DROWNING PREVENTION
IN THE SOUTH-EAST ASIA
AND WESTERN PACIFIC
REGIONS 2019 SUMMARY BRIEF

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1. Drowning kills every 90 seconds

Drowning is a serious but neglected public health problem worldwide. WHO Global Health Estimates for 2016 indicated that an estimated 322,000 people died from drowning. This is equivalent to one person drowning every 90 seconds. The global death toll from drowning is higher than hepatitis or maternal mortality and close to that of malnutrition. Over 90% of drowning occurs in low- and middle-income countries where the number of deaths is three times higher than in high-income countries.

The WHO South-East Asia and Western Pacific regions combined account for over 60% of the world’s drowning mortality (Fig. 1).

1 Based on 2016 estimates, from WHO disease burden and mortality estimates, https://www.who.int/healthinfo/global_burden_disease/estimates/en/
2. South-East Asia and Western Pacific regions: the global hotspot for drowning

2.1 South-East Asia Region

Although the estimated drowning death toll in the South-East Asia Region halved between 1990 and 2017, the WHO Global Report on Drowning: Preventing a Leading Killer shows that drowning mortality rates in the Region are still much higher than the global average, for both men and women and at every age group (Fig. 2).

Fig. 2: Estimated drowning mortality rates by sex and age group for world and South-East Asia Region, 2012 (per 100,000 population)

Source: WHO global report on drowning; 2014

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The Institute for Health Metrics and Evaluation (IHME) estimated 4.6 drowning deaths per 100,000 population in the Region in 2017, compared with the global average of 3.9. Bangladesh had the highest drowning mortality rate in the region at 8.9 per 100,000 population, followed by Thailand at 7.1 (Fig. 3).

**Fig. 3:** Estimated drowning mortality rate in the South-East Asia Region by country (per 100,000 population), 2017

![Bar chart showing drowning mortality rates in South-East Asia Region by country.](image)

*Source: Institute for Health Metrics and Evaluation*

### 2.2 Western Pacific Region

More than 78,000 people drown in the Western Pacific Region each year, corresponding to one death every six minutes. IHME estimated a drowning mortality rate for the Region of 4.7 deaths per 100,000 population in 2017, again in comparison with the estimated global average of 3.9. Papua New Guinea had the highest drowning deaths at 16.7 per 100,000 population, followed by Vanuatu at 10.7 and the Marshall Islands at 10.6 (Fig. 4). Data on drowning are unavailable for a number of Pacific islands where drowning rates are likely to be high as communities are located in close proximity to natural bodies of water and rely heavily on water-based transport.

**Fig. 4:** Estimated drowning mortality rate in the Western Pacific Region by country/area (per 100,000 population), 2017

![Bar chart showing drowning mortality rates in Western Pacific Region by country/area.](image)

*Note: Data unavailable for Cook Islands, Kiribati, Macao SAR (China), Nauru, Niue, Palau and Tuvalu.*

*Source: Institute for Health Metrics and Evaluation*

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3. Drowning kills our future

Drowning is a leading cause of death for children and young people. Globally, the highest drowning rates are among children aged 1–4 years, followed by children aged 5–9 years. In the South-East Asia Region, drowning as a cause of death ranks second for those in the age group 10–14 years, third for those 5–9 years old, sixth for those 15–24 years old and seventh for those under 5 years. In Bangladesh, drowning accounts for 43% of all deaths among children aged 1–5 years, claiming more lives than diseases of primary concern such as diarrhoea (2%). Drowning is the leading cause of death of children in Thailand, accounting for 34–47% of total deaths in 1999-2012, with age-specific rates ranging from 7.7 to 11.5 per 100 000 children. In the Western Pacific Region, 31% of drowning deaths occur among children below 15 years of age. Drowning kills more children under the age of 15 years than tuberculosis, HIV/AIDS, malnutrition, measles, meningitis, dengue and malaria combined. In Viet Nam, more than 10 children drown each day. In Fiji, drowning is one of the five leading causes of death for people aged 1–29 years. In the Philippines, at least 3000 people drown each year, with over a third aged under 14 years. Drowning mortality rates are highest among children aged 1–4 years with little change observed in deaths over the past 40 years.

