

The Centre for
International
Public Health Policy



Sport related injury in children and adolescents in the UK, what do we know?

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Objectives of study

- To describe sources of data on sport injury in children and adolescents in the UK
- To analyse whether and how they can be used in monitoring the public health and risks of injury among children and adolescents
- To make recommendations for future data collection

Burden of sport injury

Sport (excluding education) rate of injury requiring A&E attendance

- 15-19 year olds - 25 per 1,000 population
- 10-14 year olds - 20 per 1,000 population
- All ages 7 per 1,000 population

All Wales Injury Surveillance System (AWISS), 2004

Part One

A description of sport injury data sources
for children and adolescents in the UK

WHO recommended standards

Injury surveillance should include “type of sport”

S1 – Type of sport / exercise activity

1 Team ball sports

1.01 Basketball

1.02 Football – American tackle

1.03 Football – American touch or flag

...

2 Team bat or stick sports

2.01 Baseball

...

Also recommends phase of activity (i.e. training, competitive play) and both personal and environmental counter measures be recorded

Three main sources of data

1. Routine – hospital admissions data, health & safety data
2. Surveillance – national systems both whole population and sample; local systems
3. Surveys

UK sport injury data sources for children and adolescents (0-19 years)

Routinely collected

| Dataset | Population coverage / sample size | Is type of sport recorded? | How is sport injury reported? |
|---|---|----------------------------|---|
| NHS Hospital Episode Statistics (HES) | Every NHS inpatient in England | No | 3-char ICD-10 code W21 "Striking against or struck by sports equipment" |
| Patient Episode Database for Wales (PEDW) | Every NHS inpatient in Wales and Welsh patients in NHS hospitals in England | No | 3-char ICD-10 code W21 |
| Scottish Morbidity Record (SMR) | Every NHS inpatient in Scotland | No | Nothing routinely available |
| Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) | All school pupils / students in England, Scotland and Wales | No | Nothing routinely produced on school pupil / student injuries |

UK sport injury data sources for children and adolescents (0-19 years)

Surveillance systems

| Dataset | Population coverage / sample size | Is type of sport recorded? | How is sport injury reported? |
|---|---|----------------------------|--|
| All Wales Injury Surveillance System (AWISS) | All injured people attending A & E departments across most of Wales | Yes | Number of injuries where sport (excluding education) was location when injury occurred |
| Home and Leisure Accident Surveillance System (HASS and LASS) | All injured people attending sample (16-18) hospitals in UK (excludes road traffic and work injuries) | Yes | Number of “accidents” where sport (excluding education) was activity at time of “accident” |
| Y-CHIRPP (Yorkhill, Glasgow) Discontinued 2006 | All children presenting to A&E with an injury | No | Numbers where location of child when injured was a sports facility Numbers where activity involved in when injury occurred was playing sports |

UK sport injury data sources for children and adolescents (0-19 years)

