World report on child injury prevention

An overview
Goal of the report

- Raise awareness
- Present what is known about effectiveness of interventions
- Make recommendations
Scope of the report

• Children under 18 years old
• Leading causes of unintentional injuries
  – Road traffic injuries
  – Drowning
  – Burns
  – Falls
  – Poisoning
• Companion to SG's study on violence against children
Report development

- Joint WHO and UNICEF report
- 180 contributors from 56 countries around the world
- Regional consultations and peer reviewed
- Various versions developed:
  - full report,
  - summary,
  - child-friendly version
- Translated into multiple languages
The facts

- Approximately 830,000 children under 18 years die every year as a result of an unintentional injury.
- Unintentional injuries are the leading cause of death for children over 9 years.
- Tens of millions of children require hospital care every year for non-fatal injuries.
- 95% of child injuries occur in low-income and middle-income countries.
- In high-income countries, child injuries account for 40% of all child deaths.
Injuries represent a large proportion of child deaths, in particular for older children.

Main causes of death among children, World, 2004

- Injuries
- Noncommunicable diseases
- Communicable diseases

*Includes communicable, maternal, perinatal and nutritional conditions.

### Leading causes of death in children, both sexes, World, 2004

<table>
<thead>
<tr>
<th>Rank</th>
<th>Under 1 year</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–19 years</th>
<th>Under 20</th>
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<tr>
<td>1</td>
<td>Perinatal causes</td>
<td>Lower respiratory infections</td>
<td>Lower respiratory infections</td>
<td>Lower respiratory infections</td>
<td>Road traffic injuries</td>
<td>Perinatal causes</td>
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<td>Diarrhoeal diseases</td>
<td>Road traffic injuries</td>
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<td>Self-inflicted injuries</td>
<td>Lower respiratory infections</td>
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<td>Malaria</td>
<td>Drowning</td>
<td>Violence</td>
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<td>5</td>
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<td>HIV/AIDS</td>
<td>Meningitis</td>
<td>Meningitis</td>
<td>Drowning</td>
<td>Measles</td>
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<td>Congenital anomalies</td>
<td>Drowning</td>
<td>HIV/AIDS</td>
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<td>Protein–energy malnutrition</td>
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<td>Tuberculosis</td>
<td>Fire-related burns</td>
<td>HIV/AIDS</td>
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<td>HIV/AIDS</td>
<td>Road traffic injuries</td>
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<td>Tuberculosis</td>
<td>Protein–energy malnutrition</td>
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<td>Pertussis</td>
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<td>HIV/AIDS</td>
<td>Self-inflicted injuries</td>
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<td>Protein–energy malnutrition</td>
<td>Fire-related burns</td>
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<td>Leukaemia</td>
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<td>Falls</td>
<td>Fire-related burns</td>
<td>Falls</td>
<td>Protein–energy malnutrition</td>
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<td>Violence</td>
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<td>Leukaemia</td>
<td>Trypanosomiasis</td>
<td>Epilepsy</td>
<td>Fire-related burns</td>
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</table>

Child injuries are strongly related to social determinants

Rate of unintentional injuries per 100,000 children\(^*\), by WHO region and country income level, World, 2004

<table>
<thead>
<tr>
<th>Region</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
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<th>HIC</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
<th>LMIC</th>
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<td>14.4</td>
<td>21.8</td>
<td>49.0</td>
<td>7.9</td>
<td>25.4</td>
<td>41.6</td>
<td>45.7</td>
<td>7.8</td>
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<td>Americas</td>
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<td>South-East Asia</td>
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<td>Eastern Mediterranean</td>
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<tr>
<td>Western Pacific</td>
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</tbody>
</table>

\(^*\) These data refer to those under the age of 20 years. HIC = high-income countries; LMIC = low-income and middle-income countries.

Road traffic injuries are the leading cause of death among 10 to 19 year olds

- More than 260,000 children and teenagers die from a road traffic injury each year.
- Approximately 10 million more are non-fatally injured.
- In HICs most children killed are occupants of vehicles
- In LMICs they are usually pedestrians or cyclists.

