A		
dissemination					
centre					

Table 5 Summary of estimated costs

	Wales Proposed		_		Proposed Fields
	EDDS ¹	Scottish MDS ²	Scotland EDIS ³	England A&E CDS ⁴	England
Method of					
collection	Hospital records	Hospital records	Hospital records	Hospital records	Hospital records
Who collects data	Hospital staff	Hospital staff	Hospital staff	Hospital staff	Hospital staff
DOB	BIRTH DATE	YEAR OF BIRTH	D.O.B	Yes	A&E CDS
		YEAR OF BIRTH	AGE (Yr, Mth,	No (determine from	
Age	Determine from DOB	(YYYY)	days)	DOB)	A&E CDS
		PERSON CURRENT			
Gender	SEX	GENDER (5)	SEX	SEX (4 codes)	A&E CDS
Date of incident	DATE OF INCIDENT	No	DATE OF INJURY	No	DATE OF INJURY
Time of incident	TIME OF INCIDENT	No	TIME OF INJURY	No	TIME OF INJURY
Location (Home	INCIDENT LOCATION	PLACE OF INCIDENT	TYPE OF PLACE	A&E INCIDENT	To determine the
etc)	TYPE (14)	(7) 3 LEVELS	(15)	LOCATION TYPE (5)	amount of codes req.
	PRESENTING				Free text description,
Presenting	COMPLAINT (255 free		PRESENTING		coded after (limited
complaint	text)	No	PROBLEM (TBC)	No	character)
Mechanism of	MECHANISM OF		INJURY CAUSE		To determine the
Injury/ injury cause	INJURY (14)	No	(41)	No	amount of codes req.
	ATTENDENCE GROUP		HUMAN INTENT	A&E PATIENT GROUP	To determine the
Intent	(7)	No	(13)	(7) see activity	amount of codes req.
	ANATOMICAL AREA 1-				
Rody Dort		No	*	ANATOMICAL AREA	
BOUY Part	SIDE 1-0 (5)	NO			Could use Age CDS
				(39) (also scheme in	
Diagnosis	DIAGNOSIS 1-6	DIAGNOSIS 1-3 (20)	*	(33) (also scheme in use((5))	Could use A&F CDS
2108110010		2010100101010(20)		A&E TREATMENT	
	A&E TREATMENT 1-6	PROCEDURE 1-3		1&2 (46+)(Scheme in	
Treatment	(34) 7 levels	(12+) 5 LEVELS	*	use(5))	Could use A&E CDS
		DISCHARGE			
Outcome/ Disposal		DESTINATION (8) 5			
(Discharged,	A&E ATTENDENCE	LEVELS & DISCHARGE		A&E ATTENDENCE	
referred etc)	DISCHARGE (11)	TYPE (7) 4 LEVELS	*	DISPOSAL (12)	Could use A&E CDS
Ethnic group	FTHNIC GROUP	No	No	ETHNIC CATEGORY	Could use A&F CDS
	ΔΟΤΙΛΙΤΥ ΔΤ ΤΙΜΕ ΟΕ			NO Patient group has	To determine the
Activity	INJURY (9)	No	ACTIVITY (10)	some applicable fields	amount of codes req.
			INJURY CAUSE		
	PRODUCT		(42) 5 mention		Could be detailed in
Droduct involved	INVOLVEMENT (175	No	product (bike, pool,	No	free text description
Floudet involved	free text)	NO	nail gun) TEVT	NO	
Free text					
description	х	No	INJURY EVENT	No	Free text description
Address & Post	POSTCODE OF USUAL			POST CODE OF	•
code	ADDRESS	ADDRESS	*	USUAL ADDRESS	Could use A&E CDS
			Can determine if RTA		
Additional Injury			/ SPORTS from TYPE	Can tell if it was a RTA	Expand on intent/
Modules	ACTIVITY (27). ALCOHOI		CAUSE. Not much	assault, self harm sport	violence/ sports?
transport/violence/	INDICATOR (Y/N)	No	detail	injury by Patient group	

Table 6: Our proposal for the fields that should be collected by hospitals

* may be collected as part of routine hospital data

References for Table 6

¹ Townsend, J. and Wilson K. (October 2008) EDDS (Emergency Department Data Set) project documentation Data descriptions vers 0.7

² Information Services Division (ISD) Scotland (2008) Health & Social Care Data Dictionary: Injury Data Set [online] Available from: <u>http://www.datadictionaryadmin.scot.nhs.uk/isddd/17087.html</u> accessed August 27 2008

³ Nicol. A (2008) The A&E data set for ISD's A&E data mart. 3 Hospitals in Scotland use this system

⁴ NHS accident and emergency attendance CDS (Commissioning Data Set) type, NHS data dictionary and model service [online] available from:

http://www.datadictionary.nhs.uk/data_dictionary/messages/commissioning_data_set/accident_a nd_emergency_attendance_cds_type_fr.asp accessed August 27 2008

7. <u>From database to surveillance system – processing and</u> <u>dissemination of data</u>

A surveillance system is only as good as the use to which the data is put to prevent injuries. In his paper "Surveillance alone is not the answer" (Pless, 2008) questions the premise that good surveillance is a pre-requisite for preventive programmes because he does not believe that the data are being used appropriately. Much time and money is spent on getting good data but there is a lack of evidence that these data are actually being used to inform preventive programmes. There are precious few mechanisms in place to act on the findings to raise the profile of the injury problem among decision makers to bring about better national leadership, co-ordination, and funding dedicated to reducing the occurrence and burden of injury

7.1 The need for an analysis and dissemination centre

The collection of data, whilst a complex procedure, is only part of the story. It needs to be anonymised, cleaned, combined, analysed, and disseminated. A central data team is required and the model proposed in Figure 4 whilst ambitious, could be set up in each home country and/or as a central service.

Relying on data collected in hospital settings potentially creates gaps such as in the development and monitoring of regional strategic policy, risk assessment, and development of products and services. There is, therefore, a need to supplement and link data collected by this method with those from specialist databases and periodic indepth studies and surveys of particular injury types, emerging trends or other related issues such as inequalities.

There are procedures for linking different types of health data such as anonymised inpatient and A&E. The EU funded project INTEGRIS (Improved methodology for data collection on accidents and disabilities – integration of European injury statistics) has partners from across Europe including the University of Swansea. The project will have three trial sites in the UK which could be used to develop and expand methodologies for data linkage. This project would complement data linkage already undertaken by PHOs.

As described earlier there are several specialist government and non-government databases in the UK covering such injury types as burns, head injuries, drowning, etc. It is proposed that one of the tasks of the analysis and dissemnination centre is to commission a small number of special studies each year. The cost of these should be set within the business plan for the centre.

One of the tasks of the centre would be to advise on technical issues such as those around samples. One such issue is representativeness and definition of a 'catchment area' around each hospital from which to provide population estimates. This is relatively straightforward for hospitals serving free standing towns and where most people go for treatment but it is complex in large metropolitan areas where there is more than one hospital to which casualties could be taken. In addition there is a need to understand the effects that reorganisation of trauma services will have on population estimates of injury. National data for England collected through the A&E CDS could provide information on which to base denominators to estimate representativeness.



Figure 4: Possible structure of a surveillance system

The other roles of such a centre could include:

- Maintaining the WHO's attributes of a good surveillance system (see Section 2.1);
- Processing the minimum dataset to provide baseline trend data and top level information on injury;
- Receiving and, if necessary, anonymising⁹ detailed information from a sample of hospitals to provide trend data at a national/UK level, giving information on mechanism of injury and other factors;
- Train data collectors and provide advice and feedback in a timely manner in order to ensure data quality is maintained;
- Commission and collect Information from special studies to give in depth information on selected injury topics;
- Commission and collect information from national surveys to give insight to specific issues such as number of people treated by GPs minor injury units etc;
- Use census and other data for population and demographic denominators;
- Provide high level open access to national and regional summary tables and trends to all who need it;
- Provide more detailed data and extracts from free text fields on a restricted basis as is common in other surveillance systems; and
- Produce routine and special issue reports on injury.

Ideally UK data and not four sets of national data should be sent to the IDB and this would be the task of this centre.

With such a crucial role to convert data to information, this centre will need high level capability and resources. In speaking to managers of surveillance systems in the UK and overseas, these centres can be found in:

- University Departments and Research Centres (e.g. University of Swansea for AWISS, KfV -Kuratorium fur Verkehrssicherheit for the IDB);
- Government Research Centres (e.g. USA-CDC Centre for Disease Control for NEISS);
- Primary Care Trusts;
- Public Health Observatories.

The roles within the proposed centre would include:

- Management of the centre and communication with Board of Governors;
- Financial control including business plans and commissioning surveys and studies;
- Liaison with participating hospitals, training of hospital staff and feedback of local information for local use;
- Data analyses and reporting;
- Website management; and
- Communication and media relations.

⁹ The data will need to be anonymised, probably before it reaches the analysis centre. This can either be done by the hospital or by a central agency or data warehouse. In Wales there is a methodology for this process. Where the injured person lives is an essential piece of information for injury prevention purposes and for tracking health inequalities. However, the postcode is sensitive information so the anonymisation process needs to translate postcode into a geographic identifier to which deprivation indices can be attached.

From this we suggest a minimum of six people at an approximate running cost of £500,000 per annum over and above the first year setting up costs which in turn would depend on the existing level of infrastructure that was available.

7.2 Governance

Strong Governance of the whole injury surveillance process is critical to its acceptability and success. Whilst this aspect is outside the scope of this study a Data Board will need to be set up in the early part of the process which follows from this first phase. It is expected that the Board will include a range of UK stakeholders from injury prevention policy and practice, risk management and product safety.

8. <u>Conclusions and recommendations</u>

RoSPA, in partnership with Electrical Safety Council and Intertek, commissioned this study on the feasibility of setting up a new UK-wide injury surveillance system¹⁰ which is capable of contributing to the IDB. The objective of the database is to facilitate the prevention of injury (both accidental and intentional) by providing data for research, policy development, the development and evaluation of injury prevention programmes, risk assessment, and product development.

In this report we have shown that it is feasible to collect injury data across the UK and we have:

- outlined the call for improved data from Government Departments and Agencies;
- summarised the findings from questionnaires that have been distributed since the start of the project (October 2007);
- outlined the essential features of surveillance systems based on international examples; and
- proposed options for data collection, analysis and dissemination in the four home countries in the UK.