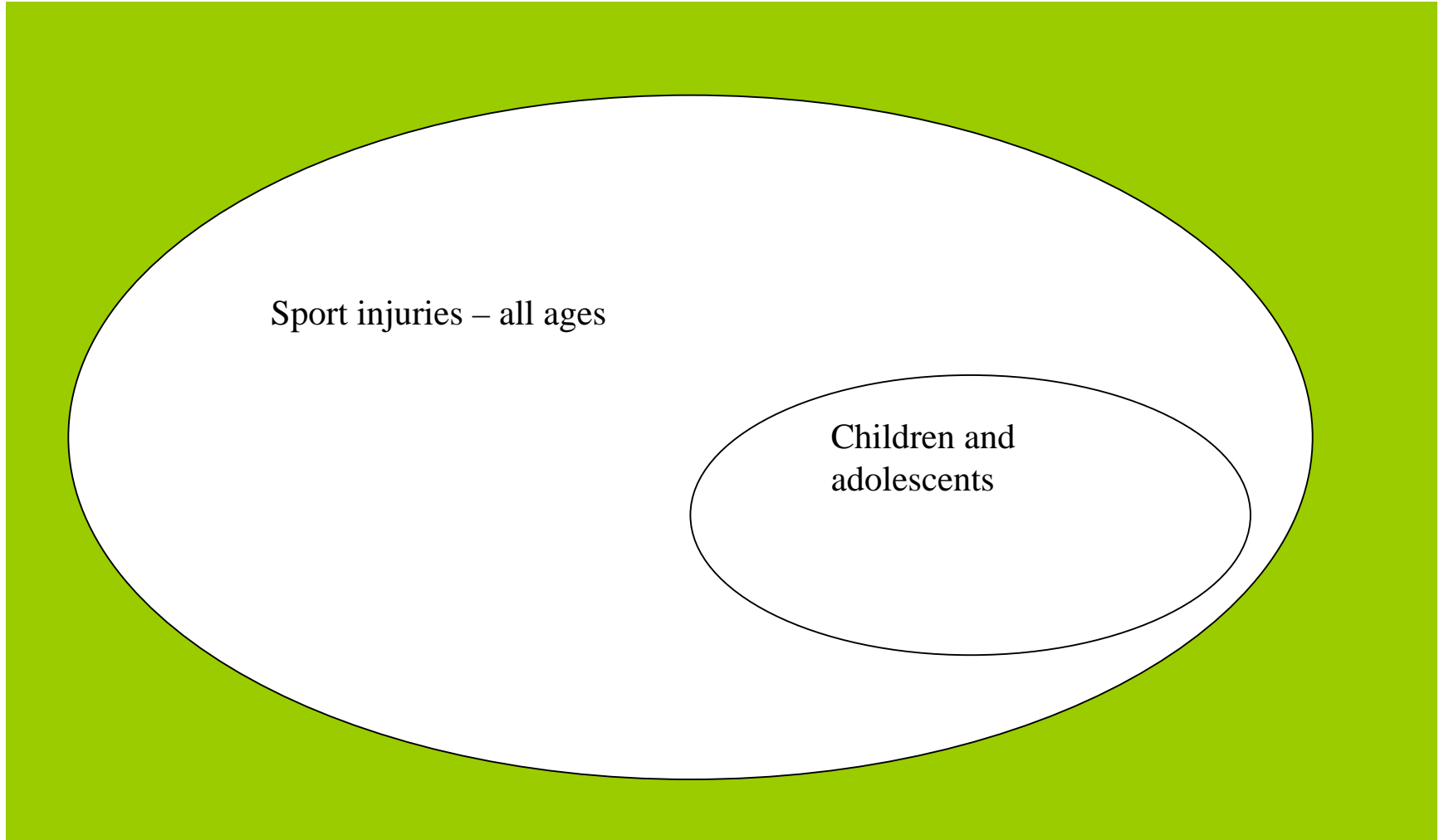
Surveys

| Dataset | Population coverage / sample size | Is type of sport recorded? | How is sport injury reported? |
|---------------------------|---|----------------------------|---|
| Health Survey for England | There were 3,993 children aged 0-15 years interviewed in 2001 and 8,067 interviewed in 2002 | No | Annual rate per 100 persons of major and minor "accidents" occurring during sports, exercise or play (2-12 year olds) and sports or exercise (13+ years) |
| Scottish Health Survey | There were 3,324 children under 16 years interviewed in 2003 (non-fatal injuries which do not result in long term hospital admission) | No | Percentage of all "accidents" where sports or recreation was cause (0-15 years) Percentage of all "accidents" where location was a place used for sport, play or recreation (0-15 years) or a place for sports or recreation (16-24 year olds) |

Part Two

What is readily available from these data sources in published reports?

