

CREATING A SAFER EUROPE FOR OUR CHILDREN

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On behalf of the European Child Safety Steering Committee

Injuries are the leading cause of death and disability for children in the European Union(EU) . The European Child Safety Alliance is an initiative of the European Consumer Safety Association to advance child injury prevention throughout Europe.

In the EU , every day 14 children die , 2,240 are admitted to a hospital and 28,000 are seen in an accident and emergency department as a result of injury (1). It has been estimated that the overall socio-economic burden of all injuries in Europe is 400 billion Euro annually (ie almost 4 times the entire EU budget).

The leading causes of injury death for children (1-14 years old) in the EU include road-related (48%), drowning (11%) , intentional injuries (11%) ,house fires (5%) , high falls (5%) , poisonings (2%) and miscellaneous (18%). There has been improvement in all EU member states in the reduction of child injury deaths over the past 20 years. For instance, Germany has seen a drop in child injury death rate from 28.4 per 100,000 children aged 1-14 in 1971-5 to 8.3 per 100,000 in 1991-5 (ie a 71% drop) . In Ireland the rate has dropped from 17.2 per 100,000 in 1971-5 to 8.3 per 100,000 in 1991-5. The lowest injury death rates are in Sweden (5.2 per 100,000 in 1991-5) and the United Kingdom (6.1 per 100,000 in 1991-5)(1,2,3).

Without doubt , road-related injuries should be our first priority as these constitute 48% of all injury deaths in the EU. Road-related accidents include child injury deaths to pedestrians , bicyclists and motor vehicle passengers (4,5).

In a recent review (*Waters et al* , 2002, in print (16)) of road-related fatalities and injuries in Ireland , of 69 car occupant fatalities , only 23% of under 15 year olds car passengers killed had documented seat belt use at the time and 33% were front seat passengers. Of 25 bicycle fatalities during the same 5 year period , only 1 was wearing a bicycle helmet at the time. Pedestrian fatalities (61 in total) tended to occur in the 13-15 year old age group with the great majority (89%) occurring on non-national routes.

A great deal of intervention is being done in most EU countries but there is evidence that more lives could be saved on roads if the following strategies were implemented , enforced and taught to the public:

In the United Kingdom (4) , introduction of 20 mph/hour speed limit zones has resulted in local reductions of 48% in child bicycle injuries and a 70% reduction in fatal road accidents involving pedestrians.

Traffic calming has resulted in 60% reductions in road-related childhood injuries in 30km/hour zones.

Estimates are that , with improved car front design (5) , up to 2,100 deaths and 18,000 serious pedestrian and cyclist injuries could be prevented annually

When used properly , child restraints or car seats have been shown to have an injury –reducing factor of 90-95% for rear-facing systems and 60% for forward-facing systems (4,5).

Correctly fitted , bicycle helmets reduce the risk of head and brain injury by 63-88% (5,6)

Drowning is the second leading of death for children of the EU with more than 70% of the victims being boys and the most vulnerable being 1 to 4 years of age (7) . Prompt resuscitation following immersion is critical to survival and the outcome for most children with immersion is determined by their status on arrival to the emergency department – medical and paediatric intensive care appear to have relatively little impact on outcome. Therefore prevention is the key to decreasing hospitalisations and deaths from drowning. Effective prevention strategies include swimming pool fencing (8) . Other preventive strategies include personal flotation systems , swimming lessons , parental supervision and lifeguards.

Severe burn injuries require multiple hospitalisations and lengthy treatment and may result in permanent disability and disfigurement. Scalds and contact burns occur predominantly to under 2 year olds . Age standardised mortality rates for children (1-14 years of age) dying through fires in the EU show that the lowest rate is in Italy (0.17 per 100,000) and the highest rate is in Ireland (0.91 per 100,000). Burn and scald injuries could be reduced in Europe if the following preventive measures were implemented , enforced and promoted to the general public:

Smoke detectors are an effective , reliable and inexpensive devices that provide an early warning and assist in reducing residential fires by 71%(10, 14).