It is clear from our research:

- there are calls from Government Departments and the Healthcare and Audit Commissions for increased data collection to support injury prevention and product safety;
- there is a Recommendation from the EU to improve data for injury surveillance.
- there is a Regulation to monitor accidents and harm to health from products for which implementation is required by 1 January 2010.

Drawing on the injury surveillance models used elsewhere and the expert advice of those consulted, the following key requirements of a new system would be to:

- include all injuries, regardless of intent;
- be as representative as possible at both regional and national level;
- have a minimum time lapse of a few months between data collection and data availability;
- have as much information about the victim, their injuries and their causation as possible;
- include free text about the incident to give information essential to injury prevention;
- include information where a product is involved about its type, size and shape; and
- have the capacity to be linked to work at the European level on database development, health promotion, and work on setting standards.

We have presented the data currently available in the UK and the data collected by the gold standard surveillance systems. From this we have identified gaps and possibilities for filling them in order that the UK has a world class injury surveillance system capable of being used to inform preventive programmes at national and local levels and to provide information for advocacy to "bring about better national leadership, co-

¹⁰ The partners are grateful for additional funding from the British Aerosol Manufacturers' Association (BAMA) and UK Cleaning Products (UKCPI) and support from the Department of Health.

ordination, and funding dedicated to reducing the occurrence and burden of injury" (Pless 2008).

8.1 Recommendations for the way forward.

To enable a UK wide injury surveillance system to be operated data needs to be collected across the four home countries in as compatible a way as possible. Ideally UK data and not four sets of national data should be sent to the IDB.

The situation in Wales is very encouraging with the Welsh Assembly Government taking the initiative to pilot a new A&E dataset. All the fields relevant to injury surveillance are included within this pilot phase.

In Scotland the situation is also very encouraging with the Scottish Government placing injury prevention within the remit of Public Health. This gives impetus to collecting data on injuries and the capability of EDIS to collect this across the majority of hospitals should be investigated and evaluated.

The situation regarding injury data in Northern Ireland is developing. It is recommended that dialogue continue so that progress in this area can be charted.

In England the situation is more complex. Some injury data is collected through the A&E CDS but it is insufficient on which to base injury prevention and risk management programmes. No suitable IT system has been identified but among the 300 hospitals there are many Consultants in Emergency Medicine with an active interest in injury prevention so there should be possibilities for data collection even if paper based in the first instance.

It is recommended that the Welsh EDDS be taken as the basis for a pilot in England and that this runs in one hospital for a period of about six months so that the effect of training and feedback on data completeness and accuracy can be evaluated along with costs of operation and ease of combining with data from the CDS (see final column in Table 6, page 37).

It is further recommended that data collection using full interview also be piloted in one hospital in England for a similar period (following the full IDB model see final column in Table 3). This would allow an evaluation of the added value of collecting extended data on home and leisure safety in particular and enable the UK to comply with the EU Recommendation and Regulation.

These two methods should be reviewed at the end of the pilot period to allow an evaluation of the added value of collecting extended data on injuries. The data could be sent to the EU IDB to begin English compliance with the EU Recommendation and Regulation.

In parallel with the proposed pilot the CDS in England should be assessed then improved and extended where possible.

Based on the fact that:

- the proposed hospital pilots and the assessment of the CDS lies within the sphere of the NHS;
- the hospitals clearly have a primary role to play in this initiative;

- there is a significant contribution of the SWPHO; and
- the health sector would be a major beneficiary of more effective prevention that derives from more effective prevention.

It would seem logical that the costs of the exploratory exercise in England should lie with the Department of Health.

Based on experience overseas and with the HASS/LASS system, the costs of this exploratory exercise in English hospitals are estimated to be in the region of £90,000 to include the setting up costs for data collection and anonymisation, analysis, verification, and reporting on the framework for a future system.

A scientific study of the size of sample of hospitals is needed to establish how many cases would be necessary to provide a reliable and accurate picture of injury in the UK. This, along with results of the pilots, would be the basis for a more detailed costing.

Further work is necessary to engage software suppliers and IT providers to make the necessary changes to enable injury data to be collected as routine.

At this stage, an estimate of the ongoing costs of carrying out data collection from a representative sample of say 10 English hospitals (one from each Strategic Health Authority) are estimated to at about £1.25m per annum assuming 250 000 cases plus other necessary IT set up costs.

The EU funded project INTEGRIS (Improved methodology for data collection on accidents and disabilities – integration of European injury statistics) involves partners across Europe of which the University of Swansea is one. Within the project it is planned to develop and trial at three UK hospitals a system of linking inpatient and A&E data for enhanced injury surveillance. It is recommended that this project be given full support especially where it would complement data linkage already undertaken by Public Health Observatories.

An analysis and dissemination centre (see Figure 4) is necessary to take the data inputs and provide accurate and timely information for injury prevention. Within Wales the University of Swansea currently undertakes this role through AWISS. In England the South West Public Health Observatory has the lead for injury and could, with more resource, undertake this function. There is also a Public Health Observatory in Scotland (ScotPHO) but currently much of the data analysis is undertaken by the Scottish Government in the Health Information Systems Division.

The SWPHO is working with partner organisations in Wales, Scotland, Northern Ireland and the Republic of Ireland to develop the <u>Injury Observatory for Britain and Ireland</u> (<u>IOBI</u>). The purpose of IOBI is to support injury prevention practitioners by making important and relevant information and tools available through one site, including: analyses of injury trends across countries and regions; links to injury policies and strategies; an injury prevention evidence base, access to practical prevention tools, latest injury news and information on conferences and events.

IOBI presents an ideal opportunity and depository of highly specialised skills and knowledge which could oversee the Analysis and dissemination centre and bring to it a UK wide focus.

Whilst acknowledging the cross Departmental interests in the collection, analysis and dissemination of injury data, the Department of Health should take the lead role in providing the necessary resources to IOBI to implement the findings of this exploratory exercise.

The collation and analysis of the data to turn it into useful information and disseminate it to stakeholders could cost up to about £500,000 a year depending whether existing resources within the health sector are used or a new team is set up.

Once established, the operation of a UK injury surveillance system would be of the order of £1.75m per year in addition to the existing costs in Wales, Scotland and Northern Ireland. It is assumed that costs of modest modifications to the English Commissioning Data Set would be carried out as part of NHS information and IT service development.

8.2 Conclusions

Given the calls for improved data from Government Departments and agencies and a wide range of stakeholders, the time is right to set up an injury surveillance system which will enhance injury prevention work in the UK, track product safety and fulfil our European obligations for data collection and analysis. The costs of such a surveillance system are small in relation to the costs to individuals, society, and the UK health sector.

Without the foresight and funding from the Partners this project would not have reached the stage it has. There is much more to be done to develop a world class UK wide injury surveillance system and the work described in this report is just the beginning.

The Partners with DH, the SWPHO, IOBI, and other Stakeholders across the UK need to keep the momentum going. Injury prevention is a complex area with multi-agency interests and needs. Without strong leadership it is too easy for injury to fall between the gaps and drop off the NHS agenda yet again. In its day the Accidental Injury Task Force provided this focus and drive. It, or an equivalent, should be set up to steer this work through to its conclusion.

9. <u>References</u>

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10. List of Abbreviations

ALSPAC	Avon Longitudinal Study of Parents and Children	
AWISS	All Wales Injury Surveillance System	
CPSC	Consumer Product Safety Commision	
CDC	Centre for Disease Control	
CDS	Commisioning Data Set	
CDRPs	Crime and Disorder Reduction Partnerships	
EDs	Emergency Departments	
EDIS	Emergency Department Information System	
EDDS	Emergency Department Data Set (Wales)	
EHLASS	European Home and Leisure Accident Surveillance System	
EU	European Union	
DHSSPS	Department of Health, Social Services and Public Safety	
DTi	Department of Trade and Industry	
DCSF	The Department for Children Schools and Family	
DSCN	Data Set Change Notice	
HASS	Home Accident Surveillance System	•
HSE	Health and Safety Executive	
HES	Hospital Episodes Statistics for England	
ICD	Interntaional Classificaiton of Diseases	_
ICNARC	Intensive Care National Audit and Research Centre	
INTEGRIS	Improved methodology for data collection on accidents and disabilities – Integration of European	
	Injury Statistics	、
IOBI	Injury Observatory for Britain and Ireland	\mathbf{i}
IDB	European Injury Database	
LASS	Leisure Accident Surveillance System	
LSP	Local Service Providers	
NEISS	National Electronic Injury Surveillance System	
PEDW	Patient Episode Data for Wales	
PHOs	Public HealthObservatories	
PT	Patient	
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations	
RNLI	Royal National Lifeboat Institution	
ScotPHO	Public Health Observatory in Scotland	
SMR1	Scottish Morbidity Record	
SWPHO	South West Public Health Observatory	
Tx	Treatment	
TARN	The Trauma Audit Research Network	
TIIG	Trauma & Intelligence Group	
WISQARS	Web-based Injury Statistics Query and Reporting System	
WMAES	West Midlands Accident & Emergency Surveillance Centre	
WHO	World Health Organisation	

11. List of Consultees

PARTNERS AND SPONSORS

Errol Taylor	RoSPA
Dawn Dcaccia	Formerly RoSPA, Home Safety.
John Mason	Intertek RAM
Phil Buckle	Electrical Safety council
Lorraine Carney	Electrical Safety Council
Andrew Williams	UK Cleaning Products Association
Steve Stewart	UK Cleaning Products Association
Michelle Grady	British Aerosols Manufactures Association
Sue Rogers	British Aerosols Manufacturing Association
Sue Maisey	Department of Health
Sunjai Gupta	Department of Health
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Mike Hayes	Child Accident Prevention Trust
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Paul Brown	South West Public Health Observatory