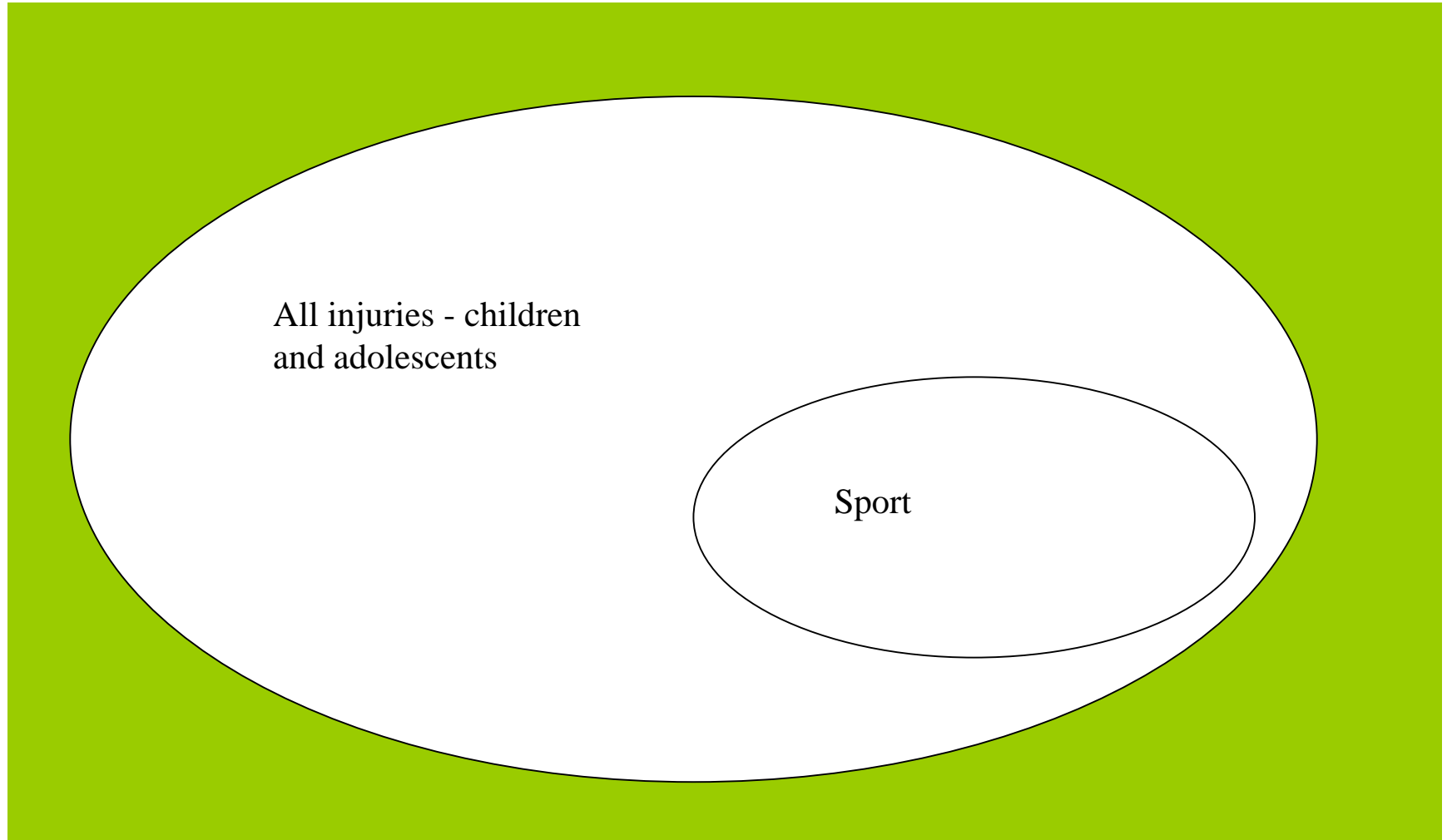
Proportion of all sports injuries accounted for by children and adolescents



Proportion of all sports injuries accounted for by children and adolescents

| Dataset | Injury definition | Age range | Proportion of all sports injuries |
|--|--|-------------|-----------------------------------|
| AWISS 1st January – 31st December 2004 | Sport location when injury occurred (excluding education) | 0-4 years | 1% |
| | | 5-9 years | 3% |
| | | 10-14 years | 18% |
| | | 15-19 years | 24% |
| | | > 19 years | 54% |
| HASS & LASS May to October 1987 | “Sports facility accidents”, including those occurring at school | 0-4 years | 1% |
| | | 5-9 years | 6% |
| | | 10-14 years | 23% |
| | | 15-19 years | 20% |
| | | > 19 years | 50% |

Sport as a proportion of all injuries in children and adolescents



Sport as a proportion of all injuries in children and adolescents

| Dataset | Injury definition | Age range | Proportion of all injuries |
|--|--|-------------|----------------------------|
| AWISS 1st January – 31st December 2004 | Sport location when injury occurred (excluding education) | 0-4 years | 1% |
| | | 5-9 years | 3% |
| | | 10-14 years | 8% |
| | | 15-19 years | 11% |
| | | All ages | 5% |
| HASS & LASS 1st January – 31st December 2002 | Sport activity at time of "accident" (excluding education) | 0-4 years | 1% |
| | | 5-14 years | 19% |
| | | All ages | 24% |

