
Injury Prevention and Care in the South-East Asia Region

*Report of the Regional Meeting of National Programme Managers
Sirindhorn National Medical Rehabilitation Centre,
Nonthaburi, Thailand,
26-28 September 2007*



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1. Introduction

In 2002 the global death rate due to injuries was 82.52 per 100 000 population. In the South-East Asia Region it was 106 per 100 000 population. It is likely that the death rate is under-reported. The injury death rates in other WHO regions range from 63 per 100 000 in the Region of the Americas to 133 per 100 000 in the African Region (adjusting for age of population).

According to the World Health Report 2006, injury death rates in countries in 2002 ranged from 12 per 100 000 to 301 per 100 000. While 50% of the countries have injury death rates above 69 per 100 000 population, a quarter have death rates of at least 104 per 100 000. More than 50% of the countries in the South-East Asia Region are in this quartile.

Injury is the leading cause of death in all age groups in the South-East Asia Region but it is more prominent in the 15-44 years age group. However, injuries rank fifth among all causes of death in the Region. The countries with the highest incidence of deaths due to injuries in the Region are India (117 per 100 000 population), Timor-Leste and Bhutan (112 per 100 000 population) and Nepal (108 per 100 000 population). The major causes of injuries in the Region are:

- Road traffic injuries
- Intentional injuries (violence, suicide and assaults)
- Drowning
- Burns
- Unintentional falls

Most of the major causes of injuries are also major causes of death and disability.

Despite injuries being a major cause of disability and death in countries of the Region, intersectoral policy development, national programme management and implementation are not yet receiving high priority. Also, National programme managers are not getting the required and sustained multisectoral support to manage the rapidly growing problem.

WHO has prepared several normative guidelines on injury surveillance and prevention, as well as care and rehabilitation. It also organized the First Global Meeting of Ministry of Health Focal Persons for Injury and Violence Prevention in March, 2006 in South Africa. The meeting helped to catalyse several policies and initiatives in injury and violence prevention. However, the Ministry of Health (MoH) focal persons still face several limitations and obstacles in policy and programme development including institutional capacity strengthening.

2. Objectives and expected outcomes

To address various issues related to violence and injury prevention in the South-East Asia Region, a regional meeting of the National programme managers on injury prevention and care was held in Nonthaburi, Thailand from 26 to 28 September 2007. The following were the objectives and expected outcome of the meeting:

Objectives

- (1) To review the situation of national programmes on violence and injury prevention and its linkages with disability prevention and rehabilitation in Member countries;
- (2) To share information about the ongoing work of WHO and Ministry of Health focal persons in injury prevention and rehabilitation, and
- (3) To review and update the regional strategy in injury and disability prevention and rehabilitation in the Region.

Expected outcome

- (1) Updated draft of the situation of national programmes on violence and injury prevention and its linkages with disability prevention and rehabilitation in Member countries and regional strategy in injury and disability prevention and rehabilitation in the Region.
- (2) Information exchanged about the ongoing work of WHO and Ministry of Health focal persons in injury prevention and rehabilitation and
- (3) Experiences shared and possible agenda for action carried back to countries.

3. Inauguration

Dr Prat Boonyawongvirot, Permanent Secretary, Ministry of Public Health, Royal Thai Government inaugurated the meeting.

After introduction of the participants, the aims of the meeting were elaborated. The linkage between injury and disability, one of the major areas of focus of the meeting, was emphasized.

Dr Achmad Hardiman from Indonesia was nominated as Chairman of the meeting, while Dr Ashok Ratna Bajracharya from Nepal was nominated as co-Chairman. Professor Thit Lwin from Myanmar was nominated as Rapporteur.

4. Global activities of injury and violence prevention and disability

Dr Etienne Krug, Director, Violence and Injury Prevention and Disability, WHO/Headquarters, presented the WHO response to injury, a neglected public health priority.

In 2004, the world report on road traffic injury prevention was launched, translated into many languages and distributed widely. This led to increased attention being paid to the subject by

concerned stakeholders and to various training activities. The successful interventions in prevention of road traffic accidents include:

- (1) Promoting usage of helmets
- (2) Speed control
- (3) Prohibiting drinking and driving
- (4) Promoting usage of seat belts.