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David Waller	The NHS Information Centre for Health and Social Care (CDS)
Monica Jones	The NHS Information Centre for Health and Social Care (CDS)
Jeremy Thorp	NHS Connecting for Health
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Fiona Lecky	Trauma Audit Research Network
Maralyn Woodford	Trauma Audit Research Network
Kathy Rowan	Intensive Care National Audit & Research Centre
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Rachel Armfield	South Manchester University Hospital, Burns Database.
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Zara Anderson	North West Public Health Observatory, TIIG.
Lindsay Carolyn	Solihull Care Trust (Health Visitors Database)
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Malcolm Barrow	Formerly Consumer Safety Unit (DTi)
Gordon Hayward	Consumer Risk Limited, formerly Consumer Safety Unit DTi.
Jo Orsler	Consumer Direct
Phil Simpson	Consumer Direct
Tony Fagelman	Consumer Direct
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Colin Fischbacher	Information Services Division, Scottish Government
Fiona MacKenzie	Data Development Programme. ISD Scotland
Rod Murr	ISD Scotland

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Michal Molcho	Department of Health Promotion, National University of Ireland, Galway
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Adrian Boyle	Adenbrookes Hospital, Cambridge
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Stephen Nash	Consultant in Emergency Medicine, Bromley Hospital
Tim Coats	Professor of Emergency Medicine Leicester Royal Infirmary
Nigel Brayley	Medical Consultant
Andrew Colski	Department for Transport, Road User Safety Division.
Matthew Tranter	Department for Transport, Statistics Division.
Jim Spooner	Department for Transport, Water Safety.
Jane Cunliffe	Department for Children, Schools & Families.
Jo Hawley	Department for Children, Schools and Families
Victoria Saunders	Department for Children, Schools and Families
Louise Millward	National Institute for Clinical Excellence
Paul Bannister	Business, Enterprise & Regulatory Reform
Carol Ainge	Institute of Home Safety
Christine Heemskirk	Trading Standards Insitiute
David Yearley	Playground Management Ltd
Janice Bisp	Bisp Training and Consultancy.
Elizabeth Towner	University of the West of England
Lisa Lawson	RoSPA, Information Services.
Peter Wade	Chair of National Water Safety Group
Tony Prosser	West Midlands Fire Service

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Rob Pitt	Queensland Injury Surveillance Unit
Dawn Spinks	Queensland Injury Surveillance Unit
Lois Fingerhut	International Clasification of External Causes of Injury - Centre for Disease Control USA
Colin Cryer	Injury Prevention Unit – University of Otago New Zealand
John Langley	Injury Prevention Unit – University of Otago New Zealand
James Harrison	National Injury Surveillance System - Flinders Univeristy South Australia
Gordon Smith	USA
Lee Annest	National Injury Surveillance System – Centre for Disease Control USA
Robert Bauer	European Injury Database
Anneke Bloemhoff	Consumer Safety Institute (Amsterdam)

12. Appendices

Appendix 1: The Home and Leisure Accident Surveillance System

The home and leisure data were gathered by interviewers who spoke to patients at A&E and by reviewing medical notes in a sample of up to 20 hospitals across the UK. These hospitals were selected based on the following criteria:

- Attend to more than 10,000 A&E cases a year
- Operate a 24-hour service
- Take ambulance cases.

During the operation of HASS/LASS there were about 300 such hospitals in the UK. There was no national infrastructure which enabled the collection of data from all of them so a sampling frame was needed upon which to form a good basis to produce national estimates. The mix of hospitals included those:

- From different geographical regions
- From urban and rural areas
- Serving different-sized populations
- With different-sized A&E units.

There was one hospital in each of Northern Ireland, Wales and Scotland with the remainder in England so it was unlikely that any one hospital would fully represent the region in which it was situated. Therefore, HASS/LASS estimates were only valid at national level, namely England and Wales, Great Britain or the UK.

Each record on the database included the following:

- Details of the person who had the accident including demographic information such as age and gender;
- Details of the accident itself;
- The injury or injuries caused by the accident;
- What happened to the injured person e.g. treated in A&E, admitted, died.
- The involvement of products/articles in the accident.

The HASS/LASS database contains accident records drawn from hospitals in the sample over a period of 25 years relating to around five million accident victims in total¹¹. In the year 2000 over 300,000 cases were recorded.

The database does not include road traffic or work accidents. In Great Britain these are collected in STATS19 (Department for Transport) and RiDDOR (Health and Safety Executive) respectively.

Unfortunately, the HASS/LASS database is now out of date and can no longer be used to identify emerging injury trends and we are left in the UK without a comprehensive database of accidents and their associated injuries.

¹¹ Taken from HASS & LASS 24th (final) report of HASS available from: <u>http://www.rospa.com/hassandlass/reports.htm</u> accessed August 11 2008

Appendix 2: Details on A&E data sets

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS'
A&E ATTENDANCE No.	RECORD ID	A&E NO.	CHI No. The CHI number	CHI No.
			uniquely identifies a person	
	LOCAL PT ID	_	on the population index	
NHS No.	NHS NO.	NHS NO. 10 DIGIT NUMERIC	Case Record Number/	May be collected as part of routine
	NHS NO. STATUS INDICATOR	-	Unique PT Identifier	hospital data
X	X	HOSPITAL ID	LOCATION CODE (Hospital code)	May be collected as part of routine hospital data
LOCAL PT IDENTIFIER (ID PT WITHIN HEALTHCARE PROVIDER)	PROVIDER CODE	x	X	
PT NAME	PTS NAME	NAME	x	PT NAME
NAME FORMAT CODE	NAME FORMAT CODE			
BIRTH DATE	BIRTH DATE	AGE	YEAR OF BIRTH	BIRTH DATE
	BIRTH DATE STATUS	AGE BAND A0-4 B5-9 C10-14D1.15-19 D2.20-24 E1.25-29E2.30-34 F1.35-39 F2.40-44 G1.45-49 G2.50-54 H1.55-59 H2.60-64I1.65-69 I2.70-74 J1.75-79 J2.80-84 K.85+ L.Unknown	YYYY	AGE yrs month & days
SEX 0 not known 1. M 2.F 9. Not specified	SEX	SEX 00. Unknown 01. M 02. F	PERSON CURRENT GENDER 0 Not known 1 Male 2 Female 8 Other specific 9 Not specified (From Generic dataset)	SEX
PTS USUAL ADDRESS	PTS USUAL ADDRESS	ADDRESS	ADDRESS	May be collected as part of routine hospital data
ADRRESS FORMAT CODE				
POSTCODE OF USUAL ADDRESS	POSTCODE OF USUAL ADDRESS	POST CODE		
x	DATE OF INCIDENT		x	DAY OF INCIDENT/ DATE OF INCIDENT
				ACCIDENT TIME Less than 1 hour /1 and 2 hours /2 and 6 hours/ 6 and 12 hours /12 and 24 hours /2 days /3 days/ 4 days about a week
x	TIME OF INCIDENT	TIME OF INCIDENCE	х	x
ARRIVAL DATE	A&E ATTENDANCE ADMIN	х	ARRIVAL DATE & TIME (14	May be collected as part of routine
yyyy/mm/dd	ARRIVAL DATE		characters)	hospital data
ARRIVAL TIME	A&E ATTENDANCE ADMIN	TIME OF ATTENDANCE		
using 24 hour clock	ARRIVAL TIME			
A&E DEPARTURE TIME from April 07	DATE SEEN – TRIAGE YYYY/MM/DD	x	DATE OF 1 ST FULL CLINICAL ASSESSMENT	x
x	TIME SEEN - TRIAGE	x	TIME OF 1 ST FULL CLINICAL ASSESSMENT	x

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS
A&E ATTENDANCE CATEGORY 1.First Accident And Emergency Attendance 2 Follow-up Accident And Emergency Attendance – planned. 3 Follow-up Accident And Emergency Attendance – unplanned.	NEW OR FOLLOW UP ATTENDANCE 01New 02follow up	To be incorporated in NEW AWISS.	A&E ATTENDANCE CATEGORY 01 New 02 Return - planned 03 Return unplanned	x
A&E PT GROUP 10. RTA 20. Assault 30. self harm 40. Sports 50. firework 60. other accident 70 .DOA 80. other than above	A&E ATTENCANCE GROUP 01Accident 02Assault 03Deliberate Self-harm 04Non-trauma 05Dead on Arrival 06Undetermined Intent 07Unspecified Intent	PT GROUP (MAY BE CHANGED TO INTENT) 00Unknown 01Accident 02Assault 03Self Harm 04Brought In Dead 05Medical, Paediatric, Geriatric 06Other 07Sports 08Orthopaedic Non Traumatic 09Sting/Bite 10Drug Abuse INTENT ⁴ 01Accident 02Assault (sub set) 03deliberate Self Harm 04Non Trauma 05Undetermined intent 06unspecfiied intent	X	X
A&E INCIDENT LOCATION TYPE 10. Home 40. Work 50. Educational est. 60.public 91.other	INCIDENT LOCATION TYPE 01 Home 02 residential institution 03 medical service area 04 school, educational area 05 sports and athletics 06 public highway 08 industrial or construction area 09 farm or other place of primary production 10.recreational area- cultural or public building, 11.commercial area, 12.country side 13. Licensed premises 98.other specified place, 99.unspecified	LOCATION ⁴ 010wn Home 02Someone else's home 03Residential Institution 04School/Educational Area 05Sports and athletics Area 06Public Road 07Work Place 08Countryside/Beach09Street/ Other Public Place 10Bar/Pub/Club 11Other 12Unspecified PLACE OF ACCIDENT	PLACE OF INCIDENT 01 Place of residence 01A home 01B residential institution 02 Transport area 02A public highway, street or road 02B other transport area 03 Business area (ex. Recreation & sports areas) 03A industrial or construction area 03B farm or other place of primary production 03C commercial area - non recreational 04 School, educational area 05 Sports & Recreational area 05A sports and athletic area 05B recreational area, cultural area or public building 05C countryside / open nature area 06 Medical service area/ healthcare area98 Other specified 99 Not known	TYPE OF PLACE Home. Sports and athletic area (e.g. Leisure centres). Other specified Unspecified place of occurrence. RTA. Sports facility. Business Industrial/Construction (buildings, factories). schools/College/Educational area Residential institution. Other transport area (public highway, street, road).Recreational Area (e.g. public park, playgroup, campsite). Countryside/Open Nature Area (e.g. Beach, forest, mountain). Business (farming).Business commercial (e.g. café, hotel, shop, store). Medical Service/Health Area (e.g. Hosp, HC, screening van) Sub type of activity/ Part of place groups/ Part of place (not mandatory/ not used)
ANATOMICAL SIDE L. Left R. Right B. Bilateral 8. N/A	ANATOMICAL SIDE 1-6 01Left 02Right03Central04Bilateral 99Unknown	SIDE OF BODY 00Unknown 01Left 02Right 03Central 04Bilateral 05Anterior 06Posterior	x	x