Proportion of fatal road traffic deaths among children\(^a\) by type of road user in selected OECD countries

\(^a\) These data refer to children under the age of 15 years. OECD = Organisation for Economic Co-operation and Development.
Drowning is the leading cause of child death in many countries in the Western Pacific

- More than 175,000 children and teenagers die from drowning each year.
- Children under the age of 5 years are most at risk.
- Most child drowning events happen in and around the home.
- In LMICs, most drowning occurs in open bodies of water while in HICs it is in swimming pools.

Fatal injury rates per 100,000 children aged 0–17 years in five Asian countries:

- Drowning
- Road traffic injuries
- Suffocation
- Falls
- Animal bites
- Suicide
- Electrocution
- Sharp objects
- Poisoning
- Blunt objects
- Burns
- Falling objects

Note: Bangladesh, China (Beijing, Jiangxi), Philippines, Thailand, Viet Nam
Burns are the only child injury which occur more commonly in girls than boys.

Fatal fire-related burn rates per 100,000 children by age and sex, World, 2004

Falls among children are the leading cause of presentation to an emergency department

- Nearly 47,000 children and teenagers die from falls each year.
- For every fatal fall there are about 690 children who miss school.
- Falls are the leading cause of long term disability.
Substances found in and around the home are most commonly involved in childhood poisoning

Over 45 000 children and teenagers die from poisoning each year.

Many millions of calls are made to poison control centres, most of which are resolved over the phone.

Children under the age of one are at greatest risk of fatal poisoning.
Real stories

• Losing a child unexpectedly has a huge impact on parents, siblings, families and communities.
• Non-fatally injured children may need to live with a disability that affect their social development, education, ability to work, etc.
• Child injuries place significant strain on overstretched health care systems.
• Injury prevention is a very cost-effective public health strategy.
Child injuries are preventable

- Implementing interventions could save more than 1000 children's lives a day.
- Report describes 24 proven interventions.
- Many high-income countries have been able to reduce their child injury deaths by up to 50% over the past three decades by implementing multisectoral, multi-pronged approaches to child injury prevention.
Children are at greater risk

- Children are not just little adults.
- They live in a world built for adults.
- Strong association between injuries and
  - A child's age
  - Developmental stage
  - How he/she interacts with the world
  - Activities undertaken
- Simply reproducing injury prevention strategies for adults.
- Quality, availability and access to child-friendly medical care is an important factor that influences outcome.
Child injury prevention is cost effective

**Financial savings from selected injury prevention interventions**

<table>
<thead>
<tr>
<th>Expenditure of US$ 1 each on:</th>
<th>Savings (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke alarms</td>
<td>65</td>
</tr>
<tr>
<td>Child restraints</td>
<td>29</td>
</tr>
<tr>
<td>Bicycle helmets</td>
<td>29</td>
</tr>
<tr>
<td>Prevention counselling by paediatricians</td>
<td>10</td>
</tr>
<tr>
<td>Poison control services</td>
<td>7</td>
</tr>
<tr>
<td>Road safety improvements</td>
<td>3</td>
</tr>
</tbody>
</table>
The evidence base

- Simply reproducing safe strategies that are relevant to adults will not protect children sufficiently.
- Prevention programmes that take into account the vulnerability of children.
- Prevention programmes should be multi-disciplinary.
- The most successful have been those that combine:
  - Legislation, regulation and enforcement;
  - Product modification;
  - Environmental modification;
  - Education and skill development; and
  - Appropriate emergency medical care.
- The World Report grades interventions as: effective, promising, insufficient evidence, ineffective or harmful.
Road traffic injuries: Facts

- 720 children die from road traffic crashes every day.
- Globally, road traffic injuries are the leading cause of death among 10-19 year olds.
- In low-income and middle-income countries most traffic deaths are among pedestrians, passengers in vehicles or on two-wheelers.
- In high-income countries most traffic deaths are novice drivers.
- The most common non-fatal injuries sustained by children are head injuries and fractured limbs.
- Road traffic injuries are a leading cause of disability for children.
RTI: What works?

