



Preventing children accidents and
improving home safety in the
European region.
Identifying means to make
dwellings safer.

**Report of a WHO expert meeting, Bonn
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ABSTRACT

The meeting had the objective to review and take an inventory of existing data collection mechanisms on domestic accidents in Europe, focusing primarily on children's accidents and the related housing causes, particularly the dwelling type and condition.

The meeting assembled experts from a variety of countries in which home accidents surveillance systems exist. In the first and second part of the meeting selected experts from the participating countries and institutions presented data collection mechanism and procedures focusing on the risk and protective elements of children domestic accidents, in particular on the available evidence on dwelling features and characteristics of the immediate housing environment.

The third part of the meeting aimed at the identification of the available prevention strategies, based on the review and discussion of some existing national action plans for the prevention of children's domestic accidents.

During the last session of the meeting the participants formulated a first set of recommendations for the prevention of domestic accidents, both from a methodological and a political point of view and formulated some possible fields of action for the future accident prevention.

Keywords

DOMESTIC ACCIDENTS
LARES
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Opening

The meeting was officially opened by Dr Manfred Schmitz, Head of division of the department on environment and health of the German Federal Ministry of Health and Social Security. Dr Schmitz stressed the objectives laid down in the 1989 European Charter for Environment and Health which still today are in the foreground of the Ministries activities. Special attention is given to preventive actions, to the early detection of new and difficult developments, to rapid and appropriate action in dealing with problems which have arisen, and to intersectorial and cross-border co-operation to be able to join efforts in the identification and solving of problems. In Germany these aspects have been taken into account with the national "Action Programme Environment and Health". One of the many examples worthy of mention is the Child and Youth Survey in which, in addition to the normal health surveys, environmental information is collected. But whereas Germany has excellent services at its disposal in the area of acute care, there is clearly a great deal left to be done in the area of prevention and especially preventing children accidents. Dr Schmitz stressed the fact that preventive measures can make a decisive contribution by improving home safety. To be able to make full use of these possibilities, factors like the identification of means to make dwelling safer have to be taken into account (cf. annex 1).

Further welcome addresses were provided by Mr Xavier Bonnefoy (WHO European Centre for Environment and Health, Bonn office) who started the meeting with a general discussion on the structure of the ECEH Bonn and the objectives of the WHO housing and health programme, reflecting the objectives aiming at the implementation of the 4th Ministerial Conference. The aim of the meeting of preventing children accidents and improving home safety was put in the overall context of the housing and health unit activities.

Introduction

Mr Xavier Bonnefoy showed the leading causes of injury and of deaths for children in the age group 0 to 14 years for the EU region. These data provided by the WHO World health statistics show that 34% of the death are due to motor vehicle accidents, 2% have been caused by poisoning, 5% by falls, 4% by fires, 13% by drowning and 21% by other unintentional injuries. The rest of the deaths are caused by other transportation means, violence, homicide and suicide. These figures give indications about the leading causes of death but do not give any information about where and how the accidents occurred; especially no indication is given about the role of housing characteristics which lead to the accidents. This underlines the necessity to review the availability of information regarding the causes of domestic accidents in some selected Member States and to discuss the applicability of existing accident data collection procedures.

Further, using the example of some selected countries, Mr Xavier Bonnefoy showed that in the time period between 1975 and 2000 the cases of occupational injuries with fatal outcomes and the number of persons killed by traffic accidents has decreased enormously. In these fields many efforts have been undertaken by governments. In the same time the amount of fatal accidents due to domestic, leisure and sports accidents has decreased, but its proportion to the total amount of fatal accidents has increased. These figures show that with political willingness the reduction of injuries can be achieved.

Home accidents are an important and under-estimated public health issue and an important and under-estimated housing issue. Housing being a clear determinant of health, adequate policies have to be enforced. For this reason, Mr Xavier Bonnefoy pointed out that the meeting should

aim at: discuss the availability of information regarding domestic accidents, identify the main causes of children domestic accidents in Europe, discuss the applicability of existing data collection procedures and finally to formulate a set of recommendations for the prevention of children domestic accidents, both from a methodological and political point of view.

In the first part of the meeting the known relevant causes of children accidents were discussed and presented. The sources of the analyzed data were WHO statistics and the LARES study.

Dr Dinesh Sethi: Childhood injuries in Europe, with a focus on domestic accidents

Injuries are the third leading cause of death in the Region as a whole after cardiovascular diseases and cancer. In spite of their magnitude and preventability, injuries receive far less attention than other diseases. Following the WHO statistics 2002 the three leading causes of injury deaths were: self-inflicted injury, road traffic injuries and poisoning.

Injuries can be categorised by intent: unintentional or 'accidental' and intentional. Unintentional are road traffic injuries, poisoning, drowning, falls and burns. Injuries can also be classified by place and activity e.g. home or leisure accidents, occupational.

The place of occurrence varies by cause and context. In the UK about one third of adult injuries occur in the home. But most countries do not record the place of the accidents. Therefore there is the need to use other surveillance systems like the EHLASS, IDB, WHO injury surveillance guidelines, HASS and surveys like the LARES to obtain this information.

In Europe, 170,000 or 21% of deaths from injuries involve those under 29 years 26,000 children under 15 died from injuries. This is the equivalent to 3 children an hour. Drowning is a leading cause of death in children from 1-4 years old in low-middle income countries of the region. Road traffic injuries are the leading cause in the age group of the 5 to 14 years old in high income countries. Children from most deprived social classes suffer from 3-4 times higher mortality. The deaths are the tip of the iceberg. Long term physical and psychological disability is a major consequence.

There is a mortality gap from injuries from children between the Eastern and the Western part of the Region. This gap has not narrowed down for the past 20 years.

Despite the above presented data and evidence on the burden of injuries, there is a lack of action to date. The main reasons could be found in the perception that injuries are accidents and that therefore they are unpredictable and inevitable. There is lack of acknowledgement of what can be done. One of the major problems is the lack of ownership and the multi-sectoral complexity. But with the help of civil society organisation there is the capacity of making the problem more visible.

In the field of home accidents there is still the need for a better surveillance to make the problem and the risks more visible. The prevention in the home needs to be part of the overall injury prevention plans with involvement of multiple sectors. There is a need to demonstrate that there is evidence of the effectiveness that injuries in the home are preventable by legislation, home visitation, child proof closures, safer home environments (e.g. use of window bars, balcony guards, stair gates, smoke alarms, and thermostats on water heaters).

Dr Rokho Kim: Development of children's indicators on housing safety and accidents

Dr Rokho Kim discussed the development of children's indicators on housing safety and accidents in the framework of the ENHIS (Environment and Health Information System in Europe). These indicators shall evaluate the progress of the CEHAPE (Children's environment and health action plan for Europe) (§§ 4, 6 and 12) and follow the regional priority goal II of the same document that aims to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children. The overall objective will be to address the overall mortality and morbidity due to external causes in children and adolescents.

In the framework of the ECOHEIS (European Community Health and Environment Information System) firstly a "Housing safety and accidents" indicator was developed. This indicator has consequently been modified. The new indicator is aiming at the incidence of children's accidents and injuries in the home environment. The indicator from the ENHIS focuses on policies to reduce child unintentional injury unrelated to traffic accidents. The indicator is constructed on the basis of existing and enforced legislations and regulations aiming at reducing child injury. It is built by the sum of scores on 12 variables. The two items on housing safety affecting children and integrated into the indicator are:

- Legislations requiring a safe pre-set temperature (54°C) for all water heaters
- Building codes requiring working smoke detectors in all dwellings

Dr Nathalie Röbbel: Analysis of the LARES data on housing conditions and children's accidents

The analysis of the WHO LARES (Large analysis and review of European housing and health status) survey has shown a high prevalence of domestic accidents in the sampled population. The results presented by Dr Röbbel are based on the analysis done by Dr Richard Moore (Warwick University) and Mrs Annelie Henter (BAUA Germany). 2,082 respondents or nearly 1 in 4 (24.4%) of the total sample of 8,519 persons reported accidents during the last 12 months. Just 4 types, cuts, falls, burns and collisions account for nearly 94% of all accidents. With the combination of types, these 4 types affect 96% of all accident victims and 23.5% of the total population. Certain types of injury are more likely than others to require medical treatment. Although with a very small sample, neck and throat injuries were most likely to receive medical attention, some 58% being seen by a doctor and a further 25% requiring hospitalisation. Nearly 42% of whole body injuries were also treated in hospital.

Looking at children in particular the analysis has shown that in the LARES sample from 1249 children 418 were victims of an accident, resulting into 685 accidents.

The LARES survey has enabled the analysis of social and housing factors increasing the risk for domestic accidents. The results show that, like tiredness, nervousness and depression may increase the risk of accidents by making people less attentive whilst undertaking normal functions in and around the home. For all types of accident, the accident rate appears higher where a person suffers from depression. The difference in the rate between 'depressed' and 'not depressed' is particularly high for falls, electrical accidents and poisonings, although the latter has a particularly small accident sample.

The number of hours actually spent at home appear less important to the accident rate. Respondents were asked to record the average number of hours per day that they spent away from the dwelling, both on workdays and at weekends. From these data, the average total time

per day spent out of the home has been calculated and, after banding, cross-tabulated with each different type of accident. This analysis has been limited to ‘adults’ aged between 18 and 64 years to avoid the influence of children and senior citizens both of whom tend to have higher accident rates and spend long periods of time in the home.