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS ⁷
ANATOMICAL AREA Brain 01 Head 02 Face 03 Eye 04 Ear 05 Nose 06 Mouth, Jaw, Teeth 07 Throat 08 Neck 09 Upper Limb Shoulder 10 total of 36	ANATOMICAL AREA 1-6 101Brain 102Skull103Ear 104Eyeball, eyelid105Nose 106Teeth107Jaw/cheek 108Lip and oral cavity109Head, unspecified201Neck 202Throat, internal parts203Cervical spine209Neck/throat, unspecified 301Chest, external302Ribs and sternum303Thoracic spine 304Lungs, bronchus305Heart 309Thorax, unspecified401Abdomen, external402Abdomen, internal organs (incl. liver, kidney)403Lower spine (lumbar and sacral)404Lower back, buttocks405Pelvis 406Genitals409Abdomen, unspecified501Collar bone 502Shoulder (incl. scapula) 503Upper arm (humerus) 504Elbow505Forearm, lower arm 506Wrist507Hand, excl. Fingers 508Finger509Upper extremities, unspecified601Hip602Upper leg/thigh603Knee604Lower leg 605Ankle606Foot, excl. Toes 607Toe609Lower extremities, unspecified701Multiple body parts affected702Whole body affected	ANATOMICAL SITE HEAD: 01Brain / Head 02Face 02a Mouth 03Eye 04Ear 05NoseTHROAT: 06Throat 07Neck 08Shoulder 09Armpit/ Axilla ARM: 10Upper Arm 11Elbow 12Forearm 13Wrist14Hand 15Finger / Thumb SPINE: 16Cervical Spine 17Thoracic Spine 18 Lumbrosacral Spine TORSO: 19Pelvis 20Back / Buttocks 21Chest 22Breast 23Abdomen 24Ano-rectal 25Genitals LEG:26Hip 27Groin 28Thigh 29Knee 30Lower Leg 31Ankle 32Foot 33Toe SPINE:34Other 35Spine Other 36Multiple Sites 37ARM 38LEG 00Unknown	X	X
x	A&E PRESENTING COMPLAINT 1 & 2 255 free text(longest text field submitted by trusts)	PRESENTING COMPLAINT ⁴ Free text field - not all trusts will have all the categorical fields and research has shown that text mining can improve data completeness and validity - Trusts may differ in what they call this field and when and where it is collected. For example it could be 'PT Reason for Attending' and data are collected at reception and are also sometimes amended at a later stage by clinicians.	x	PRESENTING PROBLEM (TBC)
x	TRIAGE CATEGORY 01Priority One - Immediate 02Priority Two - Very Urgent 03Priority Three - Urgent 04Priority Four - Standard 05Priority Five - Non Urgent 06See and Treat 09Other	TRIAGE CATEGORY 01Red / Priority 1 02Orange / Priority 2 03Yellow / Priority 3 04Green / Priority 4 05Blue / Priority 5 06Brought in Dead 07Did not answer call 08 SOS Routine 09SOS Urgent	TRIAGE CATEGORY 00 Not triaged 01 Immediate resuscitation 02 Very urgent 03 Urgent 04 Standard 05 Non-urgent	TRAIGE CATEGORY (TBC)

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E	EDIS'
			DATASET ⁶	
DIAGNOSIS SCHEME IN USE;	A&E DIAGNOSIS 1 -6	DIAGNOSIS	DIAGNOSIS 1-3	Х
01 Accident & Emergency Diagnosis	A DX and Anatomical area should	00 Unknown 01Laceration/	00 Nothing abnormal	
02 ICD-10 03 Read Version 1 (READ 4)	have a 1-1 relationship	Wound	detected	
04 Read Version 2 (READ 5)	01AAbrasion/Wound	02Dislocation 03Bruise/ Abrasion	01 Trauma/injury/poisoning	
05 Read Version 3.0	01CBruise 02ASprain	04Sprain 05Tendon Injury	02 Alcohol and/or substance	
Made up of codes from Dy anatomical	02BDislocation02CSubluxation	060ther Soft Tissue Injury	use problems	
areas (see above) & anatomical side	03AFracture03BOpen fracture		03 Cardiovascular	
(see above) & anatomical side	03CClosed fracture03DPossible	08Visceral Injury 09Eoreign Body	04 Dental 05 Dermatology	
(see above) for e.g. field finding /	fracture03EAmputation	10 Puncture Wound 11 Other	06 Endocrino (motobolic	
	04AMuscle / Tendon Injury 04BNerve Injury04CVisceral Injury		07 ENT 08 Costrointection	
A&E DIAGNOSIS I & 2	04DVascular Injury05AForeign Body	12Dite Linear esifical 42 el lumera		
6 character code	including ingested06AHuman Bite	12Bite Unspecified 12aHuman	09 Gynaecological	
01Laceration	06BAnimal Bite/Insect bite or sting	Bite	10 Haematology	
02Contusion/abrasion 1.contusion	07ANear Drowning 08ABurns	12aAnimal Bite 12cSting	11 Infection 12	
2.abrasion 03 Soft tissue	08BThermal 08CRadiation 08DScald	13Diagnosis Unspecified	Musculoskeletal	
inflammation Head injury1.concussion	U8ECORROSIONU8FEIECTRIC SNOCK	14Multiple Injury	13 Neurology 14 Obstetrics	
2.other	08JFrostbite09APoisoning	15Drowning / Near Drowning	15 Ophthalmology 16	
04head injury 05	09BAlcohol Intoxication	16Other Head Injury 22Drug	Psychiatry	
Dislocation/fracture/joint	10AHead Injury10BGCS 15	Abuse	17 Respiratory 18 Genito-	
injury/amputation1.dislocation	11AMultiple Injury/Trauma	33Fracture Unspecified 44Open	urinary	
2.open fracture 3.closed fracture	12AInfectious Disease 12BNotifiable	Fracture	19 Social circumstances	
4 joint injury5 amputation	Disease12CNon-Notifiable disease	55Closed Fracture 66Burns	99 Diagnosis not known	
06 Sprain/ligament injury 07	13ALocal Infection14ASepticaemia 15ACardiac Conditions15BMyocardial	Unspecified		
Muscle/tendon injury 08 Nerve injury	Infarction15COther ACS Pathway	662 Electrical Burn 66b Thermal		
	15DOther Cardiac Condition	Burn		
10 Durns and scalds 1 electric	16BOther Vascular Conditions	66 Suppurp 66dChamical Burn		
	17ACentral Nervous System Conditions			
2. Thermal 3.chemical 4.radiation	(Excluding Strokes)17BSeizure/convulsion	77Poisoning/ OD 88Concussion/		
TOTAL OF 39	18BAsthma18CCOPD19AGastrointestinal	Head Injury with altered		
	Conditions20AUrological Conditions	consciousness XXXNot an AWISS		
	(Including Cystitis)21AGenito-urinary	code		
	Conditions 24ADiabetes and other			
	Endocrinological Conditions			
	25ADermatological Conditions			
	dental conditions)27AENT Conditions			
	28ARheumatology29APsychological/Psychi			
	atric Conditions30AOpthalmalogical			
	anaphylaxis)99ASocial Problem (including			
	Chronic Alcohol Abuse, Drug Abuse,			
	Homelessness) 99BNothing Abnormal Detected			
	99CDiagnosis not Classifiable			

