

Childhood Home Safety

- Because young children spend so much of their time at home, the home is unfortunately where accidents are likely to occur, both intentional and unintentional. The home is defined as the environment in and around the home, including the garden and driveway.¹
- Each year in the European Union there are approximately 10 million home injuries for all ages requiring medical attention. Approximately 40,000 of these result in death and one million in hospital admissions.² Yet it is unknown how many of these injuries occur in children throughout the European Union as only national estimates exist.
- For all ages there are more deaths in England³ and France⁴ from unintentional home injuries than from fatal road crashes.
- In Austria⁵ and France⁶ approximately half of all unintentional childhood injuries occur in the home environment.
- Most unintentional child home injuries occur in the living room or bedroom where children spend most of their time. Falls are the number one cause, followed by collisions with a person or object, and crushing/cutting or piercing injuries. The majority result in a bruise, followed by an open wound, then a fracture. The body parts most injured are the head followed by the upper extremities and then the lower extremities.⁷
- In the Netherlands most children under 15 years of age who go to the emergency department because of an unintentional home injury are sent home after treatment (47%), while another 41% after being treated at the emergency department are referred to outpatient services or to a general practitioner for follow-up. Yet 7% of home injuries are severe enough to result in hospitalisation, for injuries such as burns or fractures.⁸
- Every day ten children under five years of age in the United Kingdom⁴ and four in the Netherlands⁸ are severely burned or scalded in their home. The majority are due to contact with hot objects and liquids and it is difficult to determine if these injuries were intentional. Non-accidental burns are usually due to neglect versus abuse.⁹

- In the United Kingdom over 137,000 children less than 14 years of age are brought to the emergency department each year because of garden injuries.¹⁰ In the garden children are at risk for a variety of injuries, such as drowning injuries in garden ponds or pools, poisonings from plants or garden chemicals, and burns from barbecues.
- Children from deprived areas are 16 times more likely to suffer injury and death in house fires.¹¹ They are also more likely to be admitted to hospital with scald injuries and to be admitted with more severe scald injuries than children from less deprived homes.¹²

Costs

- The cost of fatal home injuries to children 0 to 14 years old in the United Kingdom has been estimated at €174 million. Preventing the deaths and emergency department visits for home injuries would result in savings of €14 billion a year.¹³
- In Motola, Sweden it was found that 35% of all unintentional injuries occurred in the home, accounting for the largest share of healthcare costs and children 0 to 6 years old were a predominant age group.¹⁴
- In the Netherlands in 2005 unintentional home injuries for children under 15 years of age cost € 29 million per year in medical costs, with falls costing the most followed by burning and collisions.¹⁵
- In the United States unintentional home injuries for all ages cost €175 billion per year in medical costs, with falls costing the most followed by collisions and poisonings.¹⁶

Intentional Injury

- A common descriptor of homes where children are being maltreated is unsafe physical environments¹⁷ where young children have easy access to lethal hazards.¹⁸
- Child maltreatment is defined as physical assault, emotional assault and neglect.¹⁹
- Infants 0 to 5 months are at the highest risk of being battered²⁰ and severely physically abused.²¹



FACTS



- Fatal child abuse and neglect also occurs in the home. In the European Union homicide is the third leading cause of injury death for children 0 to 14 years of age.²² About 90% occurs among children 0 to 4 years old.²³
- In England and Wales the majority of child homicides were classified as 'assault by other and unspecified means'; for children 0-4 years old 'child battering and other maltreatment' and for infants, 'hunger, thirst, exposure, neglect'.²⁴
- The majority of child homicide victims are killed by a parent, most often the child's biological father.²⁵ Parental socio-economic status has been found to be the single most important determinant for parents committing homicide on their children.²⁶ Also closely and consistently linked with child maltreatment in general are poverty, stress and drug and alcohol abuse.²⁷ In the European Union 19% of all child homicides are due to alcohol.²⁸

Home Design

- Occupants of homes needing repair have 3.8 times the risk of unintentional injury compared to occupants of homes in no need of repair.²⁹
- In the United Kingdom unintentional home injuries have been shown to be related to the type of housing - with more injuries occurring in apartment buildings in blocks two to three stories high, but no relation found with older versus newer built homes.³⁰
- Currently, there is no widely accepted, standardised system in Europe for home occupants to know whether their home is 'safe'. Countries rely on building regulations on a national or regional level to regulate hazards in the construction of homes. Yet there are many potential hazards in the home which are not covered by current legislation³¹ and regulations vary widely within and across countries, for example requirements in the design of stairs or windows.³²