Regarding the building characteristics there is a strong correlation between dwellings where the surveyor identified potential relevant hazards and buildings where accidents have occurred. For cuts, compared with an accident rate of under 12% where no hazards were recorded, 30% of the residents report cuts where the surveyor judged the kitchen utensils or equipment to be hazardous, while 20% report cuts in the few dwellings considered to have insufficient lighting. For falls, the highest accident rate (25%) occurs in dwellings judged to have hazardous bathrooms, including ‘slippery wet tiles’, but hazardous floors and carpets, staircases and doorsteps, and furniture also correlate with fall rates of well over 15%. By comparison, there are just 9% of falls where no hazards are reported.

For all accidents, after noise disturbance, three housing predictors, the presence in the dwelling of stairs, supplementary heaters and inadequate workspace, all appear to increase the odds of any accident by around one third. For the final three housing variables, too few rooms, the identification of hazards and poor lighting, the overall increase in the accident rate is some 16 to 17%.

Concluding it can be stated that in the LARES survey accidents in the home had a high prevalence. There is a strong correlation between age and other social factors and accidents. By controlling for the confounding factors, the regression analysis showed that behavioural/social factors exert an independent influence on accident rates. For the same age group and social factors, persons having three “housing problems” are twice likely to suffer an accident than those having none of the specified problems. There is a strong correlation between accident rates and housing conditions.

Session 1

During the first session, representatives of selected countries presented the national approaches to data collection on domestic accidents. Special attention was paid to describing the survey mechanisms used for collecting the information on the causes of domestic accidents. The discussion focused on reviewing the information available for detecting the building features of dwellings leading to accidents and to detect the strengths and weaknesses of the information systems to identify those features.

Dr Gabriele Ellsäßer: Germany

Dr Gabriele Ellsäßer stressed that Germany has no central institution addressing the problem of home and leisure injuries.

The figures of the German federal statistical office 2003 for fatal home and road traffic accidents show that home accidents represent the biggest percentage of accidents in the age groups of children below 5 years and of the elderly over 70 years of age.

Information on the amount and causes of home accidents has been collected by the BAUA through their survey on home and leisure accidents. The last survey was conducted in 2000 and details were collected on the victim and the accident (mechanism, location, cause and activity).

Another source mentioned are special registers on children’s health which are undertaken during school beginners’ medical examinations. These surveys are performed only in two federal states of Germany: in Brandenburg since 1994 and Schleswig-Holstein

since 2002. They are based on a parent-pediatrician interview and details are collected on the victim: age, sex, nationality, social status. In Brandenburg serious injuries and the location of the accident are recorded, and in Schleswig-Holstein, those accidents requiring medical treatment are registered.

Another population-based monitoring of accidents among children presented by Dr Ellsäßer is the injury surveillance system adopted in the city of Delmenhorst. The sample frame comprises all children less than 15 years of age among the population of the city of Delmenhorst provided by Delmenhorst's three clinics and emergency departments. The injury registration system is based on a "Minimum Data set for Injuries/MDI" and the collected details refer to intentional/unintentional injuries, the location of the accidents, the type of injury, injury mechanisms and the products involved. For an overview of the injury surveillance systems in Germany see annex 2.

Results:

Since 1980, there has been a huge drop in fatal injuries among children (from 18.8 to 3.8 per 100,000 in the year 2003). This is true of infants, toddlers and school children and also applies to home and leisure accidents.

For several years, infants and toddlers have been the most at risk. Among infants (< 1 year) the first cause of fatal injuries was suffocation (22 deaths in 2003), followed by falls (6 deaths in 2003). Among toddlers the first cause was drowning (32 deaths in 2003), then burns (21 deaths in 2003), followed by falls (more than 50 % out of buildings). Among children (5 to 15 years) drowning and road traffic accidents were the leading causes of fatal injuries.

In contrast to the decline in fatal accidents, there has been a marked increase in severe injuries among infants and toddlers. In 2002 a total of 210,000 children (under 15 year) were seriously injured. At the same time the number of children severely injured in road traffic accidents has steadily declined since 1993.

Regarding injuries the survey data of the BAUA offer indications about the location in which the accident occurred and about the products and the environmental characteristics involved into the accident. In the year 2000 injuries in the home reached the sum of 256,000 (45 % of a total of home and leisure injuries). Most of the home accidents occurred in the living room, followed by the garden, the yard and then the kitchen. The major causes for the accidents were children influenced by others, carelessness, loss of concentration and haste. Children are put in danger by the behaviour of their parents. Parent's often overestimate their children's abilities to recognize dangers and hazardous situations.

Regarding the exact causes for falls the Delmenhorst injury monitoring from 1998-2002 gives details about the dwelling/building related items: 18,3% of the accidents were caused by the dwelling characteristics: 9,2% stairs, 2,9% doors, 2,7% floor covering, 1,6% radiator, 0,9% windows and 1% other. On the other hand 19,1 % of the falls had been furniture related (baby changing tables, bunk beds, high chairs being the products most at risk in the home)

Very often safety measures in the home to prevent falls from stairs and from balconies are not sufficiently taken. Children have access to dangerous consumer goods, parents don't use child safe products and children live with non safe furniture.

Summarizing the presentation it can be stated that injuries children under 5 years are most at risk from fatal and serious injuries which most frequently occur in the home (predominantly in the living room). Nevertheless the information available on the accident location (like the Delmenhorst injury monitoring) is not representative for the overall German population. In addition when an accident occurred in the home, we still do not know what building elements were involved into it.

Mr Bjarne Laursen: Denmark

In Denmark, a few registers cover the area of domestic injuries. Two registers cover the whole population: The National Cause of Death register (fatalities), and the National Patient registry (emergency department contacts and admissions). Both are hosted by the National Board of Health.

The National cause of death register includes the first three-four digits of the ICD-10 codes for external causes, e.g. “drowning in a bathtub”, but includes little information regarding the place or other aspects of the accident. Therefore, a more detailed register “Children’s fatal accident registry” was recently developed at the National Institute of Public Health, covering 800+ fatal home/leisure accidents for children 0-14 years for the period 1975-2000, based on the death certificates. Here, a detailed text description of the accident is provided, together with detailed coding of place, mechanism, activity and involved products.

The National patient registry contains records from all admissions from 1978 onwards, and from all emergency department contacts from 1995 onwards, including approximately 1 million records each year, among these 60,000 related to domestic accidents in children. Mechanism of injury, place and activity is coded at a 1-digit level (e.g. place=residential area, mechanism = fall, activity=play and leisure activity). To provide more detailed information, two registers were developed. The accident analysis group in Odense hosts a register including contacts to all emergency departments in Funen (10% of Denmark, corresponding to approx. 6.000 domestic accidents in children each year). This register includes more detailed information on the place and mechanism (2-digit) and a text description of the accident. The Injury Registry at National Institute of Public Health includes information from five emergency departments in Denmark (covering 17% of Denmark, corresponding to approx. 10,000 domestic accidents in children each year). The collected data are rather similar to those from the accident analysis group, but include also codes for the involved products.

Since all of the above-mentioned registers include the civil registration number, the information (with proper permission) can be linked to other registers, primarily those of the Statistics Denmark. Registers from the Statistic Denmark include data from approximately 1980 onwards, on:

Family type: Biological and social parents, number and age of children living in the family, municipality and country, changes of address

Dwelling, e.g.:

- Type (detached, terrace, block, no. floors)
- Toilets, bathrooms, kitchen
- Heating system (eg. district heating, gas radiators)
- Area (m², m²/person, rooms, rooms/person)
- Owner (private, social tenant, co-operative)
- Water supply (public, private, well) and drain
- Year of construction
- External wall material (eg. bricks)
- Roofing (e.g. tile)

Social characteristics of the parents: Social class based on profession, highest education, country of origin, income (salary, transfer income), unemployment.

The geographical place of residence can be broken down to 100*100 meters, to identify eventual local clusters of accidents.

Based on the Injury Registry alone, several analyses may be carried out, for example:

- Products or furniture involved in accidents
- Numbers of accidents in bathrooms or in staircases
- Products involved in poisoning or suffocation

By adding the data from Statistics Denmark, other analyses may be performed like the following:

- Relation between mother's education and risk of poisoning
- Differences between fire risks in blocks and detached houses
- Does overcrowding lead to increased injury risk?
- Are burns more frequent among immigrants?

Analyses such as these are part of a current project at the National Institute of Public Health and are expected to be published in the next future. Some preliminary results of combining these registers show, for example, that for burns from hot tea, the risk is four times higher for certain immigrants groups than for non-immigrants. The risk of a poisoning is twice higher for children living in households where the mother has a low school education. The risk of burns is twice as high for children living with lone fathers/mothers. Finally the risk of cuts is increased by 16% in overcrowded dwellings.

In conclusion, the example of Denmark shows that social factors should be taken into consideration when analysing the association between housing features and accidents, as differences in accidents between dwelling types may at least in part be due to social differences.