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS
INVESTIGATION SCHEME IN USE O1 Accident & Emergency Investigation A&E INVESTIGATION 1 ST AND 2 ND O1X-ray plain film 02. Electrocardiogram O3.Haematology O4.Cross match blood/group and save serum for later cross match Biochemistry 05 Urinalysis 06 Bacteriology 07 Histology 08 Computerised Tomography - Retired 2006-04- 01 09 Ultrasound 10 Magnetic Resonance Imaging 11 Computerised Tomography (excludes genitourinary contrast examination/tomography) 12 Genitourinary contrast examination/tomography 13 Clotting studies 14 Immunology 15 Cardiac enzymes 16 Arterial/capillary blood gas 17 Toxicology 18 Blood culture 19 Serology 20 Pregnancy test 21 Dental investigation 22 Refraction, orthoptic tests and computerised visual fields 23 None 24 Other 99	A&E INVESTIGATION 1- 6 (Up to 6 types) 101. Bacteriology 102. Biochemistry 103.Haematology 104. Cross match 105. Histology 106. Microbiology 107. Toxicology 108. Urinalysis 110. Labs Other 201. C/T Scan 202. MRI 203. Ultrasound 204. X-Ray 210. Radiology Other 300. ECG 400. Observation 999. Other		INVESTIGATION TYPE 1-3 OO NoneO1 RadiologyO1A X- ray O1B CT O1C ultrasoundO1D MRI O1Z other radiologyO2 cardiac investigations 02A ECG 02B echocardiogram 02C other cardiac investigation03 Haematology 03A full blood count 03B clotting studies 03C ESR03Z other haematologyO4 Cross match 05 Biochemistry05A blood alcohol 05B blood gases05C blood glucose 05D pregnancy test / HCG 05E toxicology / drug levels05Z other biochemistry06 Microbiology 06A bacteriology06B virology 06Z other microbiology07 Histology 08 Near PT testing 08A urinalysis 08B peak flow 08C slit lamp examination08Z other near PT test 98 Other investigation 99 Not known	HUMAN INTENT Accidental injury Deliberate self harm Sexual assault (by bodily force) Maltreatment Maltreatment by spouse or partner Other or unspecified assault Event of undetermined intent Legal intervention (incl. police) Adverse effect or complication of medical or surgical care Other specified intent (incl. warfare) Intent not specified Non-accidental injury Other specified intent – includes euthanasia
ETHNIC CATEGORY (must not be used)	ETHNIC GROUP	ETHNIC GROUP	X	ETHNIC GROUP (TBC)
				RELIGON (TBC)
SOURCE OF REFERREL FOR A&E	SOURCE OF REFERRAL 01Self Referral02General Medical Practitioner 03Dental Practitioner 04NHS Direct 05Out of Hours Services (excluding NHS Direct) 06Midwife / Community Nurse referral 07Clinic / Department / Ward / Unit within same Trust 08Other Health Care Provider09Social Services 10Educational Establishment 11Police12Prison Service 13Armed Forces14Nursing / Residential Home15Work / Employer 16Planned Accident and Emergency Follow-Up	REFERRAL SOURCE 00Unknown01Ambulance / 999 02Dental Practitioner03GP 04Nursing / Residential Home 05Other06Other Hospital 07Police 08School09Self 10Work / Employer11Parent / Guardian12Hospital 13Social Services14Health Care Provider15Arranged	REFERRAL SOURCE 01 Self referral 02 Healthcare professional/service/organisation 02 GP 02B out of hours service 02C 999 emergency services 02D NHS24 02E Minor injuries unit 02F same hospital 02G other hospital 02H other healthcare professional 03 Local authority 03A education 03B social services 03C police 03D other local authority dept. 04 Private professional/agency/organisation 05 Other agency 05A prison/penal establishment 05B judicial 05C voluntary organisation 05D armed forces 98 Other 99 Not known	REFERRED BY (TBC)
PROCEDURE SCHEME IN USE (for IX) A&E IREALMENT 1-6 IREALMENT PROCEDURE 1-3 x				
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01 Accident & Emergency Treatment A01DressingA02Bandage 01 Dress / Support 00 No procedure01 Wound				
02. OPCS-4 A03SplintA04Cervical Collar 02Script 03Immunisation care				
03 Read Version 1 (READ 4) A090ther Dress/SupportBouPlaster of 04Wound Closure 05POP 01A toilet only 01B debridement				
04 Read Version 2 (READ 5) 06Manipulation 07CPR / Intub 01C removal of foreign material 01D dressing 01E wound closure				
05 Read Version ClosureD01Foreign Body Removed 08Physio 09FB Removed 017 other wound care 02 Burn care				
A&E TREATMENT FIRST AND SECOND E01CPR / IntubationE02Defibrillation 10Advice 11Walking Aid 02A toilet only02B debridement				
01.Dressing-1dressing minor / PacingE090ther Resuscitation 88None 990ther 02C removal of slough 02D				
wound/burn/eve 2dressing major Measures F01Manipulation O0Not Known dressing02Z other burn care				
Wound/burn 03 Limb immobilisation 03A plaster				
02 Bandage/support G03Lavage/Emesis/Charcoal/Eve The ΔW/ISS values and immobilisation 03B splint				
Suture 1 primary sutures				
Catheter/suprapubicG09Other ca				
2.secondary/complex suture Incision & Drainage probably change to the list of dislocation04B manipulation of				
3.removal of sutures/clips H01Parenteral Thrombolysis proposed EDDS values and fracture 04C joint aspiration				
03 Wound closure (excluding H020ther Parenteral Drugs descriptions (listed immediate /injection 04Z other procedure on				
sutures)1.steristrips 2.wound glue H04NebuliserH05Immunisation left).				
3.other (e.g. clips) 04.Plaster of Paris H06PrescriptionH09Other Drug				
1.application Plaster of Paris J01Minor SurgeryK01Advice (Written) intubation05D surgical airway05Z				
2.removal Plaster of Paris 05. Splint K02ObservationY01NoneZ01Other other airway management				
06. Prescription - Retired 2006-04-01 06 Ventilation 06A manual				
07.Removal foreign body 08.				
Supportu/A external cardiac				
treatment, short wave diathermy.				
manipulation2 gait re-education_falls				
resuscitation 07E blood				
transfusion 07Z other circulatory				
support08 Vascular access08A				
2. manipulation of lower limb tracture				
3. manipulation of dislocation				
There are a further 45 plus: 27. Other				
(consider alternatives)				
99. None (consider guidance/advice procedures10 Decontamination				
option) 11 Other specific procedures 11A				
removal of foreign body from orifice 11B gastric catheterisation 11C urinary				
catheterisation				
11D incision & drainage98 Other				

Add Attributed to hospital bed/became a logded PT of the same Health Log Provider 02. Discharged - follow up reatment to be provided by 00- db / Barderred to Adde Clinic 03 Referred to other HealthCare Provider 04 Discharged - did not require any follow up tode Referred to Adde Clinic 05 Referred to other HealthCare Provider 07 Transformed to other HealthCare Provider 00 Distributed (Clinic) 05 Referred to other HealthCare Provider 00 Transformed to other HealthCare Provider 00 Distributed (Clinic) 05 Referred to Other HealthCare Provider 10 Diel in Department 11 Referred to Other HealthCare Provider 10 Diel in Department 11 Referred to Other HealthCare Provider 10 Diel in Department 11 Diel in department This list of AWISS disposal value and descriptions will change to the EDDS values and descriptions the exact descriptions will change to the EDDS values and descriptions the exact descriptions will change to the EDDS values and descriptions the exact descriptions will change to the exact Strabel Termer to the Strabel Termer to the Strabel Termere to the the the the the the the the the the the the the the th	A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E	EDIS'
A&F AXF A				DATASET ⁶	
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lodged PT of the same Health Care Provider 2D blocknarged - follocknarged - follocknarged - follocknarged - follocknarged - follocknarged - follocknarge - follocknarg	01.Admitted to hospital bed/became a	01Admitted to same Hospital	00Unknown	00 Death 01 Private residence	
provide 02. Discharged - follow up treatment to be provided by GP OJDischarged - ind hot require any follow up tod Referred to A&E Clinic OB Referred to Cher LeathCare Provide OD Sicharged - referred to OT Transferred to Other Perturbation Of Referred to Other HealtCare Provider 10 Dial in Department In Referred to Other HealtCare Provider OT Transferred to Other HealtCare Provider Provider Provider 10 Dial in Department In Referred to Other HealtCare Provider Provider Provider Department having refused treatment 14 Other This ist of AWISS disposal values and descriptions will change to being treated 10 Referred to Other HealtCare Provider Pr	lodged PT of the same Health Care	within Trust02Admitted to	01Home 02Hospital Admission	01A usual place of residence 01B	
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U6 Drug/ alcohol service 98 Other 99 Not known				Other agency	
				98 Other 99 Not known	

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS
A&E ARRIVAL MODE	ARRIVAL MODE 01Ambulance02Private (Car / Lorry / Van / Motorbike / Scooter / Moped etc.)03Bicycle04On Site 05Public Transport (bus / coach / train / taxi) 06Walked07Helicopter/Air Ambulance Excludes involvement of an A&E retrieval team.08Police Car 200ther	ARRIVAL MODE	ARRIVAL MODE 01 Ambulance (road)02 Ambulance (air)03 Ambulance + A&E retrieval team04 Out of hours transport 05 Private transport06 Public transport 07 Walking 08 Police/prison transport 98 Other 99 Not known	MODE OF ARRIVAL (TBC)
	AMBULANCE INC. No.	AMBULANCE NO.		
A&E ATTENDANCE CONCLUSION TIME	A&E ATTENDANCE TX END DATE YYYY/MM/DD	x	DATE & TIME OF COMPLETION OF TREATMENT	
A&E DEPARTURE TIME	A&E ATTENDANCE TX END TIME hh:mm:ss	X	14 charactersCCYYMMDDhhmmss e.g. 20070722092000(22nd July 2007 at 9.20am)Time in 24hr format with seconds	X
GENERAL MEDICAL PRACTITIONER (SPECIFIED) This is the code of the GENERAL MEDICAL PRACTITIONER specified by the PT ORGANISATION CODE TYPE (UNDER GP REGISTRATION) GENERAL MEDICAL PRACTICE CODE (PT REGISTRATION)	GP PRACTICE CODE	GP CODE	X	X
	ACTIVITY AT TIME OF INJURY 01Work 02Education 03Sports (including during education) 04Leisure or Play 05Home, DIY, gardening activities 06RTC (Travelling) 07Being taken care of 08Other 09Unspecified	TYPE ³ (to be replaced by ACTIVITY) ⁵ 00Unknown 01Home 02Work 03Educational Establishment 04RTA 04aPedestrian 04bCyclist 04cMotorbike Rider 04dMotorbike Passenger 04eCar Driver46 more <u>ACTIVITY⁴</u> 01.Work 02.Education03.Sports (including during education)* (Sport Drop down categories are in Appendix 3)04.Leisure or Play05.Home, DIY, gardening activities 06.RTC (Travelling)* (Drop Down in Appendix 3)07.Being taken care of 08.Other09.Unspecified	X	ACTIVITY Sports activity Leisure activity Working paid Any other work Personal activity Being nursed or cared for Formal educational activity Other specified activity Unspecified Unpaid Sub type of activity (not mandatory/ not used)
x	OCCUPATION	OCCUPATION WORK ADDRESS	x	Occupations (not mandatory/ not used)
x	A&E ADDITIONAL INCIDENT DETAILS (255 character alpha- numeric)	x	x	TEXT DESCRIPTION OF INJURY EVENT