A global project on Road Traffic Injury Prevention Initiative (supported by the Bloomberg Foundation to develop a Global Road Safety Status Report) will be conducted in 2008-2009.

The injury and violence prevention programmes need collaboration from various sectors because

- (1) There are several causes for various kinds of injury and
- (2) Different kinds of injury involve different sectors.

The Ministry of Health (MoH) needs to be involved with this issue because injury is a leading cause of death.

The roles of the Ministry of Health, as detailed in "Preventing Violence and Injury: a guide for ministries of Health, WHO 2007", include:

- (1) Identifying focal persons and unit/department to collaborate with other units of the MoH and to participate in the multisectoral committee.
- (2) Policies
 - developing an action plan for the health and other related sectors
 - reviewing and revising legislation
- (3) Data collection
 - coordinating data collection on Injury and violence surveillance
 - ensuring compilation, analysis and dissemination
 - make data available

(4) Prevention

- advocating and evaluating prevention programmes, and supporting other injury prevention programmes

(5) Services

- emergency and rehabilitation
- integrating services such as mental health, legal support and social services because behaviour problem is an important factor

(6) Advocating.

The document, "Preventing Violence and Injury: a guide for Ministries of Health" was published and distributed to all WHO country offices in 2007. Child injuries and violence is another relevant issue, and the world report on "Child Injury Prevention" is expected to be launched in 2008.

Dr Krug also emphasized that in many developing countries, motorcycle accidents were the main problem relevant to road traffic injury. Since the motorcycle is the most convenient and popular vehicle for people, it cannot be banned. Following discussions on the subject, several suggestions were made:

- (1) Improve public transportation;
- (2) Frame appropriate laws;
- (3) Promote appropriate helmet usage;
- (4) Provide free helmets strategically;
- (5) Only one focal person might not be sufficient. An institution or unit should be assigned to be responsible for the area. Capacity building for focal person/unit, working as networks is crucial; and,
- (6) The guide book, "Preventing Violence and Injury: a guide for Ministries of Health" should be distributed to all concerned in the ministry.

5. Regional activities on injury prevention and collaboration

Dr Chamaiparn Santikarn, Regional Adviser, Disability, Injury Prevention and Rehabilitation, WHO, Regional Office for South-East Asia, highlighted regional activities on injury prevention during the previous two years. The major activities were:

- (1) Strengthening injury surveillance and information system
 - In 2006, a workshop on injury surveillance was held for:
 - sharing country system and experiences,
 - promoting use of combined data sources and introduce trauma registry-cum-injury surveillance,
 - providing inputs for the world report on child injury prevention.

Subsequently, follow-up activities were carried out including support to collect hospital-based data and national data on injuries in the 11 Member countries for surveillance. The activities included:

- (1) Supporting national campaigns:

Five Member countries participated in the First UN Road Safety Week and the global meeting of youth delegates in April 2007.
- (2) Capacity Strengthening:
 - Promote TEACH-VIP (Training, Educating, Advancing Collaboration in Health on Violence and Injury Prevention) global curriculum on injury prevention and training of trainers in 2008 – 2009.
 - Promote training by WHO Collaborating Centres in pre-hospital care and Road Traffic Injuries.

(3) Networking and experience sharing:

- The first regional meeting of national programme managers on injury prevention and care was held in September 2007 in Thailand.
- The second global meeting and world conference on injury prevention is scheduled in March 2008 in Mexico.
- Plan for technical experience sharing on “Child Motorcycle Helmet” in the SEA Region.

In the area of disability prevention and rehabilitation, SEARO has conducted/collaborated in several activities as follows:

- General and mobility disability
 - Appropriate Assistive Device Workshop
 - Wheelchair Guideline (launch 2008) Workshop
- New CBR Global Guideline validated by five countries in the Region, November 2007.
- Hearing loss – SEAR country profile on hearing impairment published in 2007.
- Situation of VISION 2020 in countries of the Region to be reviewed and SEAR strategic plan to be drafted.

Threat and challenges in injury prevention in the South-East Asia Region

Though most high-income countries started injury prevention activities a few decades ago, the concept of injury prevention and control is new in the Region. Hence, there are several threats and challenges in implementing injury prevention activities at the national level in the Region which are stated below:

Injury situation

- the Region ranked second highest in terms of injuries (106 per 100 000 population) which is possibly under-reported. Injuries are still thought to be a matter of fate.