Dr Alessio Pitidis: Italy

In Italy the available data on domestic accidents are still incomplete and sometimes fragmented. The Italian National Institute of Statistics (ISTAT) conducts a periodical survey on the family life habits. A sample of around 53,000 subjects, representative of 23,000 Italian families, is interviewed. The results of this study shows that in Italy during 2001 there have been 2,848,000 persons injured at home, i.e. 5,0 % of the population or an incidence of 50 cases per 1,000 inhabitants per year.

Population groups that spend more time at home were more affected: women (incidence 68.0 / 1,000 inhab. x year vs. 30.4 for men), the elderly (incidence 97.2 over age 75 and 66.0 age 65-74) and children in pre-scholar age (incidence 62.4 / 1,000). The most frequent cases regard elderly women (28.2 % over 65 years), adult women (15.9 % between 25-64 years) and elderly men (9.6 % over 65 years). With regard to the causes of the events the most common are falls (28.4 % of accidents), kitchen utensils or activities carried out in kitchen (33 %); among the kitchen utensils the most dangerous are knives which determines 12,8 % of the whole accidents. What is lacking in this survey are information on the injury mechanism and the necessity of health care that the accident caused: in a late sense the severity of the accident.

The accesses to hospital Emergency Departments (ED) registered in the newly instituted National Information System on Accidents at Civil Residences (SINIACA) show that during 2004 if you consider ED assistance needs rather than interview self-reported injury, the proportion of falls causing injury raise up to the 56 % of cases while the events occurred in kitchen descended to 19 %, indicating on average a greater severity of injury caused by falls.

The last public health oriented information on domestic accident in Italy dates from the 1995 Italian Study on Accidents (SISI by Italian National Institute of Health), a sample study on three Italian Regions (Liguria in Northern Italy, Marche in the Center and Molise in the South) based on 60,000 injury attendances in hospital emergency departments (ED). On the basis of this survey it could be calculated, that the health burden of injury was around 1,800.000 cases visited at hospital ED and 250,000 inpatients. In order to have an up to date surveillance system on domestic accidents the Italian Parliament instituted with the law n. 493 December 3rd 1999, article 4 the National Information System on Accidents at Civil Residences (SINIACA), within the Italian National Institute of Health (ISS). The principal aims of the system are the home injuries monitoring and the evaluation of the effectiveness of prevention actions. It is a general information system supporting the decision making process of policy-makers rather than an epidemiological surveillance based on the public health experts perspective.

As aforesaid, what is actually lacking is a complete information on injury and related health care. There are substantial differences between the mortality data officially registered in the death certificates and the ones that can be reasonably calculated. The same situation applies to the Hospital Discharge Register (HDR) data. The ED attendances recorded at hospital level are not currently collected at national level. ED is a very good point of observation for injuries because the information on the cause and mechanism of the accident are normally registered in the ED forms in most of the hospitals.

The absence of data produced a lack of both, the risk consciousness in the population, that does not induce changes in the behaviour, and the possibility of designing effective prevention strategies by observing the evolution and the trend of home injuries.

Having the home injuries evolution monitoring and the formulation of prevention programmes in mind a 3-level information system has been designed:

1) Surveillance of ED attendance due to home accidents on a large sample of hospitals. 2) Extraction of domestic trauma hospital discharge records from the national HDR. 3) Extraction of home injury death cases from the national mortality register. This first level is focused on codified descriptions of the events and will produce categorical information which is aimed to estimate the phenomenon dimension and to monitor the trends.

Surveillance of home accident ED attendance on a small sample of mastering centres: Those hospitals already acquired experience on domestic accidents surveying within the EHLASS system. They will adopt the European Home and Leisure Accidents classification (HLA), but this second level is focused on the open description of the events, by mean of a structured response procedure. Products, installations and equipments involved in the accident will be registered.

Once identified specific groups at risk or event typologies of particular social relevance, by mean of the precedent levels of information, analytical studies will be applied on small samples, representative of the aforesaid groups, aimed to investigate the accident determinants.

The three sources of data chosen for the first two information levels of the system (ED attendance forms, HDR, mortality register) indirectly reflects three different levels of trauma severity and complexity of health care procedures. The last two types of morbidity and mortality data (HDR, deaths) may be selected from existing current databases, whilst the ED attendance surveillance system will be set up within the SINIACA frame.

The data flow from Regions and territorial local health care units toward the central structure of the National Information System on Accidents in Civil Residences Environment (SINIACA), during the pilot phase of the system, has permitted to obtain some important results:

- testing the feasibility of the system in integrating the information coming from different data sources, currently existing registers and newly set up surveillances;

- identifying the critical points in information already available;
- assessing the different dimensions of the home accidents phenomenon producing a first estimate of domestic environment related trauma incidence;
- identifying specific groups at risk and patterns of accident;
- evaluating the impact of home accidents on health care services identifying its determinants;
- assessing the hospital inpatient costs of domestic trauma defining its factors;
- indicate some priority objectives of prevention aimed to the promotion of health and the health care costs control;
- producing first information on home accidents typology and mechanism.

As far as the data flow gradually increases becoming systematic and uniform at territorial level, it will be possible to produce more and more complete information.

The next objective of the information system, once succeeded in linking hospital ED information with the hospital discharge records, is the analysis of the trauma aetiology in relation with the type and severity of injury, assessing even its effect on patient outcome.

All is aimed to the identification of those types and mechanisms of accidents that primarily affect the population health status causing the most frequent and/or severe injuries.

Dr Birute Strukcinskiene: Lithuania

In Latvia, Estonia and Lithuania there are the highest child injury mortality rates in EU.

Injuries are the third cause of death in Lithuania. Every year approximately 5,000 people and 400 children and adolescents die because of injuries in Lithuania. In 2003 nearly 75,000 children were injured and the injury rate was 119.6/1000 population (Ministry of Health of Lithuania).

For preventing child domestic injuries, as well as other injuries, it is important to have appropriate data.

The existing data collection mechanism for children injuries in Lithuania is structured as follows: the main unit, where injured children are taken care of, are Traumas Points. Usually a trauma point is situated in or beside the hospital. Formally it belongs now (from February 1st, 2005) to the Trauma Department, and before it was as part of the Emergency Department.

There are 3 types of forms that can be completed for injured children:

- 1) For 1st group of patients: Form Nr. 025/a-LK (for outpatient treatment);
- 2) For 2nd group of patients: Form Nr.025-1a-LK (for outpatient treatment at Emergency Department);
- 3) For 3rd group of patients: Form Nr. 066/a-LK (for inpatient).

The cause of injury is recorded only in 1) Form Nr. 025/a-LK. Very often parts of the records of causes are lost. The injured children arrive to the medical institution after working hours of the Traumas Point, on weekends or holiday. So they arrive to the Emergency Department. For them form Nr.025-1a-LK is completed. They never come back to the Trauma Point and the information is lost.

All records from the column "Cause of trauma" are recorded to the computerized system by the staff of the medical institutions, and are sent to the newly created computerized data basis "Sveidra". The Health Information Center of Lithuania at the Ministry of Health has access to these data.

Domestic injuries are the number 4 in the Form Nr. 025/a-LK of the causes of injuries.

But summarizing these surveillance systems it can be stated that the existing data collection mechanism for childhood injuries in Lithuania is not perfect. Not all children domestic injuries (as well as other child injuries) are entered into the computerized data basis.

Currently there are not many studies on child domestic injuries in Lithuania. Though a study on children domestic accidents has been performed in Klaipeda (the third biggest city in Lithuania, with approx. 200 000 population) with the support of Swedish experts and sponsors.

In the first part of the study in 1999 2,027 emergencies with childhood injuries were recorded at the Klaipeda Children's Hospital. Children domestic injuries were 1,564 (77.2 %), boys 64.51%, girls 35.49%.

The distribution of the children home injuries according to the injured part of the body was the following: upper extremities 51.34%, lower extremities: 30.63%, head and neck 11.51%, body (chest, abdomen, and pelvis) 2.56%, multiple: 0.51%, unknown: 3.45%. Most injuries occurred when children were at home alone.

The second part of the study consisted in an investigation on the safe environment at home in Klaipeda in 1999. For this purpose a questionnaire was distributed to the families of children affected by domestic accidents. Information about the presence of safety measures in the dwelling, about the equipments and maintenance of the building features have been recorded. 1112 completed forms have been analysed.

This exercise has been repeated 5 years later. The questionnaires have been sent to the same addresses as 5 years before. 1081 questionnaires have been collected in the third phase. The main results were that there are positive changes in the home environment: the building, the constructional design, and the equipment factors. The changes in attitude and approach to home safety together with the economical changes in the country give hope that child domestic injuries will decrease.

From 1998-1999 Lithuania started an intensive collaboration with foreign partners in the area of child injury prevention. The problem of injury was raised and discussed at different levels. During 5 years different prevention activities were implemented. Different institutions participated into the preventive work: universities, colleges, hospitals, municipalities, public health centers, schools, kindergartens, police etc.

Klaipeda collaborated mostly with Swedish partners - one of the leaders globally in the area of child injury prevention. The first steps of prevention activities in Klaipeda started already in 1999 and were intensively increasing afterwards. The Klaipeda Safe Community Programme has been initiated in 2002. This programme is used for the injury prevention and safety promotion in communities. The programme targets high-risk groups and environments, and promote safety for children as vulnerable group. In the Klaipeda Safe Community Programme special attention has been given to child domestic injuries and projects on child safety at home. Two projects can be mentioned in this regard: "Safety at home" and "Do you know?"