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS
x	MECHANISM OF INJURY 01Fall/slip/trip 02Blunt force/blow from person/animal/machine 03Crushing injury 04Stabbing 05Cut with sharp object 06Shot 07Inhaled foreign body 08Drowning/near drowning 09Asphyxiating (external mechanical threat to breathing) 10Physical over exertion 11Poisoning/Over dose 12Burning/scalding 13Other 14.Unspecified	MECHANISM OF INJURY 01Fall/slip/trip 02Blunt force/blow from person/animal/machine 03Crushing injury 04Stabbing 05Cut with sharp object 06Shot 07Inhaled foreign body 08Drowning/near drowning 09Asphyxiating (external mechanical threat to breathing) 10Physical over exertion 11Poisoning/Over dose 12Burning/scalding 13Other 14.Unspecified	X	INJURY CAUSE Animal bite Animal related Assault Other threat to breathing (including strangulation and asphyxiation) Exposure to hot object or sold substance (incl contact burn Burn Struck by or collision with object or person Struck by or collision with person Cold conditions (natural origin)Fell off bicycle Dog related (incl bitten, struck by)Drowning, submersion – in swimming pool Drowning, submersion – other than in swimming pool Poisoning Domestic violence Electric shock Other specified external cause Fall Foreign body Fire General unwell Firearm Human bite Fall – high (drop of 1 metre of more)Horse related Hot conditions (natural origin), sunlight Insect bite/sting Machinery Motorcycle – driver Motor vehicle – passenger Notor vehicle – driver Motor vehicle – passenger Nail gun injury Needle stick injury Struck/collision with object/person Other Pedestrian Poisoning Other or unspec. Transport related circumstance Road traffic accident Sunburn Unspecified external cause
x	ROAD USER 01Pedestrian 02Cyclist 03Motorbike Rider04Motorbike Passenger05Motorised Vehicle Driver 06Motorised Vehicle Passenger 20Other User	ROADUSER LOCATION OF RTA SAFETY DEVICE USED VEHICLE ROAD TRAFFIC COLLISION ⁴ xxxviii.Road User Category 1.Pedestrian2.Pedal Cyclist 3.Motorcyclist/Scooter/Moped Driver 4.Motorcyclist/Scooter/Moped Passenger 5.Car/Taxi/Minibus Driver 6.Car/Taxi/Minibus Driver 6.Car/Taxi/Minibus Passenger 7.Bus/Coach Driver 8.Bus/Coach Passenger 9.Goods vehicle Driver 10.Goods Vehicle Passenger 11.Other vxvix BTC Location (an 255 (varchar)	X	Safety equipment (not mandatory/ not used) Not sure if this field is referring to road or other safety equipment.
X	PRODUCT INVOLVEMENT 175 Free text field	PRODUCT INVOLVEMENT Free text listing product type and name of product. Use data mining to produce categories. May only be collected in selected hospitals if an external body provided funding. Previously known as additional what? ⁴	X	Could be obtained from: TEXT DESCRIPTION OF INJURY EVENT

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E	EDIS
v	Accoulte *		V	v
^	Assaults	ASSUALT	^	^
	Number of assailants	II.Assault Site (Varchar) – could now be		
	01/ASS1 Assaulted x1 person	field 1 Par/Pub 2 Club 2 Street 4 Own		
	02/ASS2 Assaulted x2 people	home 5 Someone else's home		
	03/ASS3 Assaulted by x3 or more	6 Workplace 7 Otheriji Assault Site (free		
	people 04/ASSO Unknown number of	text) iv Number of assailants		
		1.1 2.2 3.3 or more 4.Unknown		
	Gender of assallants	v.Assailant/s gender1.M 2.F 3.M&F		
	01/ASM Male 02/ASF Female	4.unknownvi.Previous assault by		
	03/ASIVIF Male and Female	assailant/s 1.yes 2.novii.Relationship with		
	04/ASUN Unknown	assailant/s 1.partner 2.ex-partner 3.family		
	Previous assaults by assailants	member 4.acquaintance/friend 5.bouncer		
	01/YES 02/NO 03/UNKN	6.stranger 7.work client or customer		
	Relationship with assailant	8.work mate/colleagueviii.Assault type		
	01/PART Partner 02/EXPR Ex Partner	1.body part ix.Weapon type 1.body part-		
	03/FAMM Family Member 04/FRND	fist 2.body part-feet3.body part-head		
	Acquaintance/Friend 05/BOUN	4.blunt object5.sharp object 6.sharp		
	Bouncer 06/STRN Stranger	object-glass 7.sharp object-bottle 8.sharp		
	07/CUST Work Client or Customer	object-knife 9.Unknown		
	08/COLL Work Mate/Colleague	10.pushedx.Police notified1.yes		
	99/OTHR Other	2.noxi.Notity police1.yes 2.no		
	Assault Type			
	101/FIST Fist 102/FEET Feet			
	103/HEAD Head 109/OBPR Other			
	Body Part 201/GLAS Glass			
	202/BOTT Bottle 203/KNIF Knife			
	209/SHRP Other Sharp Object			
	309/BLON Blunt Object			
	401/POSH Pushed 999/ONKN			
	Police Notified			
	01/YES 02/NO 03/UNKN			
x	SPORT	SPORT	х	
	01Aero sports02 Badminton	xii.Aero sports xiii. Badminton		
	03 Baseball04 Basketball	xiv. Baseball xv. Basketballxvi. Climbing		
	05Climbing06 Combat sports	xvii. Combat sportsxviii. Cricket xix.		
	07Cricket08Cycling	Cycling xx. Golf xxi. Gymnasticsxxii.		
	09Golf10Gymnastics	Hockey XXIII. Horse RidingXXIV. Ice-skating		
	12 HOCKEY12 HORSe Riding	xxv. iviotor sportsxxvi. Netball xxvii. Rugby		
	151Ce-Skating 14Wotor Sports	Union XXVIII. Kugby leagueXXIX.		
	17Rugby league 18Pupping / logging	Rlades/skates Skiing vyvi Soccoryvyii		
	19Skateboard/Roller Blades/skates	Sauash vyviii Swimming vyviy Tennis		
	20Skiing21Soccer22Squash	yyyy Water sportsyyyyi		
	23Swimming24Tennis25Water sports	Weightliftingxxxvii Other sports		
	26Weightlifting270ther sports			
v				
^	ALCOHOL INDICATOR 1/19	1		1

A&E MIN DATA SET ¹	PROPOSED EDDS ²	AWISS ^{3&4}	SCOTTISH A&E DATASET ⁶	EDIS
ADDITIONAL MODULES (not mapped as	s there are only mentioned in on	e system)		I
A&E STAFF MEMBER CODE	A&E ATTENDANCE ADMIN TX END DATEYYYY/MM/DD	SOURCE	DATE & TIME OF DISCHARGE, ADMISSION OR TRANSFER	Injury factors /Injury factor groups (not mandatory/ not used)
HRG DOMINANAT GROUPING VARIABLE PROCEDURE	A&E ATTENDANCE ADMIN TX END TIME hh:mm:ss	SCHOOL ATTENDED	PT MANAGEMENT TYPE 01 Resuscitation 02 Major 03 Minor99 Not known	Industry/ Industry groups (not mandatory/ not used)
A&E INITIAL ASSESSMENT TIME (First and unplanned follow up attendances only)	APPROPRIATENESS OF A&E ATTENDENCE (BAEM standards)	DISTRICT NO.	PT FlowFlow 1 (Minor Injury & Illness 2 Flow 2 (Acute assessment) 3 Flow 3 (Medical Admissions 4 Flow 4 (Surgical Admissions 5 Flow 5 (Out of hospital Care)	
A&E TIME SEEM FOR TX	REFERRER CODE see data	ACTION	Reason for A&E wait > 4 hrs 00 No delay01 Wait for bed	
HCA CLINICAL ACTIIVTY GROUP			02 Wait for transport03 Wait for a specialist04 Wait for initial A&E	
HEALTHCARE RESOURCE GROUP CODE			treatment 04A to commence 04B to be completed05 Wait for	
HEALTHCARE RESOURCE GROUP CODE - VERSION NO.	-		diagnostics test(s) 05A to be performed 05B awaiting results 06 Wait for 1st assessment	
ORGANISATION CODE (LOCAL PT IDENTIFIER) & ORGANISATION CODE TYPE			07 Clinical reason(s)08 Major incident 98 Other reason99 Not Known	
ORGANISATION CODE TYPE	SITE CODE (OF TX)	NEWSPORT		
PROCEDURE SCHEME IN USE	REFERRING ORGANISATION CODE see data dictionary	QUARTER		
ORGANISATION CODE (PCT OF RESIDENCE) & ORGANISATION CODE TYPE	LOCAL HEALTH BOARD OF RESIDANCE	FOLLOW UP		
ORGANISATION CODE (CODE OF PROVIDER)		WARDCODE		
ORGANISATION CODE (CODE OF COMMISSIONER)		WARDNAME		
HCA HEALTHCARE RESOUCE GROUP ACTIVITY – CLINICAL ACTIVITY GROUP		RUN DATE		
PROVIDER REFERENCE NUMBER				
COMMISSIONING SERIAL NUMBER				
NHS SERVICE AGREEMENT LINE NUMBER				
MARITAL STATUS (psychiatric pt's only)				
HCA ATTENDANCE OCCURRENCE- SERVICE AGREEMENT DETAILS				
COMMISSIONER REFERENCE NUMBER				
CARER SUPPORT INDICATOR				

Red text Red is mandatory (or in the case of AWISS routinely collected), black text is optional.- GREEN are new items to be collected by AWISS & suggested for a "medium dataset" (document from Ronan)

ABREVIATIONS:

Tx = Treated DOA = Dead on arrival Dx = diagnosis X = not collected PT = patient AM = Additional modules

REFERENCES:

¹NHS accident and emergency attendance CDS type, NHS data dictionary and model service.

http://www.datadictionary.nhs.uk/data_dictionary/messages/commissioning_data_set/accident_and_emergency_attendance_cds_type_fr.asp

² Townsend, J and Wilson K (October 2008) EDDS project documentation Data descriptions vers 0.7

³University of Wales All Wales injury surveillance system (AWISS) manual and documentation 2007 &

⁴ document from Ronan title "Additional code to those proposed in EDDS which are need ed for the purposes of AWISS paper prepared by Ronan Lyons and Karen Evans – AWISS- 29th July 2008"

⁵ from discussion with Karen Evans (AWISS)

⁶ Scottish Executive (200) Health & Social Care Data dictionary [online] available from: <u>http://www.datadictionaryadmin.scot.nhs.uk/isddd/17087.html</u>

⁷ Nicol. A, The A&E data set for ISD's A&E data mart. 3 Hospitals in Scotland use this system