Legislation requiring a safe pre-set temperature (54 degrees C) for all water heaters has proven to be a more effective method of reducing scald burns than education to encourage parents to turn down water heaters (14)

In the USA , fire deaths associated with cigarette lighters dropped by 43% with the adoption of child-resistant designs (8,11).

A dramatic 75% reduction in burn unit admissions due to sleepwear occurred following the introduction of the Flammable Fabrics Act of 1972 in the USA (14).

Falls resulting in severe or fatal injuries are usually due to second storey or higher windows (7,8) .

Stairgates have been shown to assist in reducing falls downstairs (8) . Absorbent surface material in playgrounds and appropriate height of play equipment for various ages provides an improvement in serious fall injuries (9). Window bars have shown a 35% decrease in deaths and a 31% decrease in reported falls (8).

Children under 2 years of age are especially vulnerable to accidental ingestions and more than 90% of poisonings occur in the home environment (7). Many common household products can poison children including cleaning supplies , alcohol , pesticides , medicines and cosmetics (8).

Safe storage is an effective means of preventing poisoning with both medicinal and non-medicinal agents (6).

Educational strategies aimed at children and parents have been associated with increased knowledge of poison prevention (6,7). The compulsory use of child-resistant packaging for aspirin and paracetamol led to a dramatic fall in the number of children admitted to hospital as a result of these medications in England , the Netherlands and USA (6).

Ireland ,just behind Portugal and Belgium, has the third worst record in the EU in relation to age standardised mortality in 1-14 year olds due to poisoning with a rate of 0.25 per 100,000

Choking occurs most commonly on small attractive products , including balloons , coins , small toy parts , small food pieces and inedibles in food products. Legislative measures to be implemented include product bans (inedibles in foodstuffs , drawstrings on clothing) , warning labels on products have reduced deaths in those countries where this legislation has been enforced (9).

SOCIOECONOMIC DEPRIVATION AND CHILDHOOD INJURY:

In England and Wales , the risk of children dying from fire was 16 times greater in the lowest socioeconomic group (SEG)compared to the highest (10,11), the risk of pedestrian injuries was 5 times higher in lower SEG and the overall risk of a childhood injury death was 3-4 times higher in children of parents in unskilled manual jobs than children whose parents were skilled non-manual workers (11). In Germany , poorer families were twice as likely to be involved in road traffic accidents (12).

Thus , there is a steep social gradient in relation to serious childhood injuries and deaths in most EU countries.

THE IMPACT OF AN EXPANDING EU:

The childhood injury death rates for the candidate countries ranges from 10.8 per 100,000 in Hungary to 38.4 per 100,000 in Latvia . The only current EU country that has a higher childhood injury death rate than the candidate countries is Portugal (17.8 per 100,000). Thus the childhood injury death rate in Latvia is 8 times that in Sweden. If the EU is committed to reducing disparities in living standards between its members , serious commitments will need to be made to ensure that childhood injury deaths will be reduced in candidate countries as a matter of urgent priority .

THE ROLE OF GOVERNMENT AND EU LEGISLATION:

As of June 2001 , only the UK and the Netherlands have specific targets or specific goals as part of a national health plan aimed at reducing childhood injury (12,13,15).It is clear that , before there can be an integrated approach to child safety across the EU , there needs to be one within each individual member state.

Legislation and its enforcement is one of the most effective ways to create a safer environment (13).

Whilst no EU member state has adopted all ten preventive policy measures that were conducted in recent research by Towner et al (12) , Sweden and Spain do show commitment to using policy to influence the reduction of childhood injury by adopting most of the measures outlined in Table 1. The most common measures are related to motor vehicles and include child restraints , seat belt wearing and reduced speed limits. The lowest adopted measures include bicycle helmets and smoke alarms in private residences. Even though Germany and theUK introduced mandatory child-resistant packaging for medicines 25 years ago, only 4 other countries use this proven safety measure (sadly ,Ireland is not one of these). Even in situations where European directives exist , there is great variation in how EU member states enact these directives in their bodies of law. Many countries within the EU lack even a basic structure for enforcing regulations and standards for consumer products such as child care articles and toys . Coordination at national and European levels is quite deficient.