Concluding, the situation in Lithuania shows that there is a need to improve the existing child injury data collection mechanism in Lithuania. A specific and elaborated surveillance system for child domestic injuries in Lithuania should be created. For prevention activities it is important to use and establish comprehensive programmes and not to rely on single activities. The risk elimination and the creation of safe environments at home, along with education, and improvement in legislation are of great importance for positive results of children domestic injury prevention.

Prof David Ormandy: United Kingdom

The UK Government first consulted on changes to the housing fitness standard in 1998, and put forward detailed proposals to replace the standard with the Housing Health and Safety Rating System (HHSRS) in March 2001. The main reasons for developing the HHSRS were that the pass/fail model didn't give indications about the degree of failures; the fitness standard was mainly building focused; and it didn't cover all potential housing hazards. The aims of the HHSRS are to grade the severity of threats in the home, to be hazard focussed, to be comprehensive and to be evidence based. It is supported by extensive reviews of literature, by detailed analysis of statistical data on the impact of housing conditions on health based on work by the Building Research Establishment *Building regulation, health and safety*.

In the UK there are several housing and population databases which have been used for building up the rating system. The English house condition survey 1996 provides information on the housing stock (ownership, conditions, and facilities), some information on the occupants' health, accidents and fires and household profile. The ACORN database gives details on the residential population by 20 age bands, and 54 neighbourhood categories. The RESIDATA provides with details on the age and type of dwellings, the tenure, number of bedrooms, and the poverty value band. In addition the Census and the neighbourhood statistics have been used. Data on the health outcomes are available through the home accidents surveillance system, the British crime survey, the fire brigades statistics, the hospital episode statistics, the GP research database and the mortality data. These databases provide information on the type and severity of the injury, the product or dwelling feature involved, the age etc. of the victim, information on burglary and attempted burglary, causes of death including the ICD-9 codes and the sites of the death.

Matching and analysing the housing and population databases with health outcome data showed whether any particular age group was more vulnerable to a hazard. It gave a national average likelihood of an occurrence which could cause harm and gave a national average spread of outcomes from such an occurrence.

The main principle underlying the HHSRS system is that a dwelling should provide a safe and healthy environment for any potential occupant and visitor. The final aim of the system adopted by the legislation is to direct actions to improve the housing stock.

The hazards are arranged into four groups reflecting the basic health requirements:

a) physiological requirements, b) psychological requirements, c) protection against infection and d) protection against accidents.

Each group is sub-divided according to the nature of hazard. The protection against accidents includes falls; electric shocks, burns scalds and fires; and collisions, cuts and strains.

The HHSRS uses judgments made by the surveyor, based on an inspection of the whole dwelling, to generate a numerical score. The information observed during the inspection (or survey) should be properly and accurately recorded as this will provide evidence to justify and support the judgments which form the basis of the numerical Hazard Score. The Rating System assessment procedure requires, for each hazard, two judgements from the surveyor. These are an assessment of:

(a) the likelihood, over the next twelve months, of an occurrence that could result in harm to a member of the vulnerable age group; and

(b) the range of potential outcomes from such an occurrence.

This approach is more logical than merely attempting to judge the severity of the hazard on a linear scale. It ensures that the severity of a threat which is very likely to occur but will result in a minor outcome can be compared with one which is highly unlikely to occur but if it did would have a major outcome. It also allows differentiation between similar hazards where the likelihood may be the same, but the outcome very different.

Using these two judgements, the HHSRS formula is used to generate the numerical Hazard Score for each of the hazards. The formula and the use of numbers to represent the surveyor's judgements provide the means to compare very different hazards. It is this approach which enables hazards which have a slow and insidious effect to be compared with ones where the effect is relatively instantaneous; and enable hazards which may result in physical injury to be compared with ones which could cause illnesses or affect mental health.

Three sets of figures are used to generate a Hazard Score, these are:

- (a) a weighting for each Class of Harm reflecting the degree of incapacity to the victim resulting from the occurrence;
- (b) the likelihood of an occurrence involving a member of a vulnerable age group, expressed as a ratio; and
- (c) the spread of possible harms resulting from an occurrence, expressed by percentage for each of the four Classes of Harm.

The first of these, the weighting given to each Class of Harms, remains fixed. This built-in fixed weighting means that, given the same likelihood, those hazards which cannot result in death (e.g. risks from poor ergonomics) will not produce a score as high as those which may cause death (e.g. risks from carbon monoxide). In the classes of harm the injuries are categorized according to the degree of incapacity suffered.

The Hazard Score is calculated as the sum of the products of the weightings for each class of harm which could result from the particular hazard, multiplied by the likelihood of an occurrence, and multiplied by the set of percentages showing the spread of harms.

The HHSRS has proven to be an effective system to analyse domestic accidents not from the health outcome side alone, but to focus on the hazard causing the accident.

Dr Karin Mack: USA

Evidence of the burden of injuries in the US is gathered by multiple data sources. Data on children's injuries are provided by NEISS (National Electronic Injury Surveillance System), NVSS (National Vital Statistics System), NAMCS (National Ambulatory Medical Care Survey), NHAMCS (National Hospital Ambulatory Medical Care Survey), NHIS (National Health Interview Survey) and finally NHDS (National Hospital Discharge Survey). Falls are the leading cause of unintentional injuries treated in emergency departments for children in the US. In the age groups 1-4 and 5-9 most of the falls occurred in the home.

In addition to data on children's injuries data, some data are collected on domestic hazards. This information is mainly provided by the Department of Housing and Urban Development (HUD), the CDC-sponsored Injury Control and Risk Survey (ICARIS) and the U.S. Consumer Product Safety Commission (CPSC).

Prevention activities for children's injuries in the home usually are product or event specific (i.e. bike helmets, play equipment, smoke alarms) and primarily involve hazard education. Analyses currently being conducted by NCIPC include a profile of falls of children in the home. NEISS data from 2001-2002 show that over 1,5 million children aged 0-9 were treated in U.S. emergency departments annually for injuries from falls in homes. Many falls occurred on stairs. A separate analysis is reviewing falls from bunk beds.

Discussion

The discussion of this first session focused on the shifts that would be needed in future in order to save the life of children. One major comment made by the experts attending the meeting was that in future the domestic accident problem should be investigated more from the hazard side and less from the health side. Information about the various types of injuries and the outcomes

are available, while the exact information on the causes of the domestic accidents, especially related to the constructional features responsible for the accidents is still missing. The presented surveillance systems show that most of the surveyed causes for domestic accidents refer to products used in the house. When the location of the accident is registered very often information is given about the room where the accident occurred, but not what element in the room caused the accident.

What is still missing are exposure data. The example of the UK has shown that this approach is very fruitful. Behavioural aspects and product related information have to be expanded to constructional features causing domestic accidents.

There is the need of matching data collected for example by home surveys on the present hazards and health/accident data. The experiences presented and discussed show that this information is often available but can not be matched.

When data on domestic accidents are available (some countries), they must be made comparable in order to use them on an international and broader level.

The participants agreed that the existing data on the causes of domestic accidents have to be integrated into the procedure of setting up standards. In this context the examples of the UK has been made where the data on poisonings due to CO have convinced the government to change the law regarding the CO emissions in private dwellings making it compulsory that all water heaters are connected to the outside.

Session 2

The second part of the meeting focused on the institutional approaches for the prevention of children home accidents. The international surveillance mechanisms and the institutions responsible were presented and discussed.

Dr Horst Kloppenburg: The approach of the EU working party on accidents and injuries

Injuries are the killer number one of young people and the 3rd cause of death across all ages in the EU. Injuries rank high on the list of health burdens to societies and individuals in the EU. Yet, injuries are foreseeable and there is a great potential of reducing their burden. For this end the vision of the working party on accidents and injuries is to reduce all fatal and non-fatal injuries year by year to ensure that the European Union becomes a safer place to live in. The working party on accidents has drafted a background document aiming at actions for a safer Europe. This document intends to provide a strategic framework for stakeholders in all Member States, EEA and candidate countries to prioritise and focus on the reduction of accidents and injuries up to the end of the public health programme in 2008. It supports stakeholders in Member States to focus and use available resources to achieve the best results.

The working party has three main objectives:

- a) Aiming at ensuring an effective management of comprehensive information on accidents and injuries. All stakeholders and citizens on local, regional, national and community level should be provided with relevant statistical information about the magnitude of the problem, the high risk population groups and the major risk determinants. A common information system is planned to pool together existing registers, to close the most urgent gaps regarding leisure accidents, to manage the injury monitoring system (IDB) and to improve the basis for evidence based priority setting, guidance and evaluation of accidents for injury prevention and safety.

- b) Five priority areas in accidents and injuries have been identified as major topics for concerned actions: childhood and adolescent injuries, vulnerable road users, falls in elderly people, self-harm and suicide and violence.
- c) The third objective consists in the plan for implementation of prevention strategies in Member States. By 2008 a policy for injury prevention in all Member States should be established comprising a framework of actions that engages national networks and defines institutional responsibilities. Policies for all sectors should be defined in a comprehensive framework in order to avoid fragmentation. Finally the collaboration with established injury prevention bodies and organisations should be promoted in order to enhance the impact of the working party's actions.

