

Injury in Thailand:

A Time for Action



A report on the Thai National Injury Survey

Thai National Injury Survey Background



In response to the need for a deeper understanding of the causes and factors contributing to Thailand’s mortality and morbidity patterns, the Institute of Health Research (IHR) at Chulalongkorn University and The Alliance for Safe Children (TASC), conducted the Thai National Injury Survey (TNIS) in collaboration with UNICEF. While child injury was the primary focus of the investigation, the survey also revealed important information about adult injury.

The national survey involved interviews with 100,179 randomly selected households representing 389,531 residents, making it the largest community based survey on mortality and morbidity ever conducted in Thailand. Of the households surveyed between September 2003 and April 2004:

- 61,464 households were in rural areas.
- 35,706 were in suburban areas and 3,009 were from slum areas, which have been combined in the urban data.

The methodology employed in this survey is the same as the methodology developed by TASC for other national surveys undertaken by UNICEF/TASC and local institutional partners in the region (Bangladesh, China, Indonesia, The Philippines, and Vietnam).

This publication “Injury in Thailand” is a combination and summary of the two major reports written, and combines the causes of injury in Thailand for all ages.

- “Child Injury in Thailand - A report on the Thai National Injury Survey”, and
- “Adult injury in Thailand - A report on the Thai National Injury Survey”.

These two publications have a more detailed explanation of the causes of injury deaths in children and adults. For more detailed information on any of the topics covered in this publication please refer to these publications.

| Non-fatal injury severity level | Per year | Definition |
|---------------------------------|----------|--|
| Moderate | 508,899 | Injuries that require seeking medical care, or missing three days of work or school. This was the minimum level definition accepted for injury in the survey |
| Major | 254,635 | Injuries requiring hospitalization, but for less than ten days |
| Serious | 98,693 | Injuries requiring hospitalization of 10 days or more |
| Severe | 15,621 | Injuries that resulted in permanent physical disability, regardless of hospitalization |
| Fatal | 38,483 | Injuries that resulted in death |

Key Points



In the year preceding the survey, it is estimated that over **38,000 people died** from an injury. This equates to **over 100 people per day**.

Over half of these injury deaths are related to **road traffic accidents** (RTA), approximately 20,000 people each year, of which **4 out of 5 are male**.

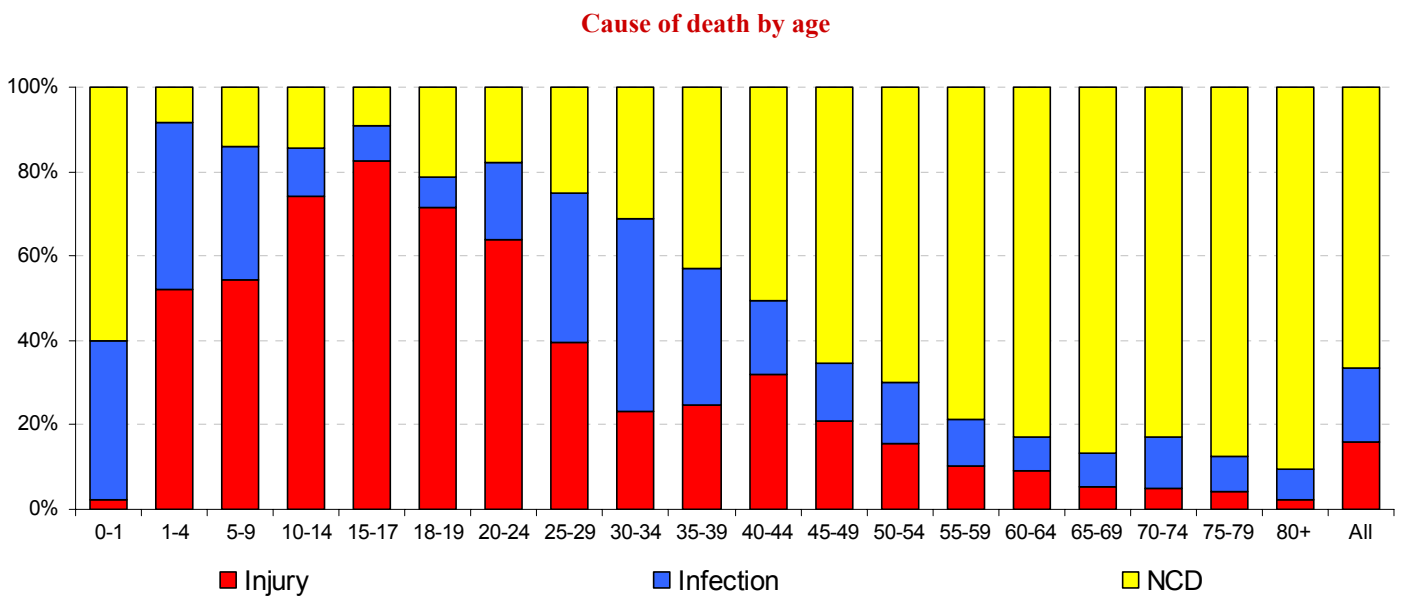
Drowning and fall injuries account equally for a fifth of all injury deaths. Death due to **drowning** occurs in 4,327 people a year, most frequently in **school aged children**, while **falls** kill 4,254 people per year and are mainly responsible for deaths in **seniors** (over the age of 65).