Prevention Effectiveness

- One study in the United States estimated that 90% of unintentional fatal injuries to young children in and around the home were preventable.³³
- Studies indicate that home modifications show promise in making homes safer, yet more evidence is needed to show their effectiveness in reducing injuries.^{34 35}
- Educating caregivers on injury risks to young children in the home combined with easy access to reduced-cost safety products has been shown to be effective in promoting child home safety.³⁶
- Home safety visits have been found to significantly reduce injuries in children above one year of age³⁷ and are effective in preventing maltreatment in high-risk groups before it occurs.³⁸ But they are not effective in preventing the recurrence of child physical abuse and neglect.³⁹
- A program of home visits can also be effective in decreasing hazards accessible to children in the home and these improvements have been found to be maintained over an extended period of follow-up checks.⁴⁰

Note: For prevention measures for specific types of injuries such as burns, poisonings or falls, please refer to the home injury factsheets on these topics located on the Alliance website: <http://www.childsafetyeurope.org>



Recommended Policy Actions

A number of legislative and collaborative ways exist to significantly improve child home safety in Europe:

Legislation

- For the European Commission to continue its work in developing standards for home childcare products that have no standards and to have these adopted and enforced at the national level.
- For the European Commission to improve standards for home childcare products for which, according to child safety experts, the standards are inadequate.
- For the European Commission to support the development and enforcement of improved regulatory standards for home safety design, construction and maintenance across Europe which will influence national/regional Member State regulations.

EU Collaboration

- For the World Health Organization European Office to develop a standardised system of housing scores in Europe for occupants to know the safety quality of their home and to determine the priority areas for housing improvements.
- For Member States to implement standardised housing safety scores across Europe.
- For the European Commission to allocate resources for the administration of surveys with standardised and validated questions to examine changes in home environments and safety practices in order to determine the effectiveness of injury interventions in the home.

- For the European Commission and Member States to allocate resources for improvement of the quality and completeness of child home injury data and to perform regular and updated analyses of trends and inequalities in home injury patterns.
- For Member States to make the reduction of child home injuries a goal in their national public health action plans and to provide measurable targets for evaluation.
- For the European Commission and Member States to support child home safety media and educational campaigns targeting caregivers of young children, as well as the development of improved ways to disseminate information on home safety to the general population.
- For Member States to support a Home Safety Congress on a yearly basis for exchange of good practices and state of the art information on the prevention of child home injuries.
- For child home safety practitioners and researchers to conduct evaluation studies to determine the effectiveness of improvements in home design and products, as well as interventions to improve the safety behaviour of caregivers of young children.

Note: For recommended policy actions for specific types of injuries such as burns, poisonings or falls, please refer to the home injury factsheets on these topics located on the Alliance website.

<http://www.childsafetyeurope.org>

(printed November 2007)



References

1. Runyan CW, Casteel C (Eds.). The State of Home Safety in America: Facts About Unintentional Injuries in the Home, 2nd edition. Washington, D.C.: Home Safety Council, 2004.
2. Bonnefoy XR, Aznar, LM, Braubach M et al. Review of evidence on housing and health. Background document. In: Fourth Ministerial Conference on Housing and Health. Budapest, Hungary: World Health Organization; 2004.
3. The Royal Society for the Prevention of Accidents. Can The Home Ever Be Safe? The need to improve safety in the built environment of homes and gardens. Birmingham: ROSPA, 2005.
4. INPES. Accidents de la vie courante. In: INPES; 2002.
5. Austrian Research Centre on Childhood Injuries, Department of Paediatric Surgery, Medical University of Graz, 2006.
6. Thélot B. Résultats de l' Enquete permanente sur les accidents de la vie courante, années 2002-2003. Réseau Epac. Saint-Maurice: Institut de Veille Sanitaire; 2005.
7. EU Injury Database. 2002 Data. Available at: <https://webgate.cec.eu.int/idb>. Accessed April 21, 2006.
8. Consumer Safety Institute. Dutch Injury Surveillance System 2001-2005. Amsterdam: Consumer Safety Institute.
9. Chester DL, Jose RM, Aldlyami E, King H, Moiemien NS. Non-accidental burns in children-Are we neglecting neglect? Burns. 2006;32(2):222-228.
10. Child Accident Prevention Trust. How safe is your child in the garden. Available at: <http://www.capt.org.uk/pdfs/sample%20how%20safe%20is%20your%20child%20in%20the%20garden.pdf>. Accessed April 22, 2005.
11. Roberts I. Cause specific social class mortality differentials for child injury and poisoning in England and Wales. J Epidemiol Community Health. 1997;51(3):334-335.
12. Child Accident Prevention Trust. Factsheet: preventing bath water scalds using thermostatic mixing valves. Available at: <http://www.capt.org.uk/FAQ/default.htm>. Accessed November 21, 2005.
13. Roberts I, DiGiuseppi C, Ward H. Childhood injuries: extent of the problem, epidemiological trends, and costs. Inj Prev. 1998;4(4 Suppl):S10-16.
14. Lindqvist K. Economic impact of injuries according to type of injury. Croat Med J. 2002;43(4):386-389.
15. Dutch Burden of Injury Model. Rotterdam: Consumer Safety Institute, in cooperation with Erasmus University, 2005.
16. Zaloshnja E, Miller TR, Lawrence BA, Romano E. The costs of unintentional home injuries. Am J Prev Med. 2005;28(1):88-94.
17. Gelles R. Problems in defining and labeling child abuse. In: Starr RH, ed. Child abuse prediction: Policy implications. Cambridge: Bollinger; 1982: 1-30.
18. Lutzker J. Project 12-Ways: Treating child abuse and neglect from an ecobehavioural perspective. In: Dangel RF, Polster RA, ed. Parent training: Foundations of research and practice. New York: Guilford Press, 1984: 260-295.
19. Christoffel KK, Scheidt PC, Agran PF, Kraus JF, McLoughlin E, Paulson JA. Standard definitions for childhood injury research: excerpts of a conference report. Pediatrics. 1992;89(6 Pt 1):1027-1034.
20. Agran PF, Anderson C, Winn D, Trent R, Walton-Haynes L, Thayer S. Rates of pediatric injuries by 3-month intervals for children 0 to 3 years of age. Pediatrics. 2003;111(6 Pt 1):e683-692.
21. Sibert J, Payne EH, Kemp AM, Barber M, Rolfe K, Morgan RJH, Lyons RA, Butler I. The incidence of severe physical child abuse in Wales. Child Abuse and Neglect. 2002;26:267-276.