Concluding, the need to focus in reducing injuries in the EU seems to be obvious. The vision – to reduce injuries year on year to ensure that the European Union becomes a safer place to live in – calls for a more structured and sustainable approach. Dr Kloppenburg stressed that considerable improvements of the current situation can be made by providing common goals and key figures, streamlining and facilitating actions in the Member States, creating and using synergies and stimulating a knowledge and experience exchange.

Dr Robert Bauer: The European injury database IDB

The scope of home injuries

In order to prevent the most tragic outcomes of injuries, it is not sufficient to look at mortality data only. Data on the external causes and circumstances of the vast number of non-fatal injuries provide a complementary and much broader evidence base for action against injuries. Unfortunately, this kind of data is not readily available.

Historically, the focus of injury prevention in Europe was first on work place safety, then traffic safety and has only recently shifted towards accidents during leisure time and at home, originating from the interest in the safety of consumer products in the common market. In fact, about 70 percent of all unintentional injuries are supposed to happen in the “home and leisure” domain. Half of these accidents occur in residential areas – in private homes and their immediate vicinity. Expectedly, in small children the share of home accident is even higher.

This rough estimates on the prevalence of home injuries has become available at EU level only recently, In the year 2000 a central database (IDB – European injury database) for the data collected in the Member States under the EHLASS programme (European Home and Leisure Accident Surveillance System) – was set up by DG SANCO, the Directorate General for Public Health and Consumer Protection of the European Commission.

How the IDB works - the IDB mechanism

The IDB is implemented in a number of EU Member States where data is collected from a sample of hospital emergency departments according to a standard protocol. The harmonised data is sent to the central database once a year by dedicated IDB coordinators and made available online through the IDB help desk at DG SANCO.

Despite dedicated EU funds for the implementation of the IDB in the Member States during the Injury Prevention Programme, 1999 to 2002, not all EU-15 and EEA countries actually used those funds for consolidating or newly introducing the system. Through the last years of the EU-15 era, Austria, Denmark, France, Greece, Ireland, Netherlands, Portugal, Sweden and United Kingdom (currently not participating) served as “the backbone” of this injury surveillance system. Data was provided – with intermissions - also from Belgium, Finland, Germany, Spain, Iceland, Italy and Norway.

After the current state of integration of population data in order to enable comparisons of injury rates – with all necessary caution - the IDB will be re-launched as “a simple, cost effective and user friendly online-database” end of June 2005.

In the new Public Health Programme, 2002-2008, IDB implementation efforts are focussed on the new Member States, starting with the new “All Injuries” concept already.

All injuries - the new IDB concept

The objective of the current IDB is to provide information about the external causes and circumstances for advocacy, research, and prevention in the area of home and leisure injuries on national and EU level. In the near future the scope of the IDB shall be extended to all types of injuries according to a new and internationally compatible protocol for the registration of hospital treated injuries. The “All Injuries” IDB Coding Manual is derived from the ICE-CI classification of WHO (International Classification of External Causes of Injuries) and is not only expected to enhance “global” comparability of the IDB data but also cross-sectional injury prevention through a common data basis.

IDB information on home injuries of children

These benefits apply also for the analysis of child accidents as one of the most important domains of injury prevention: even when the scope of the new IDB registration is extended the former (home and leisure) level of detail of the key data element for domestic child accidents, place of occurrence, will widely be the same in the new IDB coding structure – and be comparable with the current data.

The analysis of the detailed place of occurrence in combination with other relevant IDB data elements like activity, mechanism, injury severity (through type of injury, injured body part and type of treatment), related products and the accident description is very likely to give valuable insights into the patterns of domestic child accidents (see figure).

Place of occurrence “Residential area”	by	Further IDB Data elements for analysis
10 Kitchen		Activity and related products
11 Living room, bedroom		Mechanism
12 Bathroom, washroom		Product causing the injury
13 Stairs, indoors		Product involved in accident
14 Residence indoors, other		Type of Injury, injured body part
15 Residence, outdoors		Type of treatment
16 Playground in residential area		Accident description
17 Garden		
18 Private driveway, parking area, garage, carport, path, walking area		
19 Residential area, other		

IDB Data elements for the analyses of hospital treated injuries of children at home

With statistical extrapolation to national incidence rates the IDB data also has the potential for childhood injury monitoring and indicators for international benchmarking. “Indicator building”

from the IDB, however, is only at its beginning and has yet to be developed, standardised and stabilised.

Mrs Joanne Vincenten: Children's domestic accidents in the EU and best practice recommendations

The European Child Safety Alliance is an initiative of the European Consumer Safety Association (ECOSA) to advance child injury prevention throughout Europe. When speaking about "home injury" the Alliance defines injuries that occur either "in" or "around" a residence. This definition includes the inside of the residence, the yard, the garden and the driveways, but it excludes roads around the residence and nearby parks. For home injuries little information is available at a European level. The available death data do not identify the location of injury; therefore it is difficult to identify home injuries. Because of differences in admitting policies, information on the hospitalizations between countries cannot be compared. In addition the available hospitalization data do not identify the location of injury. Further, emergency department data are not yet available for EU 25. As well, the location of the injury is missing in a large proportion of ED cases. Therefore the picture of home injuries is very incomplete, when trying to use comparable European data.

Though the restricted data availability, what can be said is that similar patterns are seen for countries examined to date. The most affected are children between 0 and 4 years old. Although most are fairly mild injuries there are a lot of them. The most serious injuries are burns and scalds and the most frequent are falls, including slips/trips. The majority are preventable through combining environmental modification, education and regulation. Reviewing the WHO mortality database 1996-2000 the age standardised mortality for children between 0 and 4 years of age due to home injuries in general and by different kind of causes varies a great deal between the European countries. The Eastern European countries have much higher mortality rates than the other European countries. From the WHO statistics the leading causes for injury deaths for children in the EU 1996-2000 were (by descending order): unspecified unintentional injuries (30%), motor vehicle (21%), drowning (15%), violence (9%), other external causes (7%), falls (6%), fires (6%), other transportation (3%), poisoning (2%).

The following overview on the evidence based best practice related to home safety was given by the Child Safety Alliance and included: stair gates, window bars, smoke detectors, water temperature regulation, child resistant lighters, flame retardant fabrics, child resistant packaging, safe storage, swimming pool fencing, warning labels and product bans for products causing choking and suffocation. All demonstrated to be efficient measures for preventing domestic accidents.

The European Child Safety Alliance is preparing a home safety campaign for 2006 which will include its members in the 25 Member States. The campaign will be an umbrella campaign allowing specific theme choices by country. The focus will be put on the younger age groups. Background materials and tool kit information will be made available for interested Member States as well as recommendations for action to reduce home injuries to children.

Concluding it has been stated that data should be enhanced to include the location code in routine statistics in order to better understand and prevent the causes of domestic accidents. There is the need to focus on social deprivation, deaths and serious injuries for home injuries in Europe and to raise the political and public will to enhance home safety.

Session 3

The third part of the meeting aimed at the identification of the available prevention strategies, based on the review and discussion of some existing national action plans for the prevention of children's domestic accidents.

Mrs Mathilde Sector: The Austrian Injury Prevention Plan

The sources available in Austria on children's domestic injuries are the following: the Austrian mortality register which contains a case review of the causes of mortality of the 0 to 19 years old specifying the location of the accidents and a hospital admission and emergency visit database which currently is covering only home and leisure accidents but will be as part of the EU-IDB project extended to all injuries by 2006. Currently no data on doctor visits due to domestic accidents exist in Austria as this data is costly to capture.

In Austria for 0 to 19 year olds deaths due to home injuries make up 14% of all injury deaths. 45% of hospital admissions for injuries are due to home injuries and 43% of emergency department visits for injuries are due to home injuries.

These data are at the basis of the proposal for the Austrian Injury Prevention Plan. The Plan is being developed by the Austrian Institute for Home and Leisure Safety (Institut Sicher Leben) and focuses on unintentional injury prevention. Following criteria were utilised for setting priorities to prevent child injuries: the acceptance of the problem politically, a cost-benefit analysis, the amount of evidence-based interventions, the likelihood of uptake, the potential for sustainability of the project, the existing supporting expert opinion, and the frequency and severity of the problem.

Two of the 10 priorities set in the action plan are focussing on home and leisure accidents. Regarding home injuries the action plan is meant to target especially falls, drownings, poisonings and burns of children between 0 and 4 years (20 lives to be saved), while in the field of leisure activities bicycling, skiing, snowboarding and soccer for children 5 to 17 years old will be addressed (10 lives to be saved).

Some of the political measures targeted nationally by the Plan will be: systematic collection of home and leisure injury statistics within national statistics, mandating home and leisure injury prevention in university courses, and the improvement of building standards. On the regional and local level the action plan would have the aim of promoting annual campaigns for home injury prevention and for funding safety promotion activities for children and their parents.

The next steps foreseen are to organize a workshop with Ministry officials in the fall of 2005 in order to determine the political feasibility of the measures, to have the Plan approved by the Austrian ministries and major NGOs, to promote it throughout Austria and to implement the political measures. Should the Plan be approved and implemented an evaluation of the implementation will be undertaken in 2011. In addition the Plan should be updated in the future in order to include intentional injuries.