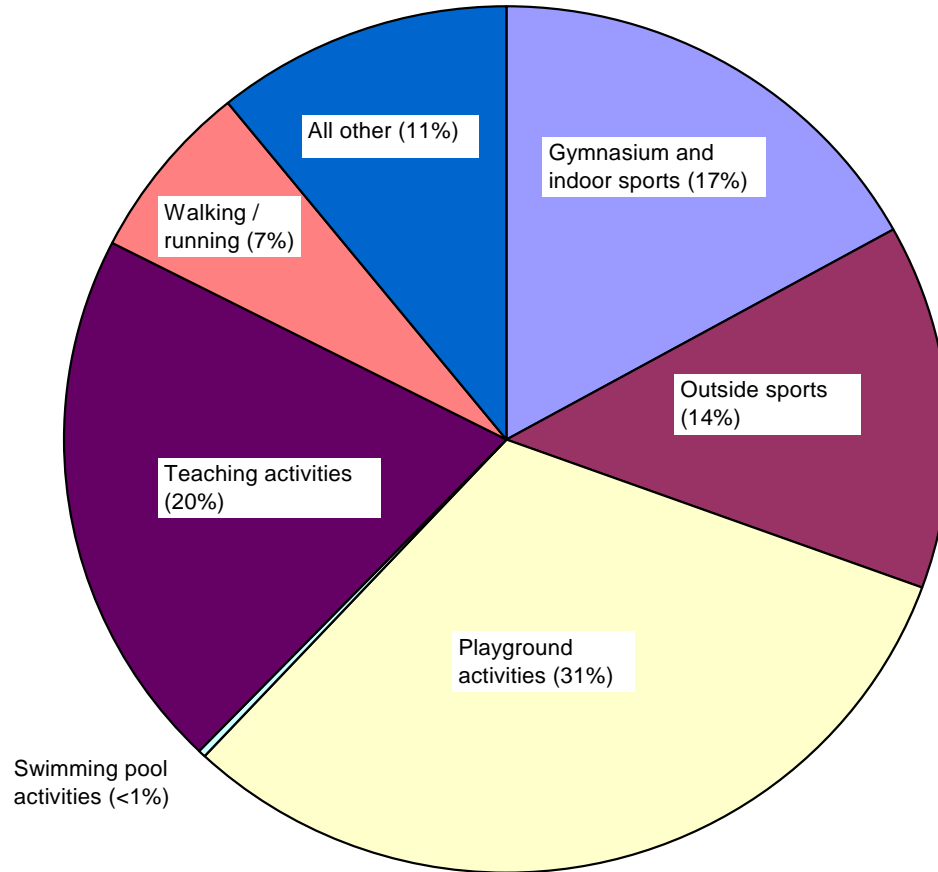
Limitations of the data

- WHO standards - lack of recording and reporting on type of sport
- Underestimation - exclusion of sport injury during education
- No denominators