While deaths from injury are tragic and preventable, the main societal impact is from non-fatal injuries. **Over 850,000 people** suffer from a non-fatal injury each year, or over **2,400 non-fatal injuries occur every day**, in which over **40 result in a permanent disability**.

Most injuries are preventable, with different causes associated with different stages of life. **Timely, simple and cost-effective** measures can dramatically decrease the high rates of injury death and morbidity seen in Thailand.

Injury is the leading cause of death in Thais after infancy and before the age of 30

How Big an Issue is Injury in Thailand?

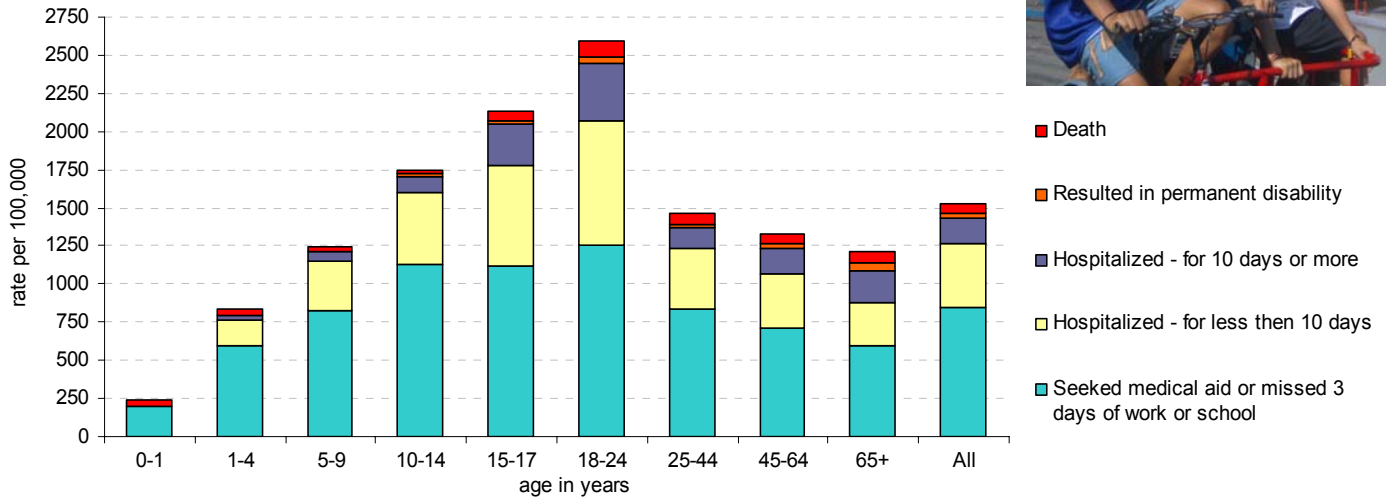


- In the year preceding the survey it is estimated that over 6.5 million people were sick, injured or died. Injury was responsible for nearly a million of these (roughly 14 per cent).
- Injury is the leading cause of death in Thai people after infancy and before the age of 30. Infants and seniors face death from disease rather than injury.
- Injury prevention has not been a principle concern with policy makers, with the growth of communicable diseases, such as HIV, have grown to epidemic proportions in Thailand. The major difference between injury and communicable diseases is that injury involves no need for cures or vaccines; all it needs is a common sense approach to safety.
- With some simple interventions and community approaches, 32,000 mothers, fathers and grandparents will not die every year, 6,000 more children will grow up learning lessons from safety-wise parents and peers on how to prevent injury.