Institutional capacity

- no full-time staff and no epidemiologist;
- limited human resources to address the issue.

Data / Rationale

- not enough data for policy makers;
- collection of data on causes of injury and classification according to ICD 10;
- increasing number of motorcycles – 42-75% of registered vehicles in countries of the Region;
- age; younger drivers (10 yr+ injured from driving motorcycles);
- use of helmet is not mandatory;
- inappropriate media / advertising on motorcycle use;
- in spite of eight countries having national plans for selected injury prevention, data on and implementation of injury prevention are still a challenge; and
- lack of funding for prevention activities.

6. Disability scenario and linkages with injury prevention

Dr George Tharion, in his presentation on “Disability scenario and the need for linkage to injury prevention programme” stated that those disabled due to an injury and admitted in the trauma ward should be provided with information on the resources available for support on living, job opportunities and rehabilitation facilities in their community.

Later, linkages were also demonstrated in terms of raising public awareness on injury and disability prevention by the disabled. Agencies working for persons with disabilities and others should join hands. Life skill training for injury and disability prevention was important. The social model of disability was suggested to be included to achieve the aim of reducing social restrictions of people with disability after injury.

Dr Moe Aung presented the situation of medical rehabilitation of victims of injuries in Myanmar and recommended community-based rehabilitation as an area for linkage.

Dr Daranee Suvapan presented a recent study conducted in Thailand to identify the incidence of disabilities due to road traffic injuries by sampling patients from the injury surveillance data base and followed up on the functional outcome in the hospital and community after 6-20 months. The preliminary report revealed 4% disability among moderately and severely affected victims of road traffic injuries. Death after discharge among the disabled victims was reported at 6%. The report provides good evidence that linkage between the injury and disability prevention areas can be initiated in research, information system, and in the services to provide appropriate rehabilitation and information on social and educational opportunities to victims of road traffic accidents during admission and on discharge from hospital.

7. Improving violence and injury prevention in the South-East Asia Region

Dr Chamaiparn Santikarn, Regional Adviser, Disability, Injury Prevention and Rehabilitation, proposed actions by Member States to improve the Region's violence and injury prevention data, based on the following concepts:

- maximize use of existing data systems;
- use combined data sources - use available data and don't wait for "sparkling clear" data;
- "only important events should be under surveillance";

- rapidity is the charm of surveillance;
- surveillance is for action; and
- the earlier the data is used, the sooner lives can be saved.

Dr Chamaiparn also stated that it was very important to have information for prioritizing prevention planning at the national level. Some important data sources were suggested for policy advocacy. These include:

- Death registries ICD 10 Ch 20
 - 10 leading causes of death (mortality number and rates)
 - Hospital admission and death report by external causes (ICD10 CH 20)
 - Aggregate data at national level according to
 - 10 leading causes of non-fatal injuries (admitted cases) ICD 10 Ch 20
 - 10 leading causes of fatal injuries
 - {Hospital death- death before admission (DBA), death in the emergency room (DER) and death after admission (DAA)}

Important data sources within each country for policy priority and direction would be:

- Injury surveillance data (hospitalized and survey-individual records)
 - Leading causes of injuries
 - 10 leading causes of fatal injuries
 - Describe by time, place, persons, vehicle
- Registered vehicles (by type)
 - Number and proportion of vehicles – Ministry of Transport

- Police report
 - 10 leading causes of fatal transport accidents
 - 10 leading causes of police report cases on violence

Child injury data may also be needed for policy formulation and for a clearer view on achievement of MDGs. Child injury data source could be:

- Death registries ICD 10 Ch 20
 - 10 leading causes of death (mortality number and rates)
- Hospital admission report -aggregate data at national level
 - 10 leading causes of non-fatal injuries (admitted cases) ICD 10 Ch 20
 - 10 leading causes of fatal injuries {hospital death-death before admission (DBA), death in the emergency room (DER) and death after admission (DAA)}.

Information pertaining to Thailand was provided. The examples of using combined information for action include:

- Linking transportation data and death registries for helmet campaign
- National agenda for injury prevention during festivals.

