

## **National Injury Sample Register of Norway**

Johannes Wiik and Branko Kopjar

National Institute of Public Health  
Geitmyrsveien 75, 0462 Oslo, Norway  
phone. (+47) 22 04 22 00facsimile. (+47) 22 56 44 35

The objective of this presentation is to describe shortly the types of injury classification systems and data in use by the Norwegian National Injury Register.

The Norwegian National Injury Register represents a principal source of information about occurrence of injuries in Norway. The register has been extensively used for providing epidemiologic information about occurrence of specific types of injuries among the population and for in-depth research studies.

The National Institute of Public Health's (NIPH) register of injuries began as a pilot project in 1985 and became a permanent, non-profit, public monitoring/research activity in 1990. The activity is financed by the Ministry of Social Affairs and Health. The register consists of two co-ordinated activities, the registration and the research. The registration part consists of remote registration units, the coding and quality assurance team, and the data management team. The research part represents research fellows and students.

The following data files are in use by the Norwegian National Injury Register:

- C. The National Register of Deaths
- C. The National Hospital Discharge Register
- C. The National Injury Sample Register
- C. Other data files (research and projects)

### The National Register of Deaths

The National Register of Deaths is maintained by the Central Bureau of Statistics. The register collects information according to the internationally recognized WHO Death Certificate. Annually, approximately 2,600 deaths occur due to unintentional injuries, violence and suicide, or approximately 60 per 100,000. Standard type annual statistics on deaths due to injuries are presented in the annual reports from the Bureau.

### The National Hospital Discharge Register

National Hospital Discharge Register is a large data set representing all discharges from Norwegian hospitals. Norway runs a single payer health care system and vast majority of hospitals are publicly run. Approximately 650,000 discharges are represented annually. Of these, approximately 60,000 represent hospitalisations

for injury (defined by ICD-9 codes 800-995, but codes 905-909). These 60,000 hospitalisations occur among 55,000 people. This register offers minimum data set consisting of demographic data, ICD-9 medical diagnosis, E-codes, outcome codes, length-of-stay, procedures, and some administrative information. Unfortunately, the quality of E-coding is low.

#### Norwegian Injury Sample Register

Norwegian National Injury Sample Register represents a main primarily collected data file. The data are collected prospectively, according to the NOMESCO classification of injuries common for Nordic countries. The harmonisation of this classification and the classification used in the European Home and Leisure Accident Classification System is under way.

The registration covers hospitals and emergency clinics in Harstad (northern Norway), Trondheim (central west coast), Stavanger (south-west coast) and Drammen (eastern coast). Approximately 45,000 injuries (8,000 inpatients and 37,000 outpatients) are reported annually from these four registration units. These represent approximately 14% of all hospitalized and approximately 9% of all non-hospitalized injuries treated by hospitals and emergency clinics in the country. The registration covers defined populations allowing for reliable population-based estimates.

The injury registration is based on the self-administrated registration form filled in by all people presenting for the diagnoses with ICD-9 codes from 800 to 995 (except late consequences of injuries, codes 905-909). Injury events are registered only once, repeated visits are disregard. Specially trained administrators maintain the coverage and the registration routines, code the information after the Norwegian version of the Nordic Medico-Statistical Committee Classification for Accident Monitoring, and input data into the local data base. Data are transferred to the NIPH in short intervals. The local register is person-identifiable and the central register is pseudo-anonymous (the code is kept locally).

The data elements at the register are age, sex, community of residence, date, time, place, and activity at the moment of the accident, accident mechanism, injury mechanism, transport vehicle(s) involved (if applicable), commodity codes, diagnose(s), AIS codes, type of treatment, and short narrative description of the accident.

The National Injury Sample Register represent the most important and recognized source of information about occurrence of injuries in Norway. The most important users of the register is the NIPH itself, government departments (e.g. departments of health, transport, environment, child and family), product and environmental safety authorities, local authorities, research institutes, the Research Council, media, insurance companies, and others.

### Other data files (research and projects)

Several data files arose from registration and research projects run by the unit. These files contain information that vary according to objectives of the respective projects.

Our experiences are that a central register of injuries represents important source of information for strategic planning, follow-up of injury control measures, and research. It encourages and improves the quality of local registration. The Norwegian register represents national centre of competence for injury prevention and research. It is necessarily to stress an importance of research commitment for the success of injury registration. Without research activities it is difficult to maintain a data quality, and to make maximum use of the information available in the register.

Information in the register allow us to produce statistics about various topics important for injury prevention in a short time and with marginal additional resources. Thus we believe the Norwegian National Injury register represents a cost-effective solution for injury registration.

Concerning the data classification issues, our experience is that NOMESCO classification provides useful standard information for injury surveillance that provides much better portrayal of injuries than the E-codes only. This classification offers important information for various types of agencies interested or responsible for injury prevention, like traffic safety bodies, children safety agencies, nursing homes, school authorities, occupational safety agencies, consumer product safety authorities, and others. The data collected by this classification offer reasonable starting point for the in-depth studies. It needs to be emphasised that collection of data according to the protocol used by the Norwegian Sample Injury Register requires additional efforts and is associated by resource use. It is unlikely to see this type of the registration running on the routine basis without extra resource investment.