Numbers and age distribution of drowning deaths vary across countries and at subnational levels. Shares of death from drowning among all causes of mortality are more prominent in the under-5 population in India and Bangladesh, while drowning deaths among older children (5–14 years old) stand out in Thailand. In addition, the proportion of drowning deaths in a subnational region can exceed the national figure, for example 60% of child deaths are due to drowning in the Matlab region of Bangladesh.

4. Drowning is everyone’s business

Drowning is not only a public health issue but also a socioeconomic development challenge. It presents a massive challenge when taking into account its impact on human capital and its economic burden to society. Drowning prevention is an essential element to achieve the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals on health and well-being (SDG 3), on quality education and development (SDG 4), and on sustainable cities and communities (SDG 11).

By primarily affecting children, teenagers and young adults, drowning shapes our future economic workforce and limits their contribution to socioeconomic development in every society. In some countries, drowning claims a substantial share of those in economically active age groups. At the global level, the estimated societal cost of drowning in 2015 was as high as IS$ 146.9 billion.
approximately the gross domestic product of New Zealand.\textsuperscript{12} Moreover, providing care for people with disabilities resulting from near drowning can greatly burden resource-limited health systems. The burden of care is often shouldered by families and communities.

Comparable to the global distribution of drowning deaths across countries, mortality is higher in population groups with lower socioeconomic status. These groups are more exposed to drowning-related risk factors, with limited access to drowning prevention interventions (for example, swimming and water safety education, effective childcare services, life jackets while on board water transport), as well as poor ability to cope with the consequences of drowning. Drowning prevention strategies are therefore an effective means to address social inequity when focused on high-risk population groups.

5. Risk associated with drowning

Drowning is preventable. Epidemiological data can help us identify major risk factors, including the profile of victims, place of occurrence and local conditions.

Who is at risk?
• Age: young children aged 1–4 years are at the highest risk of drowning
• Gender: males are twice as likely to drown than females
• Behavioural risks for babies and young children: lack of effective adult supervision
• Behavioural risks for teenagers and adults: alcohol use, inability to swim, working in and around water, medical emergencies
• Poor and marginalized families: illiteracy of mothers, low family income, increased maternal age and family size

Where are the risks?
• In and around households: buckets, bathtubs, ponds and swimming pools
• Living near water, including open wells and waterways
• Travelling on water
• Flood-prone areas with limited preparedness in warning and evacuation

Under what conditions?
• Lack of physical barriers between people and water
• Uncovered or unprotected water supplies and lack of safe water crossings
• Lack of water safety awareness and risky behaviour around water
• Travelling on water, particularly in overcrowded vessels without safety equipment
• Flood disasters
• Lack of individuals trained in safe rescue and resuscitation

6. Drowning is preventable: 10 effective actions

In 2014, WHO established 10 evidence-based actions to prevent drowning.

**Community-based actions**

**Action #1**: Control access to water
- Covering wells and cisterns by the use of a pump to keep the water source covered while water is drawn.
- Using doorway barriers and playpens
- Fencing swimming pools with four-sided, child-resistant fences and self-closing gates with safety latches.
- Legislating for the implementation and enforcement of policies, standards and building codes to support these measures.