Three quarters of all fatal injury are in males



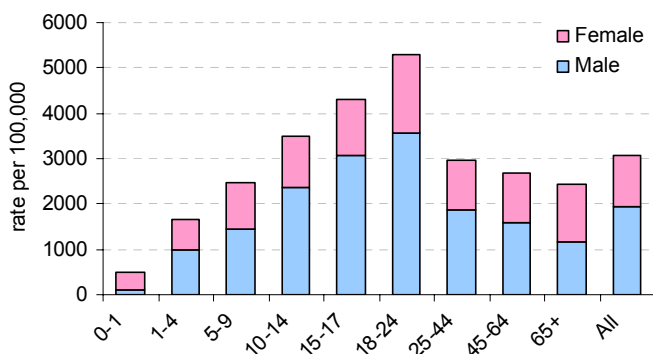
Stage of life specific injury rates



Who is Getting Injured in Thailand?

- Missing school or work for at least 3 days was the most minor category considered for the survey. Bumps, bruises and scratches are not included in the more than 850,000 people estimated to be injured every year.
- Death from injury is seen in every age group, although with a much reduced rate compared to morbidity.
- The majority of people sustain moderate injury. Over half a million people miss three days of work or school every year.
- Infants have the lowest injury rates, which dramatically increases as the infant begins to walk at age 1. This rate continues to increase well into adulthood, with the peak injury rate being between the ages of 18 and 24 years old. Once over 24 years old the rate of injury reduces dramatically and continues to slowly decline into old age.

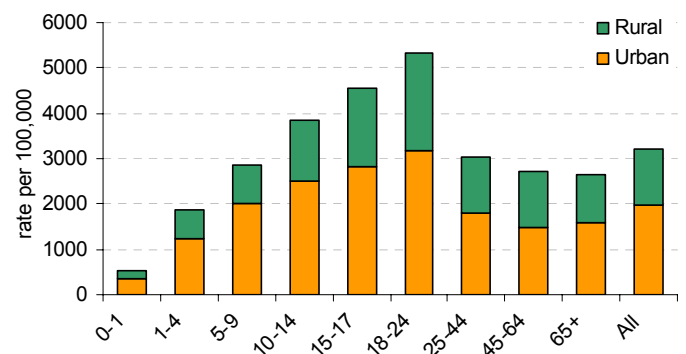
Sex specific injury rates



Male versus Female

- Two thirds of all injuries are in males.
- Three quarters of all fatal injury are in males.