Mrs Soizic Urban: Accidents in the home of children in France. Statistical data and preventive measures

Home and leisure accidents in France (accidents in and outside the home, accidents at school, sport and leisure accidents) in 1999 accounted for 19,569 deaths and 4,500,000 consultations at the emergency unit. The exact amount of death attributable to accidents in the home alone is not determinable. The places at risk vary in accordance to the age of the children. For children from 0 to 4 years of age, the interior of the house (especially the kitchen, the bedroom and the

bathroom) represents the principal place for an accident (more than 80%). With the age increasing the number of accidents decreases and the accidents occur more and more outside the house.

The sources of the statistical data on domestic injuries in France are multiple: there are general studies (Permanent Study on Home and Leisure Injuries (EPAC) – InVS, Causes of death of National institute of health and medical research (INSERM), Health and social protection study (ESPS) of Research center of study and documentation in economy of health (CREDES), Health study in educational circle, Health barometer of the national institute of prevention and education for health (INPES)), specific studies on selected topics (drowning study from in the InVS), and other source (bibliographical studies, national cell of information on the home and leisure injuries (CEDIAC), Commission of Safety of Consumers (CSC), European projects...).

The permanent study on Home and Leisure Injuries (EPAC) represents the French part of the European Home and Leisure Injury Surveillance System (EHLASS). The study is based on an exhaustive data collection linked to recourse to emergency care for home and leisure injuries in certain hospitals (10 hospitals in France in 2004). Each record corresponds to a description of the injured person (sex, age, place of residence), the injury (lesion, part injured), the course of care (treatment, hospitalization) and the characteristics of the accident (activity, location, mechanism, causal product in the home and leisure injury).

Like other studies this study does not make it possible to have an exhaustive overview of the data on home and leisure injuries in France as it is limited to ten hospitals and it records only home and leisure injuries linked to emergency treatments. All home and leisure injuries which lead to a treatment of a physician, to visit a pharmacy or to any self help treatment are not recorded. The main sources of the other information systems are the certificate of death (written by the doctor) and the death certificate (written by the employee of the town hall).

Several prevention campaigns on home and leisure injuries are carried out in France: the campaigns of prevention of home and leisure injuries of the National Institute of Prevention and Education for Health (INPES) for the year 2005, a radio campaign of prevention of accidents in the home carried out in 2005 by the Commission of Safety of Consumers (CSC), actions of communications of prevention of the home and leisure injuries carried out by the Directorate-General of consumption, the competition and the repression of frauds (DGCCRF) in 2005 and finally actions of communications carried out by private organizations (insurances, associations...). The prevention from drowning and fires are often mentioned fields of action of prevention campaigns in the field of home and leisure accidents in France. Most activities concentrate on the behaviour of the inhabitants handling appliances like barbecue, hair dryer etc. Activities aiming at the prevention of accidents due to fixed building features or installations are mainly taken care of through the set up of regulations. The most noteworthy are the law relating to the safety of swimming pools and the reinforcement of the regulation relating to the prevention of poisonings from carbon monoxide (accompanied by a new monitoring system of poisoning and of a reinforcement of campaign of prevention).

In order to reduce the number of victims of home and leisure injuries the national action plan on home and leisure injury prevention has been announced by the French Prime Minister on the 24th June 2004. This national action plan is being prepared and carried out by the Ministry of health, the Ministry of trade, the Ministry of the interior, the Ministry of sport, and the Ministry of education. It has two main objectives: a) a 25% reduction of the number of elderly victims of falls by the year 2008 and b) a 50% reduction of the number of children killed in home and leisure accidents by 2008. These goals should be achieved by improving the knowledge on domestic accidents, by initiating information and prevention campaigns and by instituting incentive or sanctioning measures. For this aim a home and leisure injury institute has been created by an agreement between the French Ministry of Health and the ministry of Trade.

Dr Dinesh Sethi: WHO-Euro policy on implementing the articles of the Budapest declaration related to injury prevention programmes

The reduction of childhood injuries in the European region is a regional priority goal for the CEHAPE. It contains a goal committing Member States to take action *“to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children”*.

But there are many other policy priorities and partnerships. The World Health Assembly Resolution 56.24 on implementing the recommendations of the World Report on violence and health urges Member States to appoint violence prevention focal points and to develop national action plans for the prevention of violence.

The World Health Assembly Resolution 57.10 on Road traffic safety and health urges Member States to mobilize their public health sectors by appointing focal points for prevention and mitigation of road crashes.

The UN Resolution 58/289 on road safety invites the WHO to play a coordinating role in the UN system.

The Health for all in the 21st century programme (1999), which is under revision, presents targets and highlights strategies for violence and injury prevention in Europe.

Other commitments are those from the Council of Europe, the European Commission, and UNECE and the related WHO European policies and strategies through the European Alcohol Action Plan 2000-2005 and the Mental Health Declaration and Action Plan for Europe.

In order to achieve the set goals and to implement the action plans many challenges have to be overcome. There is an overall lack of visibility and political commitment to the issue and difficulty to take ownership for issues perceived to fall under other sectors' responsibility. Financial and human resources have been allocated inadequately. Data and evidence on the magnitude and the effects of non-fatal injuries and the effectiveness of interventions are not sufficient, as well as there is an incapacity to provide an effective preventive response.

In order to overcome these challenges addressing violence along with unintentional injuries would allow for synergies, efficiency and building of “critical mass” around the issue. The opportunities arising from similarities in common underlying risk factors, patterns of vulnerability, geographic distribution, and involvement of the same providers of health services to the victims need to be recognized. Partnerships with other international organizations have to be strengthened (EC, Council of Europe, GTZ, joint OEDC/ECMT research center etc.) and there is a need of working with countries by setting the baseline and strengthening communication.

Dr Nathalie Röbbel: Review of existing legislations on home safety in Europe

The housing and health programme of the ECEH Bonn has been undertaking a review on the regulations on housing and health in seven European countries. The aim of this project is to give a review of the main principles underlying the existing regulations in the field of housing and health, to identify the structures involved in designing, implementing and monitoring the regulations, to highlight some of the most innovative and efficient regulations and finally to identify where the regulatory framework could be improved or is lacking.

In the field of home safety the analysis of the main principles covered the availability of a legal definition of housing hazards, the availability of information about domestic accidents and the

role children are playing in the regulations. Detailed examples on the content, reference, date of promulgation of the regulation etc. have been gathered regarding falls out of windows and falls in staircases.

The preliminary analysis of the legal review has shown that there is hardly any legal or accepted definition of housing hazards in the surveyed countries. Only Lithuania and UK have an accepted definition of housing hazards which is legally accepted. Also the information availability on domestic accidents is very little. Italy and the UK are provided with record systems covering the injuries due domestic accidents (SINIACA for Italy and HASS, HHSRS and HES for UK). Information on specific domestic accidents like falls out from windows and falls in staircases are available also in other countries but the information availability is very often unstructured, insufficient and it is not compulsory to register the location in the dwelling where an accident took place.

Regulations on home safety don't target children in a special way. If children are mentioned, then only in combination with the duty of supervision of the parents (cf. the German example of the German Civil Code).

The analysis of the existing regulations on safety has shown the discrepancy between the public and the private sphere of society. The example of pool fencing shows that while there are regulations obliging each owner of a property to protect (fence) the property in order to avoid any harm caused by the pool, this regulations is only valid if the property is accessible to other parties. Regulations targeting the reduction of injuries (especially for children) very often are valid only for public institutions (like kindergarten etc.).

The detailed examples regarding the technical standards for the regulations of equipments aiming at preventing falls from windows has shown that the European countries have similar regulation, but with very different standards. All seven surveyed countries are provided with minimum standards for the height of a window sill in order to avoid falls from the window. But while the minimum standard in Germany is 80 cm the minimum height in Italy is 1m.

The above mentioned regulation differs not only in the standards but also in the ministries which are in charge for the preparation of the regulation. While in Germany the responsible Ministry is the Ministry of transport, construction and housing, in Italy it is the Ministry of public works, in Lithuania the Ministry of environment, in the Netherlands the Ministry of spatial planning, housing and environment, in Hungary the Ministry of environment and land development and in UK finally the Office of the prime Minister. This list doesn't only show the diversity at international level but also the missing of the ministry of health in the design and implementation of regulations for the prevention of domestic accidents.

This preliminary analysis has shown that there is not enough information on domestic accidents and the exact housing causes. Regulations targeting children are very often only valid for public places. There are many differences in the technical standards in the countries and many differences in the ministries in charge. Finally the involvement of the ministries of health is very little in this field of the regulations. This is major challenge for the future.

Discussion

The discussion focused on the implementation of prevention strategies. Best practices not only in the data collection mechanisms but also in prevention actions should be made more available. Experiences made in other sectors (i.e. the traffic area) could be used for the domestic accident field. The lessons learned in the traffic area have shown that other groups, like victims associations, have been a strong power to advocate the need for the collection of better information and for the implementation of prevention activities. It has been stressed that in order to be successful best practices should use a common denominator.

During the discussion the proposal has been made to use special life course events (like the birth of a child etc.) for the implementation of prevention campaigns addressing domestic accidents.