- Minimum drinking-age laws.
- Lower BAC limits for novice drivers and zero tolerance.
- Graduated driver licensing systems.
- Helmets.
- Seat-belts, child-restraints.
- Speed reduction.
- Separating road users.
- Daytime running lights.
Drowning: Facts

- 480 children die from drowning every day.
- Each year 2-3 million children and teenagers get into trouble in water and come close to drowning.
- Globally children under the age of 5 years are at greatest risk of drowning – infants can drown in a few centimetres of water.
- Over 98% of child deaths from drowning occur in low-income or middle-income countries, usually in open bodies of water like lakes, streams, etc.
- In high-income countries, most drowning events happen in swimming pools.
Drowning: What works?

- Removing (or covering) water hazards.
- Requiring isolation fencing (four-sided) around swimming pools.
- Wearing personal flotation devices.
- Ensuring immediate resuscitation.
Burns: Facts

- 260 children die from a fire-related burn every day.
- The death rate from burns is 11 times higher in low-income and middle-income countries than in high-income countries.
- Infants are at highest risk of death from burns.
- Burns is the only type of injury which is more common among girls than boys (particularly in adolescence).
- Smoke inhalation from fire-burns can be deadly.
- Nearly 75% of non-fatal burns are from hot liquids, hot tap water or steam.
- Many children are disfigured for life from burns.
Burns: What works?

- Setting (and enforcing) laws on smoke alarms.
- Developing and implementing a standard for child-resistant lighters.
- Setting (and enforcing) laws on hot tap water temperature, and educating the public.
- Treating patients at a dedicated burns centre.
Falls: Facts

• 130 children die from a fall every day.
• 60% of these fatal falls are from a height.
• In some countries, nearly half of the children taken to emergency clinics are from falling.
• Non-fatal falls result in significant Disability Adjusted Life Years lost.
• Falls most commonly occur from:
  – Prams, baby walkers, changing tables,
  – Cots, beds, bunk beds;
  – Rooftops, windows, stairs;
  – Playground equipment;
  – Trees; and
  – Sports.
Falls: What works?

- Redesigning nursery furniture and other products.
- Establishing playground standards for the depth of appropriate surface material, height of equipment and maintenance.
- Legislating for window guards.
- Implementing multifaceted community programmes such as ‘Children can't fly’.
Poisoning: Facts

• 125 children die from poisoning every day.
• The rate of poisoning is highest for children under 1 year, but peaks again at 15 years and older as adolescents begin experimenting with substances.
• Fatal poisoning rates are 4 times higher in LMICs than HICs.
• The most common poisoning agents in LMICs are paraffin, household products and pharmaceuticals.
• In HICs the most common poisons are over-the-counter medications, household products, and prescription drugs.
Poisoning: What works?

- Removing the toxic agent.
- Legislating for (and enforcing) child-resistant packaging of medicines and poisons.
- Packaging drugs in non-lethal quantities.
- Establishing poison control centres.
Overall recommendations

1. Integrate child injury into a comprehensive approach to child health and development.
2. Develop and implement a child injury prevention policy and a plan of action.
3. Implement specific actions to prevent and control child injuries.
4. Strengthen health systems to address child injuries.
5. Enhance the quality and quantity of data for child injury prevention.
6. Define priorities for research.
Website

World report on child injury prevention

Every day more than 2000 children and teenagers die from an injury which could have been prevented. This joint WHO/UNICEF report is a plea to keep kids safe by promoting evidence-based injury prevention interventions and sustained investment by all sectors. The report presents the current knowledge about the five most important causes of unintentional injury – road traffic injuries, drowning, burns, falls and poisoning – and makes seven recommendations for action.

Download the full report (PDF, 11.5 MB)

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