In the discussion following the presentation, participants agreed that the following data set could be provided to the Regional Office for South-East Asia for improving the regional data on violence and injury prevention:

- 10 leading causes of death
 - Mortality tabulation list 1, ICD-10 WHO Geneva 2004 (Adult)
 - Mortality tabulation list 3, ICD-10 WHO Geneva 2004 (Children)

8. National profile on injury prevention and care

Focal persons from respective ministries of health presented the current situation of injuries and the control measures being taken. The following is a summary of presentations in alphabetical order:

Bhutan

With a population of over 0.6 million (31% urban and 61% rural), predominantly young the top five hospitals' morbidity data relate to complications of pregnancy, acute respiratory infection (7%), digestive system (6%), urogenital tract (5%), and injuries and trauma (4%). Injury-related morbidity reported in 2006 was over 63,000 cases with injuries and poisoning as leading causes (35%). Mortality statistics were highest from injuries and poisoning (24%), burns and corrosives (15%). Motor vehicle accidents are also reported by the Royal Bhutanese Police under the Crime and Operations statistics. Policy actions essentially include post-injury medical care, first aid training and training for injury surveillance. A pilot project on injury surveillance is planned during year 2008. There is a Royal Act for Occupational Safety and another for traffic accidents (RTSTA Act 1999).

India

With a population of over 1.1 billion, India has the highest number of road traffic accidents in the world (35/1,000 vehicles population). Trauma care and a strategy for integrated, coordinated trauma care and injury prevention activities are proposed to be developed.

The National Highway Trauma Care project plan is under implementation in a phased manner along the golden quadrilateral of national highways in India. This includes establishment of level-1 (tertiary) level-2 (secondary) and level-3 (primary trauma centres). In addition, there is a plan to establish an equipped ambulance service along the entire stretch and provide state-of-the-art communication. The components of the

project include; designation of trauma centres (level 1-4); staffing and training; infrastructure up-gradation (including building, equipment and communication system); creation of a trauma registry and injury surveillance systems with monitoring and evaluation. Meanwhile, two major studies have been undertaken to identify feasibility of injury surveillance.

Indonesia

With a population of 227 million and with 50.1 million registered vehicles, injuries from accidents were the leading cause of death among all ages in 2001. As per a household survey, 94% of hospitalization and 95% of mortalities from injuries are due to road traffic crashes. Poisoning cases account for 1.79% of mortality. A national safety target has been set to reduce fatalities by 20% and serious injuries by 15% in 10 years. It is also planned to develop a pre-hospital care system and an integrated information system. The mid-term national plan, 2007-2010, includes development of a community-based injury control task-force, injury sentinel hospital centre, epidemiological surveillance, networking in injury care, and a better information system covering injury and violence and training for injury care. It is also planned to improve inter-sectoral networking and develop injury risk factor control. The problems identified include:

- Un-integrated information system among stakeholders;
- Poorly-integrated problem solving;
- Control programmes are not optimally conducted or coordinated among stakeholders; and
- Low budgetary allocation.

Maldives

Rapid urbanization and increased use of vehicles and machinery has resulted in a higher incidence of injury and death in the country. Also, an increase in substance abuse has led to violence and injury. The regulatory mechanism to deal with the situation is

inadequate. Thus, implementation, data collection and a surveillance system in this area is rather limited for problem solving particularly at the national level.

However, the Indira Gandhi Memorial Hospital has started some interventions on injury prevention and care, mainly aimed at decreasing mortality and morbidity due to both traffic and work-related accidents and injuries. In parallel, the Health Promotion Unit in the Ministry of Health has started using WHO technical guidelines on health and safety, creating public awareness on injury prevention, and providing medical care to the injured.

The Health Master Plan, 2006–2015, aims to decrease mortality due to road traffic and occupational injuries. Strategies listed include public awareness for injury prevention and provision of medical care for the injured for which an inter-sectoral approach across ministries is proposed.

Myanmar

With a population of 53 million, injuries are the third leading cause of all deaths in hospitals with malaria as the number one cause (10.1%) and pulmonary tuberculosis as the second leading cause (5.4%). Road traffic injuries are showing a rising trend. The accident prevention project is part of the Division of Noncommunicable Diseases, Ministry of Health. The country had its first national injury survey in 2005, the second survey in 2007 and a National Injury Surveillance System is expected to be functional from 2008. Strategies for injury prevention and control include coordinated injury prevention activities, improving primary and pre-hospital care, improving quality of injury care in the hospital and improving the community-based rehabilitation programme. Most of the activities relate to creating awareness, public education, surveillance and injury care. Future projects in injury prevention (2008-2009), include:

- training doctors in prevention and management of injury;
- participation in international conferences on injury prevention;

- road safety week activity; and
- establishing an injury surveillance system at the national level and compiling data source.