The Treaty of Maastricht has extended significantly the authority of the European Commission with respect to the protection of the health and safety of European citizens. Standards play a key role in regulating safety in the EU as they provide technical specifications for existing framework legislation . European regulations and standards addressing child safety (eg child –resistant packaging) are not implemented properly or are not providing the safety measures that are currently needed . New directives should be developed at EU level for pedestrian and bicycle protection through safer car fronts , all under 12 year olds should be protected by child restraint systems in cars , playground equipment should meet EU safety standards and European regulations should be developed for inedibles in food products , flammability of clothing , cords on children’s clothes , cigarette lighter that are child-proof and building code requirements for pool fencing , window ad balcony railings and amusement /riding devices .

Legislation of injury strategies and its enforcement is one of the most effective ways to create safer environments.

HOW SHOULD WE PROCEED IN IRELAND:

We should learn from experiences elsewhere . Our greatest challenges are road-related injuries , accidental poisoning and housefires . Comparative analyses with other EU countries show that we lag far behind the best in Europe in these areas of child injury prevention . We cannot tolerate a very low rate of seat belt use and a high number of children travelling unrestrained or in the front seat of cars. We must ensure that potential medicinal and household poisons are sold in child-resistant packaging . Our record in relation to house fires is the worst in the EU and we must ensure that all households have a functioning smoke alarm. We need to embrace examples of good practice from other EU countries (most particularly the Scandanavian countries , the Netherlands and the UK) , enact appropriate

legislation and ensure that it is properly enforced (15). Otherwise our child injury toll will continue at its present unacceptably high rate .

REFERENCES:

1. World Health Organisation . Atlas of mortality in Europe , Geneva . 1997
2. Consumer Safety Institute : deaths and injuries due to accidents and violence in the Netherlands 1998-9 . Amsterdam 2000
3. European Consumer Safety Association : priorities for consumer safety in the European Union . Amsterdam 2001
4. British Medical Journal Publications . Injury Prevention . London 2001
5. European Transport Safety Council : priorities for EU motor vehicle safety design . Brussels 2001
6. Towner E , Dowswell T , Mackereth C , Jarvis S : what works in preventing unintentional injuries in children and young adolescents . Injury Prevention 2001
7. Harbourview injury prevention and research center / Cochrane Collaboration / systematic review database . University of Washington , Seattle . 2001
8. EUROCAP (European Evaluation of children's and adolescent's Accident Prevention Policies) study . Luxembourg 1997
9. Petridou E . Injuries from food products containing inedibles . Report to the European Parliament . Athens 1997
10. Proceedings on social inequalities and injury risk . Journal Injury Control and Safety Promotion : 8 ; 129-210 . 2001
11. UNICEF : A league table of child deaths by injury in rich countries . Innocenti Report Card number 2 . Florence 2001
12. Towner E , Towner J . UNICEF's child injury table . An analysis of legislation : more mixed messages , in press , 2001
13. European Association for the coordination of consumer representation in standardisation : update on standardisation work in the child safety field . Brussels 2001
14. Warda L , Tenebein M , Moffatt ME. House fire injury prevention update. A review of risk factors for fatal and non-fatal fire injury . Injury Prevention 1999;5:2: 145-150.
15. Plitponkarnpim A , Andersson R , Jansson B , Svanstrom L . Unintentional injury mortality in children : a priority for middle income countries in the advanced stages of epidemiological transition . Injury Prevention 1999;5:2:98-103.
16. Waters A , Nicholson AJ , Trace F. The 'road to safety' in Irish children (in press) . Presented to Irish Paediatric Association meeting May 2002

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