**Action #2**: Safer places and care for pre-school children
- Community-based, adult supervised child care for pre-school children

**Action #3**: Water safety skills to school-age children
- A structured, safety-tested curriculum
- Safe training environment
- Trained instructors

**Action #4**: Training bystanders
- Safe rescue techniques
- Effective resuscitation

**Action #5**: Public awareness with focus on young children
- Public awareness directed at specific risk factors, linked to programs and strengthened enforcement
- Signage at high risk settings
- Social marketing and media training

**Effective policies & legislation**

**Action #6**: Develop and enforce safety regulations on water transportation
- Vessel safety regulations, including maximum capacity and adequate personal floating devices, as well as vessel maintenance
- Regulations on vessel operators: skills and blood alcohol concentration

**Action #7**: Preparedness and management of flood and other natural disasters
- Disaster preparedness plans with strong community awareness and education.
- Effective early warning systems, evacuation plan
- Land use planning
- Water safety awareness and skills

**Action #8**: Multi sectoral coordination
- Strengthen coordinating platforms to encourage contributions from communities, NGOs, private sector and academics
- Streamlining co-benefits with other sectors

**Action #9**: Develop and implement national water safety plan
- National plan should aim to raise awareness, lead to effective multisectoral response, clear implementation structure and monitor actions with targets

**Information systems**

**Action #10**: Research and information system
- Address priority research questions with well designed studies
- Strengthen national information system
7. **Good practices in South-East Asia and Western Pacific Regions**

Recent efforts to engage with drowning prevention means WHO South-East Asia and Western Pacific Regions are the home of many good practices for drowning prevention:

- Swimming and water safety skills training for children: training programs are run in India (Swim India), Bangladesh (SwimSafe) Viet Nam (Swim Vietnam), Cambodia (SWIM Cambodia), Nepal (Swim Nepal) and Sri Lanka (Swim for Safety).
- Safer communities: India and Bangladesh promote safe spaces for infants and young children through establishing community based crèches/anchals. The Philippines and Cambodia have implemented multicomponent community-based drowning prevention programs in rural areas, aimed at improving local infrastructure to keep children safe when in the vicinity of water bodies.
- National governance: Sri Lanka has adopted a multisectoral Drowning Prevention and Water Safety Plan with clear implementation structure, the Minister of Health in Thailand declared childhood drowning prevention as a health priority and established the National Multisectoral Child Drowning Prevention Committee.
- The Australian Water Safety Council, Water Safety New Zealand, Drowning Prevention Association of Sri Lanka and Water Safety Council Fiji are national bodies of stakeholders who meet routinely to address key water safety issues to governments, industry and the community.
- Information systems strengthening: the Injury Management Unit, Ministry of Public Health Thailand embarked on “Childhood drowning prevention” campaign in 2006, with an objective to strengthen injury surveillance system to promote evidence-based interventions.
- Raising awareness: the Solomon Islands Maritime Authority conducts outreach training programs on small boat safety in communities with high rates of boating incidents.

8. **Robust information system for better prevention**

Strengthening information systems is a crucial investment for strengthening national responses to drowning. Many countries are required to rely on drowning estimates, rather than official records. Data limitations, particularly in low- and middle-income countries, cause the significance of the problem to be underestimated, hampering efforts to address the drowning epidemic. A lack of accurate data impedes the planning, implementation and monitoring of drowning prevention measures. Issues contributing to underreporting include inadequate disease classification systems and practices, overlooking intentional drowning events (suicide, homicide), deaths occurring during natural disasters, or mass casualties (where victims of drowning are often registered as missing). Survey data from a number of low- and middle-income countries suggest that even WHO estimates still underreport the real magnitude of drowning by four or five times. Moreover, data on non-fatal drowning events are not routinely collected, which could reveal a burden of serious injury and lifelong disability. Without a routine injury surveillance systems in place, data on drowning patterns, risk factors and responses is neglected.
9. Tackling neglected significance: next steps

The ‘WHO Global Report on Drowning’ and ‘Preventing drowning: an implementation guide’ call for urgent commitment to promote a united global effort to address drowning.

1) All countries should implement proven drowning prevention strategies, tailored to their own circumstances and risk groups, with robust multisectoral coordination mechanisms
2) All countries should take steps to improve data on drowning
3) All countries should aim to develop a national water safety plan with clear implementation structure and timeline
4) A global partnership for drowning prevention should be established