In addition preventive actions, which to date are mostly focusing on behaviour, have to be extended to the set up of minimum standards of the residential building quality.

In order to tackle and fight the “pandemic” of domestic accidents all the participants agreed that a strong political will is needed. Unfortunately the implementation of national action plans for the prevention of domestic accidents is difficult at a national level. A support at the EU level would certainly help the national governments to address this issue. At EU level domestic accidents have still not been recognized as a major field for prevention activities. It has been stressed that there is the need that the Commission of EU strengthen these initiatives. A good opportunity for this could be the upcoming EU Council meetings. Unfortunately most of the Council meetings which will be held under the upcoming UK presidency have already been fixed. It is fundamental to try to put the topic of the accident and especially domestic accident prevention on the agenda of the first Council meeting of the next presidency under Austria. However, as children have been mentioned to be a key element of the UK presidency, discussion on the prevention of children’s accident could be already started in the second half of the year 2005.

Session 4 Conclusions and recommendations

In the last session of the meeting the participants drafted the conclusions of the meeting and the recommendations. In the first workshop the experts made a summary of the existing national and international data collection systems and identified the data needs related to children’s domestic accidents.

The meeting showed through the experience gained at international level and by different institutions that a large part of domestic accidents are preventable. Data on home accidents are available, but the information focuses more on the behavioural and product related causes of domestic accidents and less on the building features and the data are seldom comparable at a European level. For example WHO data does not have location codes, the IDB is currently not accessible and when it is, will only have for 10 or 11 countries out of the Europe region 52. As well data can only be comparable on this data set when looking at large scale issues, but if it is broken down to smaller areas it is not comparable.

The existing data on home accidents can be used but there is still a need for harmonization and standardization of the accident types, the hospital admission and discharge, the data collection forms, the training of the health professionals who fill them out. There is a need to come up with indicators to compare countries (for existing as well as for new data) and these need to be well-defined and comparable. This is valid for home injuries as well as for all other injuries

Special attention has to be put in the coding of the location where the accident occurred. The ICD10 provides some rough but not detailed location code for mortality. It doesn’t provide detailed information in the case of home accidents. For this reason added information is required. The ICD 9 is still the most often used by countries but is less helpful.

In surveillance systems there is a need for a minimum product/item list based on open answers, which afterwards could be classified by a computerized system.

In addition the existing data should be made available into databases that can be shared and applied. Special hazards that exist in homes have to be identified. To this end, data on exposure to hazard items are needed. The Ministries of Health have been asked to promote the acquisition and processing of data.

There is a need to identify the special hazards that exist in homes and for this need data of exposure to hazard items in order to identify the relative impact of hazards on various health effects / accident types are necessary. Nevertheless next to home hazard / causal items and the resulting injury / health effect –it is necessary to have data on behaviour. Knowing “where” it happened is not sufficient, we need to know how the accident occur. For this end, information on hazards and behaviour has to be brought together.

The question has been raised on how to collect the needed data. Other mechanisms than hospital data have to be investigated. There is the need to link with social statistics (like sample census) where data is collected annually; there may be data on injuries and diseases plus the social status (income etc).

It would be necessary for the future to get involved in developing questions and modules for the next round of such panel or repeated surveys so that injuries could be integrated all few years. The same applies to Eurostat or any European survey project.

Alternative to the use of exiting surveys, each country has systems in place through which regularly housing appliances (chimney, gas appliances, heating consumption, etc.) are checked and controlled. The staff performing this duty has direct access to the home and is working in relevant areas. This could be used to include duties related to healthy housing promotion and awareness. The same applies for health staff: midwives / nurses, mobile health care services, GP home visits, occupational therapists etc. perform health care duties in the home. This home visits can be used to (a) provide home safety information and (b) collect data.

In addition it has been mentioned that WHO injury surveillance guidelines should be made more known and more implemented. It could be computerized to facilitate to doctors to fill out the forms.

There are product safety laws (mandatory European directive) but there is no link between health and products (especially as some products are designed for adults but harmful for children, esp. electric water cattle). It is fundamental to have this information. Hospital data on product-related injuries are the best way to make this link.

A final suggestion made by the experts was to create a network of all hospitals working on data collection and provide them with the same standard / format for data collection (each hospital has the data, the question is how to harvest?).

The second workshop had the scope of identifying the existing policies and strategies in selected countries for children domestic accidents prevention and to draft recommendation on possible fields of action. A consensus was found among the participants. The participants agreed that in order to prevent effectively from domestic accidents a strong political support is needed. For this aim a European Directive on Home Safety was recommended. Policy options for reducing domestic accidents can address various hazard types, various actors, and various housing conditions.

The hazard approach has to differentiate between housing, behaviour and products. Housing elements refer to building factors, such as the constructional quality and the design, the fixed appliances (fire detectors, handrails, thermostat mixer etc.) that can affect the likelihood of an accident and the severity of the outcome of any injury. The behaviour refers to human factors increasing the risk of accidental injuries. This wrong behaviour can be caused by carelessness, but also by lack of knowledge on the possible hazards. Finally the furniture, furnishings, equipment and appliances can influence the likelihood of a home accident. Unsafe cribs or cradles for example may increase the risk of an accident.

Housing policies for reducing the burden of domestic accidents can be designed to reach different actors. Inhabitants are the main subjects and/or objects of prevention activities and strategies. Nevertheless professionals (i.e. building industry) and all the persons having access into private dwellings should and could be addressed by these policies (nurses, midwives etc.).

Finally the policies can address the existing housing stock as well as new buildings, similarly they can apply to empty or inhabited dwellings.

The following fields of action have been identified as possible areas of action for the prevention of domestic accidents.

Design of a hazard certificate

Dwelling can be made safer by assessing the hazards they may contain and by creating incentives to remove them. Based on the considerable evidence on housing features which can increase or reduce the likelihood and severity of outcomes from home accidents, WHO could cooperate with public health specialists to design a “hazard certificate” of a building. This tool could be applied before the owner of a dwelling sells or rents the property in order to assess the dangers that may result for the occupants. This assessment could be made compulsory before any renting or selling activity and could be combined with economic incentives for the owner (subsidies in case of renovations etc.). This policy option refers to the existing building stock as well as to new buildings and would be put into place in the empty dwelling. It focuses on the building condition itself, without taking into account the behaviour of the inhabitants.

The hazard certificate could additionally be used by national and/or local authorities for a safety audit in their regular housing condition surveys of the existing housing stock, identifying where and how they can upgrade the safety of their older stock.

Provide guidance for drafting a housing manual

The objective is more to try to influence the behaviour of the inhabitants to decrease the risk of accidental injuries. However such a housing manual would be a tool informing the inhabitants about the housing hazards due to building factors that affect the likelihood of an accident and severity of any injury and how to make the best use of their dwelling with the minimum risk. The manual, based on the considerable evidence on housing features increasing or reducing the likelihood from home accidents, has to be seen as a political guidance document aiming at a reduction of domestic accidents. Such manuals exist for every product on the market, except for a house.

Develop materials to support information campaigns

In the last decades national governments and local authorities have undertaken many efforts to promote home safety awareness and action. These included general campaigns, leaflets and advice, and seminars at schools and in communities. Nevertheless the actions undertaken were mainly focused on the behavioural aspects leading to domestic accidents and on the risks due to wrongly designed products used in the domestic environment. The Housing and Health programme could develop materials for designing campaigns focussing on the risks due to the building factors, such as the constructional quality and design, but also related to the level and quality of maintenance of the building features.

This material could be based not only on the large body of evidence on the housing risks, but also using success stories at a national and international level. It is the mandate of WHO to facilitate the exchange of knowledge and experience across the Region by identifying and disseminating good practice and supporting the establishment and expansion of networks of National Focal Points and other stakeholders for violence and unintentional injury prevention.

Special emphasis could be put to promote safety in the population at the occasion of special “life events”, this means using life changes like the birth of a child to address the topic of home safety.

Information and education campaigns should address the professionals who are entering private dwellings. With a special training on the hazards resulting from building features, professionals like midwives, medical doctors, elderly help workers, chimney sweepers etc. who regularly have access to private dwellings, could function as “intermediate” for raising the awareness of the housing hazards and give indications on how and what to improve.

Identify a strategy for research

Although the residential environment has been increasingly recognized to be a major determinant of home accidents and unintentional injuries, more detailed information on housing conditions and their impact on the accident rate remain necessary. Longitudinal studies looking at the effects of specific interventions and building renovations aiming at the reduction of housing hazards on the accident rate would contribute to strengthen the evidence. It would be a useful tool for setting priorities for action directed at reducing home accidents.

Develop the use of economic instruments (premium, sanctions etc.)

The local authorities which are responsible for approving loans or subsidies (grants) towards the cost of improving or upgrading privately owned houses could be invited to include conditions and advice on home safety features. Incorporating safety features during improvement works is less costly than carrying them out at a later date. The conditions necessary to make available to owners of old houses financial subsidies towards the cost of removing or minimizing potential accident hazards could be reviewed, and financial analysis of such initiatives provided. Such subsidies could be made available through local authorities or home improvement agencies. The WHO Housing and Health programme with the collaboration of public health specialists in the field of housing accident prevention could provide some benchmarks.