Residence specific injury rates

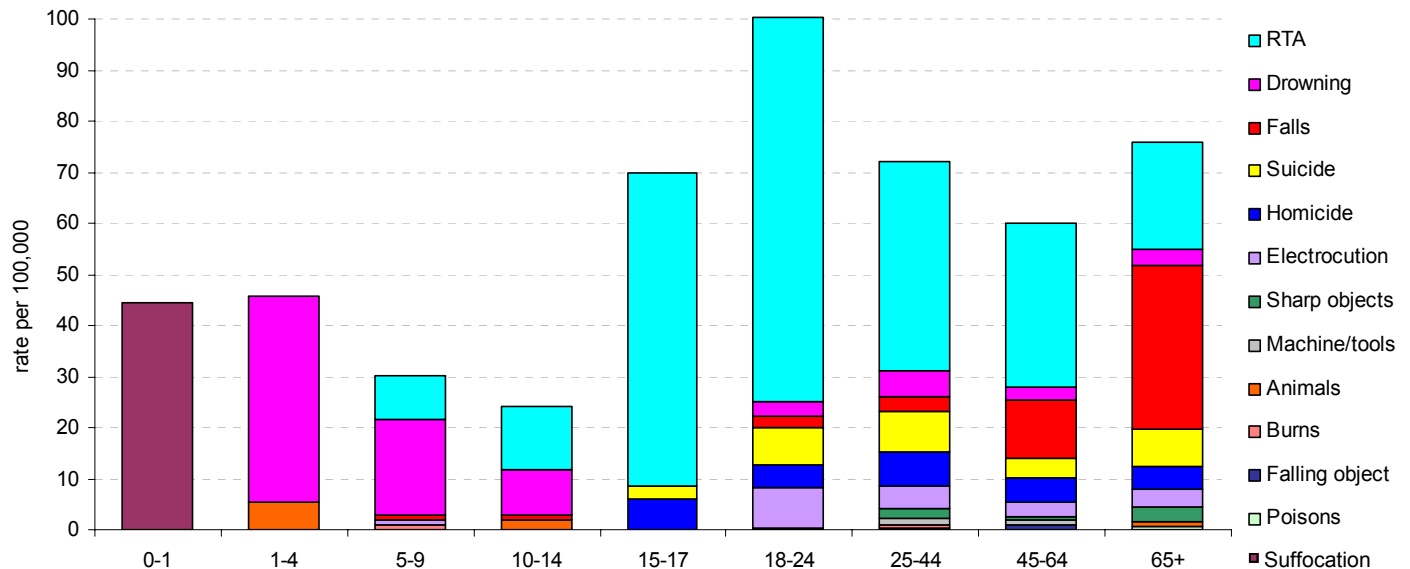


Urban versus Rural

- Six out of ten injuries occurred in urban areas.
- Fatal injuries are equally shared between urban and rural residences.

The leading cause of injury death is RTA, which takes over 20,000 lives every year.

Fatal injury rates by age

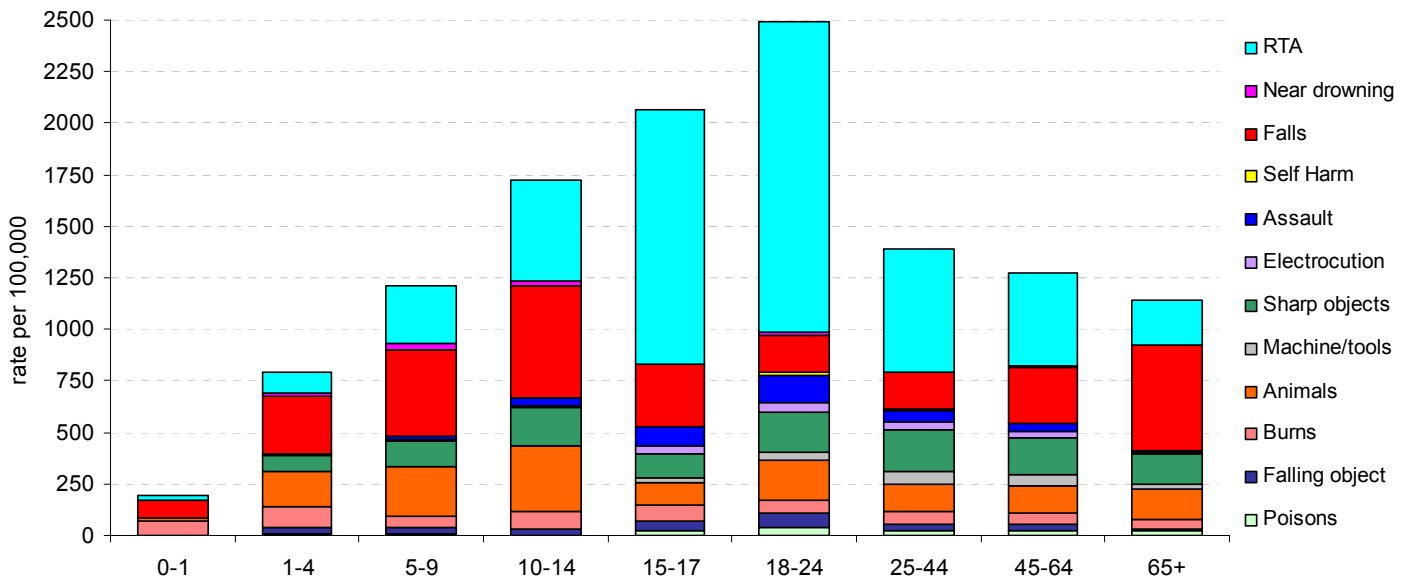


Causes of Injury - Mortality

- Injury accounts for 16 per cent of all deaths. The majority of these deaths occurs in young adulthood, between the ages of 18 and 24.
- Suffocation kills 450 infants every year in Thailand.
- For toddlers and primary school aged children, drowning was by far the leading cause of death.
- For older children between the ages of 10-14, road traffic accidents become the leading cause of injury death, followed by drowning.
- Road traffic accidents are the biggest killer for adolescents. Homicide and suicide also rank in the top five.
- Road traffic accidents (RTA) cause 10 times the amount of deaths in young adults than any other injury. Over 5,000 young adults die annually from RTA.
- RTA kills more parents (with children under 18, 25-44) than all other injuries combined. Intentional injuries, suicide and homicide, are the second and third leading causes of injury death killing over 3,000 parents every year between them.
- Fall injuries kill nearly 1,500 middle aged adults each year and intentional injuries kill over 1,100 middle aged adults every year.
- Fall injuries are the biggest killer for seniors, killing one and half as many seniors as RTA.

