EURORISC: The story so far

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The EURORISC project is a concerted action funded by the European Commission (EC) (DGXII) that brings together 16 participants from nine European countries. The project was funded subsequent to a number of important policy documents. Firstly, the Treaty on European Union (EU) signed in Maastricht in November 1993 included a commitment to public health which stated, 'the Community shall contribute towards ensuring a high level of human health protection'. In a subsequent communication setting out the Commission's proposals for developing work on public health, accidents and injuries were identified as a priority area for action. Following this, a major public health policy review was undertaken in 1994. Its report highlighted the lack of adequate data on injuries and their causes as a barrier to effective injury prevention.

The EURORISC Project commenced in January 1997, with its administrative base at the Paediatric Epidemiology and Community Health (PEACH) Unit, Department of Child Health, University of Glasgow. The main aims of EURORISC are to review current injury surveillance activities and to make recommendations for future ISC practice in the EU. The study comprises of three phases, each lasting 12 months. Each phase has a number of specific objectives (Figure 1). This short paper gives an overview of the EURORISC tasks completed so far.

Figure 1: EURORISC Project timetable and key objectives

Phase	Year	Key objectives
1	1997	to describe the contemporary epidemiology of injury in the EU. to identify current IS activity in the EU.
2	1998	determination of IS evaluation criteria world literature review formulation of a statement of good practice
3	1999	comparison of current IS in the EU with the statement of good practice. formulation of recommendations for future ISC in the EU.

Methods

Mortality data were obtained from the WHO and national government agencies to examine the trends in age-standardised mortality in all 15 current EU member states. Morbidity data were obtained from the injury surveillance systems operating in the EU. Information on the

characteristics of injury surveillance systems was collected using three strategies: an electronic literature database search, a participant questionnaire and by contacting organisations with a professional interest in injury prevention throughout the EU.

Epidemiology

Over 1.9 million fatalities due to injury were recorded between 1984 and 1993. Of these, 69% were due to unintentional injuries, 24% were due to suicide and self-inflicted injuries, 2% due to homicide and 5% due to "other violent causes'. Age standardised mortality rates due to unintentional injuries decreased from 30 to 24/100,000 over the study period. Age standardised mortality rates due to suicide and self-inflicted injury decreased from 11 to 10/100,000. Rates of homicide remained stable at 1/100,000 and rates of 'other violent causes' increased from 2 to 3/100,000.

Substantial improvements in unintentional injury mortality were observed in many countries over the study period. However, in both 1984 and 1993, marked differences in age standardised mortality rates were observed between counties. Finland, Portugal and France experienced mortality rates more than double those observed in Sweden, the Netherlands, and the U.K. In most countries, age-standardised mortality rates due to suicide and self-inflicted injuries decreased over the study period. As with unintentional injury, there were stark variations in rates between countries. Countries in southern Europe had consistently lower mortality rates due to suicide and self-inflicted injuries than those in northern Europe, with the exception of the Netherlands and the U.K.; these countries experienced low rates throughout the study period. Rates of homicide were low and stable over the study period.

Current data sources on non-fatal injury

While mortality data are helpful in providing baseline information on the epidemiology and causes of injury and monitoring progress towards national and local accident prevention targets, data on non-fatal injuries are also required to assess injury incidence, monitor progress towards targets and to evaluate the effectiveness of injury control interventions. We have been documenting the other sources of injury data available in the EU (Figure 2). These include data collected by routine systems and surveys, and specially designed injury surveillance systems.

Figure 2: Examples of sources of non-fatal injuries in the EU

- Hospital discharge statistics
- EHLASS (European Home and Leisure Surveillance System)
- IRTAD (International Road Traffic and Accident Database)
- CARE (Community database on road traffic accidents)
- National injury surveillance
  HASS/LASS (U.K.), LIS (Netherlands), EDISS (Greece)
- Local injury surveillance
  CHIRPP (Glasgow) AWISS (Wales) PHISSCH (Newcastle), ISIS (Trieste)
- Fire, ambulance, police services
- Poisoning centres
- Occupational injury registers
- Household surveys

Methodological aspects

The methodological difficulties involved in making international comparisons are well documented, for example we have conducted a survey of hospital discharge data collected in participating countries highlights important differences in the data collection procedures and data items collected. In some countries only short stay admissions are included in hospital discharge statistics. Strict inclusion criteria may help make comparisons more reliable. However, the use of hospital discharge data generally is open to criticism due to the bias in admissions relating to supply factors and socio-demographic characteristics.

In the face of limited resources, alternative strategies to total surveillance of all cases presenting with injuries have been considered. Retrospective sampling of the CHIRPP database operating at Yorkhill Hospital in Glasgow was conducted to establish whether systematic sampling is a valid alternative to total patient surveillance. This study showed that a well planned and executed sampling strategy could be an alternative if a number of potentially problematic practical issues were overcome. These include staff forgetfulness, potentially biased case selection according to severity and the inability of the sample to collect data on rare events.

Evaluation of injury surveillance systems

The literature suggests that the overall aim of injury surveillance is to reduce the frequency and severity of injury in a target population. However, systems have been established for a variety of purposes including epidemiological research, targeting and prioritising prevention efforts, evaluating injury prevention initiatives and assessing the costs of injury. We have identified six criteria for the evaluation of surveillance systems operating in the EU. The literature suggests that to be successful a system should have six key characteristics: it should be practical, stable, relevant, valid, accessible and effective.

Practical: The operation of an ISS must be an a feasible objective within the data collection setting. A successful ISS has sufficient human, technical and financial resources to support both implementation and operation.

Stable: An ISS should be usable for the analysis of secular trends. This is only possible if definitions, denominators, sampling techniques, classification systems and coding methods remain constant over time. Where possible, internationally agreed coding and classification systems should be adopted.

Valid: An ISS should generate information of an acceptable quality. The representativeness, sensitivity, specificity and accuracy of data should be primary considerations. Ideally, some measurement of injury severity should also be included.

Relevant: Data collected by the ISS should be useful and relevant to injury prevention professionals who utilise the system for the planning and evaluation of injury control programmes.

Accessible: The ISS should be easily accessible to injury prevention professionals. If potential users are unable to obtain information in a relevant and comprehensible format, the ISS will not fulfil its function.

Effective: Evaluation should be an integral part of the development process. There are remarkably few published scientific data upon which to judge the impact of injury surveillance on the frequency or pattern of injury in a population.

Injury surveillance systems around the world collect information on a wide range of data items. In accordance with developments elsewhere in the world, we have drafted a minimum and extended data-set as part of the evaluation procedure for EURORISC (Figure 3). Surveillance systems operating in the EU will be compared to the minimum and extended data sets developed by the EURORISC team.

Figure 3: Draft minimum and extended data-sets

Minimum data set	**Extended data set**
Personal identifier	Geographical location code (of injury)
Sex	Ethnic group
Date of birth	Occupation
Date of attendance	Time of injury
Date of injury	Products involved
Geographical location code (of home)	Mechanism of injury
Narrative description of the injury event	Severity score
External cause	Use of safety equipment
Intent	Alcohol use
Activity when injured	Drug use
Place of injury occurrence	
Nature of principal injury and body part injured	

Conclusion

The EURORISC project in scheduled to end in December 1999. Comparing the current status of injury surveillance in the EU with our six criteria and data-sets is the next and final task. However, it is hoped that the collaborative network developed as part of EURORISC will be retained and expanded, perhaps in the context of the new EC Injury Prevention Programme.