Nepal

Nepal's population of 28.2 million is 16% urban and 84% rural. Trauma contributes to 16% of the causes of disability. Road traffic injuries kill 900 persons and injure 12,000 people annually. Deaths from injuries due to external causes are predominant in the age group of 15-64 years. Another risk is mountain fall trauma. A national injury surveillance format has been developed by the Ministry of Health and a directive issued to major hospitals in selected districts to use the surveillance form. The draft national policy framework and action plan (2004) needs to be reviewed for its implementation. A national trauma care system has been proposed to get the right patient to the right hospital at the right time. Road traffic injury reports from the police are used though there are other unorganized methods of data collection. The health management information system is related to OPD, in-patient and emergency services in government hospitals with the main focus on indicators of major health programmes. A programme for injury prevention is yet to be established.

Sri Lanka

Injuries have been a leading cause of death since 1995. Injuries caused by motor cycles are a major cause of death and 85% of motorcyclists die of head injuries. The motorcyclists are in the 25-35 years age group. Of those with injuries to the head, 20% who die were not helmeted. The ministry of health has two focal points for injury prevention and care: 1) National Committee on Prevention of Injuries under the NCD Division to cooperate with the ministries of labour, transport and the police department, and 2) Trauma Secretariat. The committee has inter-ministerial representation and meets once in two months. The Trauma Secretariat has four areas of work: 1) injury prevention; 2) pre-

hospital care; 3) hospital care; and 4) rehabilitation. There are five sub-committees: pre-hospital care; injury surveillance; training; clinical protocols and trauma systems. A pilot project on injury surveillance has been initiated in three hospitals and an action plan for 2008-09 is to be developed. The pre-hospital care sub-committee is developing a national action plan which includes promotion of legislation and development of emergency ambulance regulation and training of emergency medical technicians (EMTs). The trauma system is being developed at a national level with the designation of trauma centres and development of accident and emergency departments. In addition, trauma guidelines are being prepared. Injury prevention activities are essentially public education and communication through the mass media.

Thailand

Road traffic injuries, drowning and violence are major causes of death and injury in Thailand. Road traffic deaths have decreased from 6.6 per 1000 vehicles in 1996 to 5.4 in 2006 as the result of several efforts made by the government. Based on the injury information and surveillance system, two national policies have been framed - National Agenda for Road Traffic Injury Prevention 2003, and Drowning Prevention Policy, Ministry of Public Health, 2007. The road safety directing committee is multi-sectoral and multi-disciplinary and is chaired by the Deputy Prime Minister. The committee meets every month and uses the "5 E" strategy (Enforcement, Engineering, Education, Emergency Medical Services (EMS), Evaluation and Information).

9. Gaps and barriers between reality and Regional Strategy

Dr Witaya Chadbunchachai, Thailand, identified the barriers at different levels as follows:

- **Policies** - Conflict in policy, planning and implementation across ministries
- **Resource allocation** - Inadequate budgeting without allocation plan
- **Governance** - Lack of unity in management, lack of good monitoring system
- **Implementing agency** - Multi-tasking, poor prioritization, inadequate participation by stakeholders and the community
- **Interventions** - Lack of a sustainable programme, lack of equipment with poor community participation and feedback.

The specific problems as listed for Thailand include; poor law enforcement, inappropriate use of technology, poor consumer protection, societal inequities which create conflicts among different stakeholders and the lack of academics in the area with systematic research support.

Dr Mathew Varghese analysed the gaps and barriers in countries of the Region and mentioned that most of the presentations reflected concerns on the problem of road traffic injury. The mortality data on road traffic injuries had inadequate details of external cause of injuries in most countries. There was a glaring lack of data on other causes of injuries. The weakness is clearly in the existing data collection systems. Data on other injuries were grossly inadequate. No details were available for any tangible intervention.

The focus of prevention in countries of the Region was predominantly on tertiary level prevention or secondary prevention, and less on primary prevention.