An estimated 877,849 Thai people suffer an economically and medically significant injury every year.

Non fatal injury rates by age



Causes of Injury - Morbidity

- Three causes (road traffic accidents, falls and cuts), accounted for nearly three-quarters of all non-fatal injury (72 per cent).
- The leading cause of non-fatal injury was road traffic accidents, which injure more than 350,000 people every year, or nearly 1000 people every day. Road traffic accidents (RTA) account for over a third (41 per cent) of all injuries in Thailand.
- Falls, the second leading cause of injury, injured nearly 170,000 people, or almost 500 a day.
- In younger children, falls, burns and cuts predominate; in older children it is road traffic accidents. In young adults, RTA predominates; and in older adults it is falls.
- As people in middle childhood and early adolescence range further outside the home and are further removed from adult supervision, they acquire a more complex set of injury issues with drowning, RTA, falls and animal injury.
- Cuts and animal injuries affect people of all ages with the same intensity.



Falls are estimated to leave 15 people disabled every day

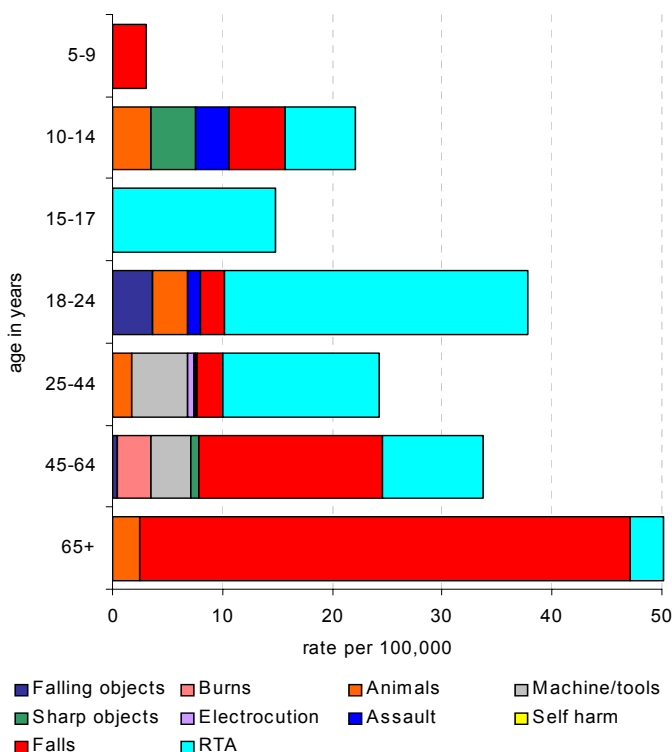


Permanent Disability

Permanent disability refers only to physical disability. It does not include emotional or mental disabilities due to the difficulty in collecting data regarding these issues.

- More than 15,000 people are estimated to be permanently disabled from injury every year. This is nearly 43 people a day, or one person every 34 minutes.
- The leading causes of permanent disability from injury are road traffic accidents, falls, machines and tools, animals bites and burns.
- Road traffic accidents leave 18 people permanently disabled every day.
- Falls are estimated to leave 15 people disabled every day.
- The majority of permanent injuries sustained by RTA are in late adolescents and young adults
- Seniors are predominantly disabled through fall injuries.
- With limited social and rehabilitative services available for the disabled, these injuries effectively rob children of their future, and families of their earning potential.
- The economic cost as well as the social burden imposed by non-fatal injury is a major impediment on both the health and economic development of Thailand.