Involvement of the constructors - building industry

Existing housing policies for reducing the burden of domestic accidents target mainly the inhabitants and owners of the dwelling. It seems clear that professionals (i.e. building industry) should and could become more active partners.

The building industry should be made aware of the importance of home safety and encouraged to integrate safety features into house design and construction. Similarly, the home appliance industries should be encouraged to make their appliances as safe as possible. This can be reached on one hand by integrating the topic of home safety into the curriculum of the building industry professionals, and on the other hand by confronting them with the main home hazards resulting from construction features and having the active actors to improve the standards. Finally contacts with the EC, DG for consumer safety should be intensified.

“10 simple strategies leading to major results”

Although, as stated above, more detailed information on housing conditions and their impact on the accident rate remains necessary, there are some areas where the existing knowledge is sufficient to give the evidence on the effects of housing features and their improvement on the reduction of home accidents. Unfortunately this information has not yet been systematically collected and by now the reviews have been mostly undertaken at regional or national levels.

The role of the WHO Housing and Health programme could be to detect the “best” 10 items related to the building design by reviewing the existing evidence, to collect the information and best practice examples and to show the benefits achieved by improving these housing features.

WHO would make use of its mandate to facilitate the exchange of knowledge and experience across the Region by identifying and disseminating good practice and supporting the establishment and expansion of networks of National Focal Points and other stakeholders.

The items referred to could be: fire detectors, fencing of water, window catches and restrictors, balconies, restrictors of cupboard doors, handrails, thermostat mixer, socket protectors, fixing steps and stairs, CO detectors, doorsteps - thresholds, automatic garage doors, design of kitchen... This could lead to a very powerful and efficient series of European campaigns and have very significant concrete results.

Work on harmonization of standards for healthy/safe housing

A preliminary review on the legislations regulating the effects of housing on health have shown that in many European countries the standards concerning equipments or features aiming at preventing domestic accidents vary considerably. The example of those regulations concerning equipments aiming at preventing falls from windows shows that the used standards for the minimum height of the window sill goes from 80cm in one country to 100cm in another!

Standards for safe housing could be standardized and the best experience could be integrated into the standards. For this reason the WHO Housing and Health programme proposes to build up an international expert group working on the standardization of some selected aspects taking into account the experiences gained by the national governments and legislations and proposing new and harmonized standards.

Annex 1: Opening speech of Dr Manfred Schmitz

Opening-Statement by the Federal Ministry of Health and Social Security, Head of Division Dr. Schmitz on the occasion of the Meeting of the Working Group "Preventing Children Accidents and Improving Home Safety in the European Region. - Identifying Means to Make the Dwelling Safer. –" held in the Bonn Office of the European Center for Environment and Health of the World Health Organization WHO, Regional Office for Europe, 30th and 31st May 2005.

Mister President,
Honourable Delegates and Colleagues from the various Member Countries,

It is a very special pleasure for me to welcome you today and join with in the Bonn Office of the European Center for Environment and Health of the World Health Organization in order to discuss within your Meeting of the Working Group on "Preventing Children Accidents and Improving Home Safety in the European Region. - Identifying Means to Make the Dwelling Safer. –"

I am convinced that the choice of Bonn as the location for this meeting of the World Health Organization is a good choice not only since Bonn is the location of a World Health Organization's Office.

This Meeting is an additional stone in the mosaic of collaboration between Germany and WHO which has been exemplary to date. It underlines the high esteem in which we hold WHO and its excellent work here in Germany.

The Meeting is furthermore an excellent example of the collaboration between the areas of health and the environment - a collaboration which we hope will continue to be successful in the future for the preparation of the next Ministerial Conference in Rome 2009.

In the past, WHO has accomplished important work, not only in the area of public health; it has, above and beyond that, pushed forward the networking of two areas of policy: health and the environment and the Federal Health-Ministry much appreciates and supports this work by WHO. Since the first WHO European Conference on "Environment and Health", held in 1989 in Frankfurt, the world has surely changed; this applies in particular to Germany but also, naturally, to Europe as a whole. German reunification combined with the changes which have taken place in Eastern Europe have been and continue to be, not only important political changes. They also had clear repercussions on environmental policy.

As a result, the challenges to be met in environmental health protection have, in some cases, become others. Political priorities have shifted, bringing the Eastern European States more into our field of vision.

However, the fundamental ideas, as laid down in the 1989 European Charter for Environment and Health, remain unchanged. Even today, the issues in the foreground are:

- preventive action, so that problems do not arise in the first place,
- early detection of new and difficult developments, so as to be able to counteract them in time,
- rapid, appropriate action in dealing with problems which have arisen to avoid damaging repercussions as far as possible, and
- intersectoral and cross-border co-operation to be able to join efforts in the identification and solving of problems.

With our national "Action Programme Environment and Health", we have taken these aspects into account in Germany. The Federal Ministry for the Environment and the Federal Ministry for

Health were able to initiate a number of projects on this basis over six years ago. In the meantime other national ministries like the Consumer Protection Ministry and the Research Ministry have become active supporters as well.

One of the many examples worthy of mention is the Child and Youth Survey in which, in addition to the normal health surveys, environmental information is also collected. This will enable us to finally draw representative conclusions about the connection between health and the environment as it affects children and young people.

In Germany, we also continue to have a deficit in this area. Whereas we have excellent services at our disposal in the area of acute care, there is clearly a great deal left to be done in the area of prevention and especially preventing children accidents. At the same time, we are well aware of the fact that preventive measures can make a decisive contribution towards either preventing illnesses from emerging in the first place or positively speaking by improving home safety. To be able to make full use of these possibilities, we must also take factors into account like the identification of means to make dwelling safer.

Ladies and Gentlemen,

I am certain that our joint efforts in the interest of environmental health protection in Europe will continue to develop in a positive direction with this meeting. I wish us all the utmost success in this our common commitment.

Thank you very much for your attention.

Annex 2: Injury surveillance systems in Germany (nationwide)

Injury surveillance system	Responsible organisation	Data availability	Procedure of data collection	Recorded variables	Methodological characteristics	Released data
Cause of death statistic	Federal Statistical Office	Since 1998 ICD 10 www.gbe-bund.de	send death certificate of doctor to public health office they check it on mistakes the federal statistical office of each federal state undertakes coding (except Hamburg)	Intentional and unintentional injuries (accidents) are registered and coded acc. to chapter XX ICD 10 – (3 or 4 digits) victim: age, sex, postal code, nationality accident categories: traffic, occupation, education, sport, unknown	coverage: total Germany representativity: high validity or reliability: high	in general 2 years after registration
Hospital discharge register	Federal Statistical Office	Since 1993 acc. to ICD 9 and since 2000 acc. to ICD 10 www.gbe-bund.de	Discharged patients (excludes patients treated in accident and emergency departments)	patient: age, sex, postal code, length of hospitalization time, deceased patients, operation accident: no main diagnosis according to chapter XIX/ICD 9 or ICD 10	coverage: 99,9% of all discharged patients representativity: high validity or reliability: high	in general 3 years after registration
Sample census	Federal Statistical Office	since 1963, questions on health are included in sample census and had been repeated around every 4 years data are available electronically by Federal Statistical Office	representative sample of households (0.5% of population); part of sample census is health status including questions on accidents; questions on health and accidents are not compulsory 19th up to 25th April interviews had been performed	victim: age (day, month, year) sex, marital status, social status (according to defined income groups) accident: Have you been sick or injured during the last 4 weeks? If injured, the category of accident has to be documented: occupation, road traffic (including accidents on the way to work or back from work), at home, leisure (sports, playing, other leisure activities), others (including accidents during education), unknown injury by intent: accident, violence, suicide How long haven't you been able to	representativity: for Germany and the "Länder" - not for specific age-groups (infants, toddlers) validity or reliability: recall bias of the interviewed person; high discrepancy between sample census and hospital discharged register data is only useful to make estimations	since 1999

				work? (in days, months or years)		
Register of accidents in school and education area	public assurance (Unfallkasse)	data are available in printed form	injury record fulfilled by school administration and sent to public accident assurance	victim: age, sex, nationality, postal code, occupation accident: in different school types, location and type of accident, activity, product involved diagnosis: according to main categories, body part injured	a sample of 3% represents Germany validity or reliability: low because of injury record fulfilled by school administration and not after medical check up by doctor; classification doesn't follow ICD and therefore isn't compatible with other registers; the rates are defined by number of injured per 1000 assured persons	in general 2 years after registration
Representative survey on home and leisure accidents	German Federal Institute for Occupational Safety and Health	1988/89 Western Germany, Eastern Germany in 1992, follow up in 1996 for total Germany, 2000 last survey data are available in printed form	Whether a domestic or leisure-time accident had occurred during the last three months whereby a member of the household was so seriously injured that the person affected was obliged to consult a physician or was incapacitated for at least 14 days by reason of consequences of the accident. The various households were contacted at quarterly intervals up to four times each during one year.	victim: age, sex, nationality, postal code, occupation, number of members in the household, number of children under 14years accident: location and type of accident, activity, cause of injury, products involved consequences of injuries according to major diagnoses, body part injured; time of harm treatment: by practitioner/ surgeon in an accident or emergency department admitted to hospital no treatment	Germany but not the "Länder" representativity: not for children validity or reliability: high	data are released in several publications by the German Federal Institute for Occupational Safety and Health

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