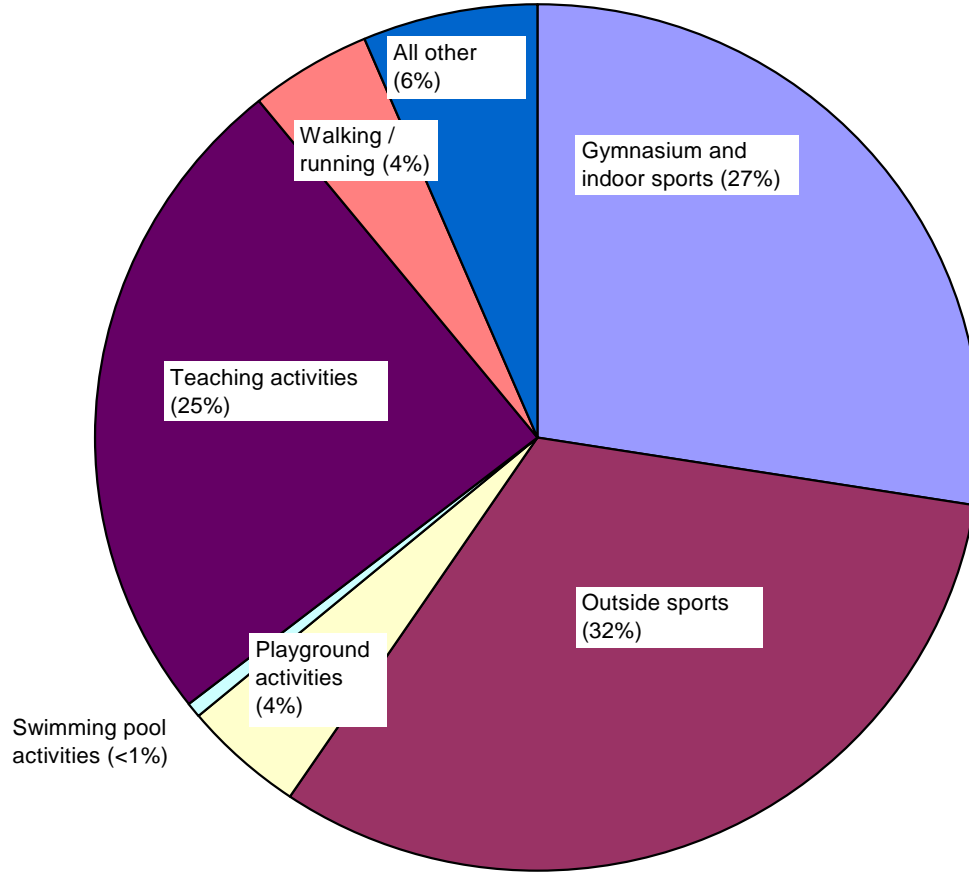
Part Three

An analysis of HSE and HASS / LASS data

Non-fatal injuries in PRIMARY school students (N=1,106)
Source: Health and Safety Executive (RIDDOR) 1st April 2005 to 31st March 2006



Non-fatal injuries in SECONDARY school students (N=2,423)
Source: Health and Safety Executive (RIDDOR) 1st April 2005 to 31st March 2006



Top ten sporting activities at time of incident
 females aged 0-19 years
 Yearly average from HASS & LASS data 1998 – 2002

| Sport | Number of injured players | Percentage |
|-------------------|----------------------------------|-------------------|
| Football (soccer) | 569 | 15% |
| Horse riding | 413 | 11% |
| Netball | 306 | 8% |
| Roller skating | 290 | 8% |
| Ice skating | 240 | 6% |
| Swimming in pool | 178 | 5% |
| Basketball | 156 | 4% |
| Hockey | 154 | 4% |
| Trampoline | 87 | 2% |
| Unsp gymnastics | 73 | 2% |
| All others | 1,244 | 34% |
| Total | 3,711 | 100% |

Top ten sporting activities at time of incident males aged 0-19 years

Yearly average from HASS & LASS data 1998 – 2002

| Sport | Number of injured players | Percentage |
|-------------------|----------------------------------|-------------------|
| Football (soccer) | 8,203 | 56% |
| Rugby football | 1,780 | 12% |
| Skateboarding | 448 | 3% |
| Basketball | 424 | 3% |
| Roller skating | 346 | 2% |
| Cricket | 343 | 2% |
| Other football | 226 | 2% |
| Gaelic football | 225 | 2% |
| Swimming in pool | 192 | 1% |
| Ice skating | 188 | 1% |
| All others | 2,229 | 15% |
| Total | 14,603 | 100% |

Part Four

Comparing sport injury data with sport participation data

Top five frequent sports compared with their injury ranking

| Sex | Sport | Participation ranking 11-14 years (Sport England 2002) * | Injury ranking 10-14 years (HASS & LASS 2002) ** |
|---------------|------------------------------|--|--|
| Female | Netball | 1 | 3 |
| | Rounders | 2 | 13 |
| | Swimming, diving, lifesaving | 3= | 6 |
| | Tennis | 3= | 21 |
| | Athletics – track or field | 5 | 50 |
| Male | Football (inc. 5-a-side) | 1 | 1 |
| | Athletics – track or field | 2 | 35 |
| | Cycling, riding a bike | 3 | 5 |
| | Basketball | 4 | 6 |
| | Tennis | 5 | 17 |

* - did sport at least 10 times, in or out of lessons, in 2002, source “Young People and Sport in England”, 2002. Sport England

** - all types of swimming and cycling combined

Key findings

- Lack of adherence to WHO standards in injury data collection with respect to sport
- Absence of good quality data on sport injury in children and adolescents

Current developments

- England: Pilot being led by the South West public health observatory into injury data collection at A&E
- Scotland: Pilot projects underway to collect injury data at A&E and return to ISD

Recommendations

- Injury surveillance systems should adhere to WHO collection and reporting standards with respect to sport
- Injury surveillance work needs to be integrated and coordinated across UK

Acknowledgements

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