Age specific causes of permanent disability



Estimated number of people disabled due to injury in Thailand

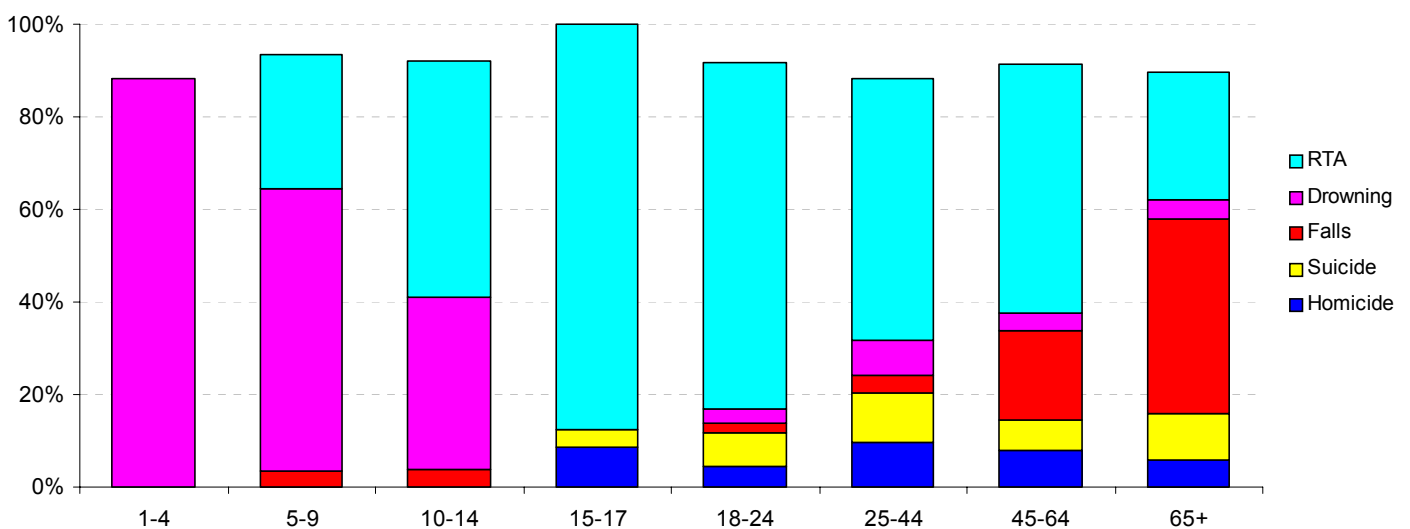
| Injury type | Per Year | Time between each disability |
|----------------|----------|------------------------------|
| RTA | 6637 | 1.3 hours |
| Fall | 5299 | 1.7 hours |
| Machine/tool | 1447 | 6.1 hours |
| Animal | 856 | 10.2 hours |
| Burn | 396 | 22.1 hours |
| Falling object | 299 | 1.2 days |
| Sharp object | 286 | 1.3 days |
| Assault | 258 | 1.4 days |
| Electrocution | 106 | 3.5 days |
| Self harm | 37 | 9.9 days |

All permanent injuries 15621 34 minutes

Preventing the top 5 causes of injury death - RTA, Drowning, Falls and Intentional injuries

It is impossible to ascertain one leading cause of injury death that is consistent across all stages of life. While in childhood, drowning is the leading cause for concern, from late adolescence to middle age, it is clear to see that RTA and intentional injuries are the leading causes, while for seniors, injury deaths due to falls are the most significant.

Age specific proportions of injury death caused by RTA, drowning, falls and intentional injury



Road Traffic Accidents (RTA)

- Adolescent and young adult males make up the highest proportion of traffic accident deaths. This group needs to be targeted for prevention campaigns, especially involving motorcycle safety and the wearing of helmets.
- For children younger than 14 and for seniors, most deaths occurred as pedestrians or passengers. Prevention activities for these people could occur as part of a series of school and community-based road safety lessons.
- There must be a focused effort to raise awareness among parents and other key community members, in order to instill safety-wise practices in children which will remain throughout life.



**5,600 people are killed by intentional injury each year.
Nearly 3,000 of these commit suicide, of which 70 are children.**



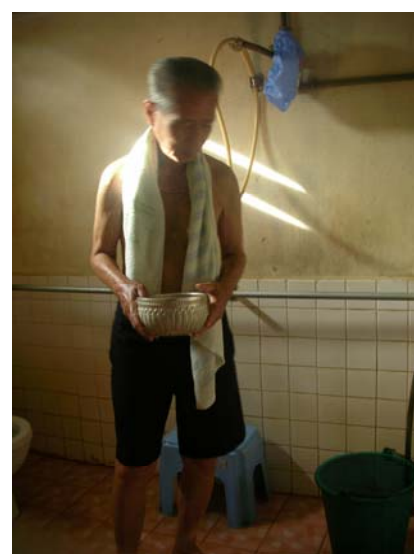
Drowning

- In the toddler age group, drowning caused almost half of all deaths, so reducing this incidence would lead to a rapid decrease in the under-five mortality rate. For Thai children of all ages, drowning rates are 10 times the rates of child drowning in developed countries.
- A country does not have to be developed to successfully decrease child drowning rates. Programs in other countries have shown a two-thirds reductions in child drownings. Thailand could emulate the successful approach of many other countries to the reduction of death from drowning by integrating water safety and swimming teaching programs into school curricula.

