**Country update on Injury Surveillance: United Kingdom**



*Introduction*

The UK has a long history in injury surveillance, having developed the Home Accident

Surveillance System (HASS) and Leisure Accident Surveillance System (LASS) which contributed to development of the European Home and Leisure Accident Surveillance System (EHLASS), the precursor to the Injury Data Base (IDB). Unfortunately the HASS/LASS systems ceased operation in 2002; however, several other Emergency Department (ED) based surveillance systems have been in operation across parts of the UK over the past 15 years, including the All Wales Injury Surveillance System (AWISS)1.

The UK has been involved in the IDB project since initial discussions as part of the JAMIE project. It is important to note that health is a devolved issue in the UK and hence each of the UK countries (England, Scotland, Wales and Northern Ireland) develops its own health policy. In general, there has been support from health ministries for the IDB concept. However, given current financial pressures it has been difficult to find funding for injury data collection across the UK.

*National IDB-system*

The UK responded to the IDB challenge by first exploring to what extent current data collections systems met the needs of the IDB Minimum and Full Data Set (MDS and FDS). Unfortunately, no hospital in the UK has collected data at the FDS level since the demise of the HASS and LASS system in 2002, and it has not been possible to fund the development of a new system since. However, select existing ED systems have been deemed suitable to contribute data towards the less detailed IDB-MDS.

Initially, UK MDS samples were based on ED data from a sample of hospitals in England. However, upon further investigation the quality and completeness of data coding in these hospitals was deemed unsatisfactory. Further, it was not possible to establish fall related ED attendances in English ED data, a leading mechanism of injury in the UK. Therefore, we explored the potential to use ED data collected in Welsh hospitals as part of the AWISS (an injury surveillance system based on injury related attendances to Welsh ED departments).

Once again considerable variation was observed in coding quality and completeness between Welsh hospitals; however, 5 hospitals were of sufficient quality, with over 75% completeness in all relevant diagnosis and aetiology fields. These 5 hospitals comprised of 2 major EDs located in the North and South of Wales, and 3 minor injury units based in South Wales. It should be noted that in 4/5 hospitals only three character ICD-10 codes were recorded in the diagnosis fields. As the 4th character is required to accurately map injury diagnoses to the MDS, proportions of injuries observed in national ED attendances in Denmark were used to map 3 character ICD10 codes to 4 character codes and use this distribution to impute the missing data. AWISS is hosted by the Farr Institute and Prudent Healthcare Intelligence Hub at Swansea University in Wales, which also coordinates the UK’s IDB-MDS submissions.

*Insights gained*

Table 1 presents an overview of the UK’s IDB-MDS samples and crude incidence rates. As AWISS collects data on all injury related ED attendances in Wales, national ED attendances were used in the calculation of the UK’s reference populations. The IDB has revealed that the UK reports some of the highest injury related ED attendance rates across Europe. The leading cause of injuries attending EDs in the UK are falls (39%) followed by other causes (29%), cuts and piercings (5%), road traffic collisions (5%), poisonings (1%) and burns (1%). 20% of injuries were recorded in our sample as being of ‘unknown’ cause. The IDB has helped exposed emerging trends in the UK such as the increase in self-harm related attendances in females aged 15-24, with rates increasing from 690 per 100,000 population in 2010, to 878 per 100,000 in 2015.

*Table 1 - UK IDB-MDS data overview by year*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Injury related ED attendances in UK IDB-MDS sample | No. of hospitals included in UK IDB-MDS sample | Reference population | Crude incidence rate (per 100,000 population) |
| 2010 | 51930 | 4 | 604508 | 8590 |
| 2011 | 83558 | 5 | 789058 | 10590 |
| 2012 | 89600 | 5 | 843247 | 10626 |
| 2013 | 84202 | 5 | 763793 | 11024 |
| 2014 | 81450 | 5 | 722167 | 11279 |
| 2015 | 81817 | 5 | 718405 | 11389 |

*Use of data*

Several injury prevention related organisations have utilised the IDB database in the UK including: The Royal Society for the Prevention of Accidents (RoSPA), Children in Wales, universities, and UK governments and health organisations. Data requests have ranged from queries about trampoline injuries in children to comparative country-level analyses of the incidence of traumatic brain injuries.

*Future outlook*

Several avenues are being explored to improve the UK’s IDB submissions as well as the overall value of the injury data, including:

* implementing an extended version of the MDS dataset directly into ED data collection systems in the UK in line with the College of Emergency Medicine’s new data set;
* the potential to use automated natural language processing software to convert narrative information collected on presenting complaint and diagnosis fields in ED systems into the FDS coding; and
* leading the development of an online IDB based burden of injury calculation tool. This tool will enable countries to compare injury related Disability Adjusted Life Years (DALYs) by country, year, gender, age, and key injury domains.

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*IDB-related publications:*

1. Lyons, Ronan A., et al. "226 Using Long bone fractures as an injury incidence indicator in Europe." *Injury Prevention* 22.Suppl 2 (2016): A82-A83.

2. Turner, Samantha L., et al. "The European injury data base: supporting injury research and policy across Europe." *Injury Prevention* 22*.* Suppl 2 (2016): A80-A81

3. Lyons, Ronan A, et al. "Joint action on monitoring injuries in Europe (JAMIE): development of a new minimum data set (MDS)." *Injury Prevention* 18.Suppl 1 (2012): A234-A234.

4. EuroSafe: Injuries in the European Union, Summary on injury statistics 2012-2014, Amsterdam 2016