22. Vincenten J. Priorities for Child Safety in the European Union: Agenda for Action. Amsterdam: ECOSA; 2004.
23. McClain PW, Sacks JJ, Froehle RG, Ewigman BG. Estimates of fatal child abuse and neglect, United States, 1979 through 1988. *Pediatrics*. 1993;91(2):338-343.
24. Creighton SJ. Child Protection Statistics. Child Deaths. London: NSPCC Child Protection Research Group; 2004.
25. Schnitzer PG, Ewigman BG. Child deaths resulting from inflicted injuries: household risk factors and perpetrator characteristics. *Pediatrics*. 2005;116(5):e687-693.
26. Hjern A, Bremberg S. Social aetiology of violent deaths in Swedish children and youth. *J Epidemiol Community Health*. 2002;56(9):688-692.
27. UNICEF. A league table of child maltreatment deaths in rich nations. Florence: UNICEF; 2003.
28. Ezzati M, Lopez A, Rodgers A, Murray C. (Eds.). Comparative Quantification of Health Risks: Global and Regional Burden of Disease Attributable to Selected Major Risk Factors. Geneva: World Health Organization; 2004.
29. Dal Santo JA, Goodman RM, Glik D, Jackson K. Childhood unintentional injuries: factors predicting injury risk among preschoolers. *J Pediatr Psychol*. 2004;29(4):273-283.
30. Lyons RA, Newcombe RG, Jones SJ, et al. Injuries in Homes with Certain Built Forms. *Am J Prev Med* 2006;30(6):513-520.
31. Stewart J. Home safety. *J R Soc Health*. 2001;121(1):16-22.
32. Röbbel N. Review of Building Regulations in Europe. In: WHO European Centre for Environment and Health Expert Meeting on Preventing Child Accidents and Improving Home Safety in the European Region. Bonn, Germany: WHO European Centre for Environment and Health; 2005.
33. Rimsza ME, Schackner RA, Bowen KA, Marshall W. Can child deaths be prevented? The Arizona Child Fatality Review Program experience. *Pediatrics*. 2002;110(1 Pt 1):e11.
34. Lyons RA, Sander LV, Weightman AL, et al. Modification of the home environment for the reduction of injuries. *Cochrane Database Syst Rev*. 2003, Issue 4.
35. Lyons RA, John A, Brophy S, Jones SJ, et al. Modification of the home environment for the reduction of injuries. *Cochrane Database Syst Rev*. 2006, Issue 4.
36. Gielen AC, McDonald EM, Wilson ME, et al. Effects of improved access to safety counseling, products, and home visits on parents' safety practices: results of a randomized trial. *Arch Pediatr Adolesc Med*. 2002;156(1):33-40.
37. Roberts I, Kramer MS, Suissa S. Does home visiting prevent childhood injury? A systematic review of randomised controlled trials. *Bmj*. 1996;312(7022):29-33.
38. Olds DL, Eckenrode J, Henderson CR, Jr., et al. Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial. *Jama*. 1997;278(8):637-643.
39. MacMillan HL, Thomas BH, Jamieson E, et al. Effectiveness of home visitation by public-health nurses in prevention of the recurrence of child physical abuse and neglect: a randomized controlled trial. *Lancet*. 2005;365(9473):1786-1793.
40. Tertinger DA, Greene BF, Lutzker JR. Home safety: development and validation of one component of an ecobehavioral treatment program for abused and neglected children. *J Appl Behav Anal*. 1984;17(2):159-174.