Falls

The third leading cause of injury death and the number one killer among seniors (65+).

Effective prevention of falls among seniors is best targeted in the home environment with a “safety checklist” containing information about simple precaution measures such as non-slip flooring and handrails. This information could be handed out through medical institutions, local doctors, and senior focused activity groups.



Intentional Injury (Suicide and Homicide)

A large amount of Thai adults and children in adolescence are affected by intentional injuries.

Intentional injury in young adults is particularly high. Information being given in adolescence on psychological resiliency, social support, and the use of drugs and alcohol could create more options and reduce the rate of suicide and assault.

**Over 2,500 infants, children and adults are injured every day.
Over 100 of these injuries are fatal.**

The Toll of Fatal and Non-Fatal Injury

Estimated number of injury deaths in Thailand

| Injury type | Per Year | Time between each injury |
|----------------|---------------|--------------------------|
| RTA | 20,731 | 25 minutes |
| Drowning | 4,327 | 2 hours |
| Fall | 4,254 | 2.1 hours |
| Suicide | 2,956 | 3 hours |
| Homicide | 2,611 | 3.4 hours |
| Electrocution | 1,893 | 4.6 hours |
| Sharp objects | 598 | 14.6 hours |
| Machine/tools | 372 | 1 day |
| Animals | 325 | 1.1 days |
| Burns | 185 | 2 days |
| Falling object | 156 | 2.3 days |
| Poisons | 75 | 5 days |
| Total | 38,482 | 14 minutes |

Every day in Thailand:

- 57 people die in a road traffic accident;
- 12 people drown;
- 12 people die from a fall injury;
- 8 people commit suicide; and
- 7 people are intentionally killed by someone else.

These five injuries account for **96** out of the **105** deaths caused by injury everyday.

Estimated number of injury morbidities in Thailand

| Injury type | Per Year | Time between each injury |
|----------------|----------------|--------------------------|
| RTA | 359,396 | 1.5 minutes |
| Fall | 169,397 | 3 minutes |
| Sharp objects | 102,369 | 5 minutes |
| Animals | 98,045 | 5 minutes |
| Burns | 38,883 | 14 minutes |
| Assault | 29,366 | 18 minutes |
| Machine/tools | 23,590 | 22 minutes |
| Falling object | 18,886 | 28 minutes |
| Electrocution | 16,840 | 31 minutes |
| Poisons | 12,837 | 41 minutes |
| Near drowning | 4,384 | 2 hours |
| Self Harm | 3,856 | 2.3 hours |
| Total | 877,849 | 36 seconds |

Added to the amount who die, every day an extra:

- 985 people are injured in a RTA;
- 464 people suffer a injury from falling;
- 281 people injury themselves with a sharp object;
- 267 people are injured by an animal; and
- 107 people are accidentally burnt.

The top five account for **2,105** out of the **2,405** injuries that occur every day. These numbers do not include the other people whose lives are disrupted due to injury particular serious injury and disability.

For more information on the Thai National Injury Survey



www.chula.ac.th



www.tasc-gcipf.org



www.unicef.org



www.moph.go.th

Every 14 minutes someone dies a from an injury.

How many minutes will pass before action is taken?

- The landmark Thai National Injury Survey (TNIS) was conducted by the Institute of Health Research (IHR) at Chulalongkorn University and The Alliance for Safe Children (TASC) in collaboration with UNICEF to gain a better understanding of child mortality and morbidity.
- The TNIS was the largest community based survey on deaths and morbidity, with researchers covering more than 100,000 randomly selected households of nearly 400,000 residents.
- More than 60,000 households were in rural areas, nearly 36,000 were in suburban areas and 3,000 were from slum areas.
- Between September 2003 and April 2004, researchers interviewed the heads of the 100,000 households and caretakers of any children in those households to examine the health of infants, children and adults living there.