*Information on assaults provided by Ronan Lyons 13/11/08

EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴
Mix of Interview/ medical notes	Taken from medical notes	INTERVIEW	x
UNIQUE NATIONAL RECORD NUMBER	CASE NUMBER	CASUALTY NO.	x
		HOSPITAL	
RECORDING COUNTRY 03 Austria 05 Belgium (total of 34 countries/ codes)		UK	
AGE OF PT at time of incident 3 years = 003, 24 = 024 unknown = 999	AGE OF PATIENT 201 = 3/4/7 weeks old, 202= 10 weeks, 209 = 9 months	AGE (YEARS & MONTH)	AGE 1. <5 years (birth to 4 years) 2. 5-14 3. 15-19 4.20- 24 5 25-44 6. 45-64 7. More than 64 (565) 9. age
	DOB		unknown suggests to record actual age, later assign groups.
SEX OF PT 1.M 2. F 3.UK	GENDER OF PATIENT 1.M 2. F 3.not recorded	SEX	SEX1.M 2. F 3.UK
COUNTRY OF PERMANENT RESIDENCE at time of incident use from recoding country	Х	POST CODE	RESIDENCE (Normal place of residence, naming convention TBD by application area. It may be region, state, villages, community)
DATE OF INJURY 8 spaces , 4 for year 2 for day and 2 for month Jan 11 1996 = 19960111	x	DAY /DATE	DATE OF INJURY Whatever format is appropriate. e.g. yyyy/mm/dd
TIME OF INJURY 2 spaces ignore minutes use 24 hour clock i.e., between 15:00 to 15:59 = 15	x	TIME OF ACCIDENT	TIME OF INJURY 1. 00:00 -03:59 2. 04:00 -07:59 3. 08:00 -11:59 3. 12:00 -15:59 5. 16:00 -19:59 6. 20:00 -23:59 9. unknown If resources permit, capture actual time. Use the 24 hour clock
DATE OF ATTENDANCE as date of injury	х	DATE OF ACCIDENT	X
TIME OF ATTENDANCE at time of injury	x	TIME OF ATTENDANCE	
TREATMENT & FOLLOW UP 1. examined & sent home no Tx, 2.sent home with tx, 3.tx and referred to GP, 4. tx and further tx as OP 5.Tx & admitted, 6.transferred, 7. DOA, 8.Dec. during visit, 98. other 99.UK)	DISPOSITION OF CASE 1.Treated and released, or examined and released without treatment 2.Treated and transferred to another hospital 4.Treated and admitted for hospitalization(within same facility)5.Held for observation 6. Left without being seen/Left against medical advice 8. Fatality, including DOA, died in the ED9. Not recorded	OUTCOME/ DISPOSAL: DOA Admitted Referred Treated etc	DISPOSITION 1. TX & discharged 2. Admitted or referred 3. died, 8.other, 9.unknown
PLACE OF OCCURRENCE 1.home, 2.residence, 3.medical service area, 4.school/educ., 5.sports & athletics area, 6. Transport area: highway, st, road 7. Transport area: other.8. industrial or construction area, 9. farm or other place of primary production, 10.recreational area- cultural or public building, 11.commercial area, 12.country side, 98.other specified place, 99.unspecified) Sub codes	INCIDENT LOCALE 1. Home 2.Farm/Ranch 4.Street or highway 5.Other public property 6.Manufactured (Mobile) home 7.Industrial place 8.School 9.Place of recreation or sports 0.Not recorded	LOCATION (where accident happened)	PLACE OF OCCURANCE 1. Home 2.School 3.street 8(98) other – 4. Residential 5. Sports/ athletics 6. Other transport area 7. Industrial/ construction 8. Farm excluding home 9. Commercial 10. Countryside, water, sea 9 (99) unknown
under each (2 levels) i.e.,1.10 = Kitchen, 2.30 = Prison.		HOME/GARDEN ONLY: kind of building, is this normal residence	

Appendix 3: Details on IDB, NEISS HASS& LASS and WHO

	NEISS ²	HASS & LASS ³	WHO⁴
MECHANISM OF INJURY 1. blunt force 2.piercing/penetrating force 3.other mechanical force 4.thermal mechanism 5. Threat to breathing 6 exposure to chemical or other 7.physical over exertion 8.exposure to (effect of) weather, natural disaster or other force of nature 98. Other 99 unspecified Sub codes under eac h (3 levels) i.e., 1.4 = crushing also further cat. 1.41 =pinching, crushing between objects		WHAT CAUSED THE ACCIDENT? (FREE TEXT)	MECHANISM OF INJURY 1. Traffic 2.sexual 3. Fall 4.struck by person or object 5.stab or cut 6. Gun shot 7. Fire, flames or heat 8. Choking or hanging 9. Drowning or near drowning 10. Poisoning 98. Other 99. Uknown
objects.	x		External cause of injury (ICD 10 classification) for developing countries this data element is optional , since "mechanism of injury" included as part of the core MDA is equivalent to an abbreviated external cause ICD based classification scheme,. However, where date are routinely collected and sufficient skills reside (e.g. Heath insurance other health agencies) this data element should be included in the MDS.
ACTIVITY WHEN INJURED 1.paid work 2.unpaid work, 3.education, 4.sports, 5.leisure,		ACTIVITY WHEN ACCIDENT HAPPENED (FREE TEXT)	ACTIVITY
 6.vital 7.being taken care of, 8,travelling not elsewhere classified, 98. Other, 99.unspecified) Sub codes under each (2 levels) i.e.,2.4 = shopping. 	x	TYPE LA (LEISURE) OR HA (HOME)	including school sports 3. Sports 4. Leisure 5. Travelling not elsewhere classified 8. Other 9.unknown
OBJECT/SUBSTANCE PRODUCING INJURY 1. Land vehicle 2. Mobile machinery 3. Watercraft / water transport 4. Aircraft 5. Furniture 6. Infant or child product 7. Appliance mainly used in household 8. Utensil/ container 9.item for personal use 10. Equip. for sports 11. Tool, machine 12. Weapon 13. Animal plant person 14. Building, component or related 15. Ground surface 16. Material nec 17. Fire flame or smoke 18. Hot object 19. Food or drink 20. Pharmaceutical 21. Other chemical 40. Medical/surgical device 41. Lab equip. 98 other 99unspecified Sub codes under each (3 levels) i.e., 6.01 = baby or child care article 6.0 105 = Baby walker67 pages	PRODUCTS INVOLVED Space for 2 products. – 163 pages of codes.	ARTICLE CAUSING INJURY (free text and 4 spaces if needed)	x
 TYPE OF INJURY 1. No injury dx 2.contusion, bruise 3.abraison 4. Open wound 5. Fracture 6. Luxation, dislocation 7. Distorsion, sprain 8. Crushing injury 9. Traumatic amputation 10. Concussion 11. Other specified brain inj 12.consequence of Foreign body entering through natural orifice 13. Suffocation 14. Burns, scalds 15.corrosion 16. Electrocution 17. Radiation 18. Frostbite 19. Injury to nerves and spinal cord 20. injury to blood vessels 21.injury to muscle & tendon 22. Injury to internal organs 23. Poisoning 24. Multiple injuries 98 Other 99 unspecified Sub codes under each (2 levels) i.e., 1.40 = skull 6 pages 	 DIAGNOSIS 50. Amputation 65. Anoxia 42. Aspirated foreign body 72. Avulsion48. Burns, scald (from hot liquids or steam) 49. Burns, thermal (from flames or hot surface) 51. Burns, chemical (caustics, etc.) 73. Burns, radiation (includes all cell damage by ultraviolet, x-rays, microwaves, laser beam, radioactive materials, etc.) 46. Burns, electrical 47. Burns, not specified 52. Concussions 53. Contusions, Abrasions 54. Crushing 60. Dental injury 74. Dermatitis, Conjunctivitis 70+ codes 	INJURIES (free text and 4 spaces if needed)	NATURE OF INJURY: 1.Fracture2.sprain, strain / dislocation 3.cuts bites or open wound 4.bruises or superficial injury 5.burns 6. Concussion 7. Organ system injury 8. Other 9. unknown

EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴
PART OF BODY INJURED 1. Head 2.neck, throat 3. Trunk 4. Upper extremeites5. Lower extremities 7. Multiple body parts 9. Body part other & Unknown (No 8) Sub codes under each (3 levels for some body parts) i.e., 1.20 = face1.21 = ear 6 pages)	BODY PART AFFECTED 33. Arm, lower (not including elbow or wrist) 80.Arm, upper37.Ankle94.Ear 32.Elbow77.Eyeball76.Face (including eyelid, eye area and nose)92.Finger83.Foot 60 + codes	INJURIES – PART OF BODY INJURED (free text and 4 spaces if needed)	x
NARRATIVE description of the event leading to the injury "what went wrong" 120 spaces free text	COMMENTS 2 lines of 71 spaces each. Every case MUST include descriptive comments or remarks. Enter these notes on the two lines labelled "Comment" that immediately follow the coded entries. Include: body part, diagnosis, a description of what the victim was doing when the injury occurred (sequence of events), the product involved, incident location, brand name, product description	COULD YOU DESCRIBE AS FULLY AS POSSIBLE HOW THE ACCIDENT OCCURRED (free text)	INCIDENT SUMMARY A free text field that describes the circumstances surrounding the incident it may answer the following: what were you doing at the time? How did it happen?
X	RACE & ETHNICITY/ OTHER RACE AND/OR ETHNICITY 1. White 2.Black 3.Other 0.Not stated in ED record. If other use specify other race	X	RACE/ ETHNICITY code choices to be defined by system designers
AM SPORTS – TYPE OF SPORTS 1.team ball sports 2. Team bat or stick 3. Team water 4. Boating 5. Individual 6. Ice or snow 7. Individual athletic 8. Acrobatic 9. Aesthetic 10. Racquet 11. Target/precision 12. Combative 13. Power 14. Equestrian 15. Adventure 16. Wheeled motor 17. Wheeled non motor18. Multidiscipline 19. Aero (non motored) 98 other specified 99 unspecified Sub codes under each (2 levels) i.e., 1.01 = basketball 14 pages)		ANY SPORT OF EXERCISE INVOLVED IN THE ACCIDENT? WAS A THERE A REF, COACH OR TEACHER PRESENT?	
AM VIOLENCE – CONTEXT OF ASSUALT 1. Altercation 2. Illegal acquisition or attempted illegal acquisition of money or property 3. Drug related incident 4. Sexual assault 5. Gang-related incident 6 other crime 8. Other specified context of assault 9. Unspecified context of assault			For Assault (AM): CONTEXT 1.quarrel, fight 2. Burglary or robbery 3. Drug related 4. Sexual assault 5. Gang activity 6. Committing a crime (other then above) 8. Other 9. Unknown if resources permit select more than one
AM VIOLENCE –VICTIM/PERPETRATOR RELATIONSHIP 1. Spouse, partner 2. Parent or step parent 3. Other relative 4. Unrelated caregiver 5. Acquaintance or friend 6. Official or legal authority 7. Stranger 8. Other specified relationship 9. Unspecified	x	x	For Assault (AM): OBJECT USED 1. Club or stick 2.knife, machete or other cutting/chopping implement 3. Fire 4. Gun or other firearm 5. Person, including parts of the body (e.g. fists, feet) 8. Other 9. unknown
AM VIOLENCE- SEX OF PERPETRATOR 1. M 2. F 3. UK AM VIOLENCE - AGE GROUP OF PERPETRATOR 1. Child (0-14 years) 2.adolescent (15-24 years) 3 Adult (25-64 years) 4. Elderly (65 + years) 9. Unknown			For Assault (AM): PERPETRATOR/VICTIM RELATIONSHIP1. Spouse , partner (present or past) 2. Parent or step parent 3. Other relative (e.g. child parent, grandparent, brother) 4. Acquaintance or friend 5. Stranger 6. Other add sub categories if app. As follows: 6 Caregiver 7. Legal authorities 9. Unknown

EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴
INTENT 1.Unintent., 2.intent. self harm, 3.assault, 4.other violence, 5.undetermined intent, 8.other specified intent, 9unspecified (No 6 or 7)	WHETHER INTENTIONALLY INFLICTED 1.Assault / intentional injury (confirmed or suspected) 2.Self-inflicted injury including suicide or suicide	x	For Suicides (AM): PREVIOUS SUICIDE ATTEMPTS numeric
AM INTENTIONAL SELF – HARM - PREVIOUS INTENTIONAL SELF-HARM 1. Y 2. N 3. UK	attempt (confirmed or suspected) 3. Injury related to legal intervention associated with firearms (due to law enforcement activity) 0. Unintentional (accidental) injury or injury intent not		INTENT- 1. Unintentional 2.intentional 3. Assault 4.undetermined 8. other: 5.legal 6.war 9.Unknown
AM INTENTIONAL SELF –HARM – PROXIMAL RISK FACTOR 1.conflict in relationship with family member, partner or friend 2. Death of a family member 3. Physical problem 4. 4. Psychological/ psychiatric condition 5. Income related/financial problem 6. Abuse 7.Legal system encounter 8. Other (proximal risk factor 9 unspecified proximal risk factor	determined / not recorded		For Suicides (AM): RISK FACTORS 1.conflict with family 2. Physical illness 3. Psychological/ psychiatric condition 4.financial problems 5. Legal system encounters 8. Other (add subcategories of app. as follows: 6Death of a family member 7 Victim of sexual or physical abuse) 9. unknown
TRANSPORT INJURY EVENT (1.Y/2.N/ 9.UK) apply transport module AM TRANSPORT – MODE OF TRANSPORT 1. Pedestrian 2. Pedal cycle 3. Other motorise transport device 4. 2 wheeled motor vehicle 5. 3-wheeled motor vehicle 6. Light transport vehicle with 4< wheels 7. Heavy transport vehicle 8. Rail vehicle 9. Special industrial, agricultural or construction vehicle 10. Special all terrain or off road vehicle 11. Watercraft 12. Aircraft 98 Other specified 99 unspecified Sub codes under each (2 levels) i.e., 1.1 = person on foot 8 pages)	x	x	For traffic (AM): MODE OF TRANSPORT 1. Pedestrian 2. Non motorized vehicle 3. Motorcycle 4. Pick up, jeep minibus 6. Truck 7. Bus 8. Train 89 Other, including boat and airplane 99 unknown
AM TRANSPORT –ROLE OF INJURED PERSON 1. Person on foot, bystander 2. Driver rider or operator 3. Passenger 4. Person boarding or alighting a vehicle 5. Person on outside of vehicle 6. Vehicle occupant not otherwise specified 8. Other specified role of injured person 9. Unspecified role of the injured person			For traffic (AM): ROAD USER 1. Pedestrian 2. Driver or operator of transport 3. Passenger, including motorcycle passenger 8. Other 9. Unknown
AM Transport COUNTERPART 1. Pedestrian 2. Pedal cycle 3. Other motorised transport device 4. 2 wheeled motor vehicle 5. 3-wheeled motor vehicle 6. Light transport vehicle with 4< wheels 7. Heavy transport vehicle 8. Rail vehicle 9. Special industrial, agricultural or construction vehicle 10. Special all terrain or off road vehicle 11. Watercraft 12. Aircraft 13. Fixed or stationary object 14. Animal 15. No counter part. 98 Other specified 99 unspecified Sub codes under each (2 levels) i.e., 1.1 = person on foot 11 pages)			For traffic (AM): COUNTERPART (with what did the injury person collide) 1. Pedestrian 2. Non motorized vehicle 3. Motorised vehicle 4. Fixed object 5.non-collision 9. unknown
		SPECIAL STUDIES ONLY BLOOD ALCOHOL (MG/100ML) SS1 SS2 NAME TEL ADDRESS.	ALCOHOL USE (1=suspected 2- No info) OTHER PSYCHOACTIVE SUBSTANCE USE (1=suspected 2- No info)

ADDITIONAL MODULES (not mapped as	there are only mentioned in one sy	<u>stem)</u>	
EU IDB ¹	NEISS ²	HASS & LASS ³	WHO⁴
AM ADMISSION detailed on admitted persons if TX /follow up is coded 5/8 provides information on severity	FIRE INVOLVEMENT 1.Fire involvement and/or smoke inhalation - Fire Dept. attended2.Fire involvement and/or smoke inhalation - Fire Dept. did not attend3.Fire involvement and/or smoke inhalation - Fire Dept. attendance is not recorded 0.No fire or no flame/smoke spread	ADULT PT OR CHILD PT WITH ADULT OR ACCOMPANYING ADULT – RELATIONSHIP TO PT OR MEDICAL RECORDS ONLY NO INTERVIEW	INJURY SEVERITY 1. no apparent injury 2. Minor or superficial (e.g. bruises minor cuts 3. Moderate, requiring some skilled TX (e.g. fractures sutures) 4. Severe, requiring intensive medical/ surgical management (e.g internal haemorrhage, punctured organs, severed blood vessels)
AM ADMISSION - NO. OF DAYS IN HOSPITAL	WORK RELATED 0.Not recorded1.Work-related; occurred on the job (excluding active military duty) 2.Not work-related; did not occur on the job 3.Work-related; active military duty	IF ADULT PRESENT ARE THEY FT/ PT OR STUDENT. ADULTS PRESENT INITIALS ADULTS PRESENT- AGE (YRS/MTH) OR DOB POSTCODE	
	EACH VISIT REGARDLESS OF PREVIOUS VISITS = NEW CASE	BROUGHT IN BY AMBULANCE?	
	DATE OF TX	IF ACCIDENT INVOLVED OTHER PATIENTS: NUMBER OF PTS & ACCIDENT REFERENCE CASUALTY NO.	
		SOURCE: INTERVIEW BY CLERK/ RECEPTIONIST	
		FALL INVOLVED? WHAT KIND OF FALL? E.G. STAIRS, LADDER.	
		INTERVIEW BY; CLERK OR RECEPTIONIST	
		FOLLOW UP (YES OR NO)	
		RECEPTIONIST ON DUTY	
		REASON FOR NOT INTERVIEWING PT.	

AM = Additional modules. Red text Red is mandatory, black text is optional Tx= Treated. DOA = Dead on arrival. Dx = diagnosis ¹ Consumer Safety Institute The injury database (IDB) coding manual: Data dictionary version 1.1 June 2005, pp.6 ²NEISS coding manual. January 2008 ³ DTI Manual (provided to Clerks) obtained from RoSPA. ⁴ Holder, Y. *et al.* (2001) Injury surveillance guidelines. WHO. pp.29-39

Appendix 4

Max' Date: Time				LA HA
	e of attendance: Casualty Num	bei:	If Accident Involv	ed Other Patients
	No. 80. 11.1	No. 10. 11.	patients involved. Accide	on reference cabually mariban
Irought is by probalance	Terk on duty	thist on duty		
Source: stark receptionist	adult patient child pa	stient with accompanyin	ng Ratiationship to patient	Medical records
menuties by a to a	schult	athult	1-	drily (no interview)
Reason for not interviewing the nations of	teres state in the box halos. The same	the two lack of interview	a how the state of the state.	
	THE PART IN THE DOCTORS IN CARD	THE SOLUTION AND AND THE PARTY AND	annes the canada is driving	
ntroduction		In the second		and the second second second
As you know, a great many accidents out down on the number of these acci	happen every day. To try and dents, we are carrying out a	they happened - v whatever the cau	whether through lauity go ses. So I'd like to ask you	ods, carelessness or a few simple questions
special study. We are interested in all	accidents regardless of how	about your/this p	articular accident.	
Accident details When did the accident happen7. Date	,	Time?		
Could you describe as fully as possibl	is how the accident occurred	THINKY C		
Can Ljust check, was a fall of any kind all on same Fall on or from Fall o	I involved in the accident? What I n or from Fall from or Fall of	kind of fall was it? Ewith Other fall from	m Unapec No	s fail Unknown if
evel from stairs or steps ladde	out of impta	ri cycle one level to	type of fall in	volvest any at all
nic	structure in her	another		
Gause: What caused the accident?				
Article involvement				
Article involvement What articles, equipment or building t	leatures were in any way involve	d in the accident (and t	he injury?	
Article involvement What articles, equipment or building t where applicable establish type, brar Can I just check, was any protective e	features were in any way involved int, condition and age of article m guipment being used or worn?	t in the accident land t antioned and if it was i	he injury? acquired new, second han	d, hired or borrowed)
Article involvement Athat articles, equipment or building t where applicable establish type, bran Can I just check, was any protective e 1	leatures were in any way involves id, condition and age of article m guipment being used or worn? 2	d in the accident land t antioned and if it was	he injury? acquired nesk, second han 3	ct hired or borrowed)
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Taken From DTi (2003) 24th (final) report of Home & Leisure Accident Surveillance System [online]. Available from: http://www.rospa.com/hassandlass/reports.htm accessed August 11 2008. pp.18-19



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