There is no single agency collecting or coordinating data collection in these countries. This leads to poor data generation, poor cooperation among different sectors that are involved and lack of ownership on what needs to be done with the data. In most countries the persons designated for these activities are multi-tasking, looking after other noncommunicable diseases as well.

Transportation policies that may result in reducing the adverse health impacts of road transport will require sophisticated inter-disciplinary research efforts, and, considerable cross-disciplinary communication. Presently there are educational or research institutions in India or other countries in the Region that have given importance to developing this expertise. Post-injury care and educational campaigns are the key elements in injury control in this Region.

Dr Etienne Krug explained promotion of piecemeal approaches is good for initiative. He mentioned – Gaps between injury and violence

- putting agenda on family violence for primary trauma care as well as hospital care and community based rehabilitation programmes;
- advocating with the key stakeholders; and
- making and passing resolution on violence and injury at Regional committee.

10. Professional visits

Visits to the Injury Unit, the Epidemiology Unit, Sirindhorn National Rehabilitation Centre and the Narendhorn EMS Centre under the Ministry of Public Health, Thailand were organized and experiences exchanged especially on the practical aspects in the concerned areas.

11. Review and update of Regional priorities and strategies for prevention of injury and disability

Dr Gururaj Gopal Krishna, Professor and Head, National Institute of Mental Health and Neuro Sciences, India, presented the strategic approaches for injury prevention and control in the South-East Asia Region as summarized below:

Rationale

- Injury and violence are leading causes of death, hospitalization and disabilities throughout the world, and are a major unrecognized problem in the South-East Asia Region also. The burden is higher in developing societies of the South-East Asia Region and contributes to significant socioeconomic losses. Young people, men and vulnerable sections of society are the most affected. At the same time, injuries are predictable and preventable. The far-reaching implications of injury and violence warrant an urgent need to highlight the magnitude and severity of the problem and develop preventive strategies based on strategic approaches. The present report has attempted to assess the magnitude of the problem and the status of ongoing activities in the Region with the help of existing data.

Objectives

General objectives: to assess the current burden of injury and violence and ongoing efforts for prevention and control in the South-East Asia Region.

Specific objectives

- (1) To assess the overall burden of injury and violence in terms of mortality and morbidity in the Region;
- (2) To assess the major prevalent injury causes;
- (3) To identify the current status and ongoing efforts for injury prevention and control; and
- (4) To develop strategic approaches for injury prevention and control in the Region.

Methodology

Phase I: A questionnaire was developed and mailed to investigators in countries of the Region.

Phase II: The available data related to injury burden, impact and ongoing activities was gathered by the national representatives from various sources. Published and unpublished literature was included for pooling relevant information. The compilation of information was undertaken by the lead investigator and circulated among all members and reviewed by the WHO Regional Office for South-East Asia.

Phase III: An intercountry consultation of national programme managers was held during 26-28 September 2007, and the findings were discussed. Suggestions provided by the participants were incorporated in the final report.

Results

- Injuries account for 10%–15% of deaths, 20%–25% of hospitalizations, one third of disabilities and significant unmeasured socioeconomic losses in the Region. Injuries account for 17% of deaths in Thailand, and 10% of deaths in India with variations across countries. All countries are registering an increase in the absolute number of injury deaths and hospitalizations.
- Among various injuries, road traffic injuries account for nearly half, followed by burns and occupational injuries. Among intentional injuries, suicides are on the increase in the South-East Asia Region.
- National policies for injury prevention and control exist in only a few countries like Maldives, Sri Lanka and Thailand. While road traffic injuries are accorded high priority, other injuries are neglected. Other countries are yet to formulate relevant strategies.
- Many countries do not have designated injury prevention and control units. Where such units exist, there is minimal staff. In addition, a defined budget and mechanism for implementation is not available for injury prevention and control.
- For road safety, there are no designated divisions and integrated and coordinated policies are lacking. Even though legislation on helmet usage, drinking and driving, speed control and others are stipulated in Member countries, implementation needs further strengthening.

Recommendations for a strategic approach for injury prevention and care in the South-East Asia Region

- It is strongly recommended that a national policy and programme on injury prevention and care should be developed and strengthened along with monitoring of progress in all countries of the Region. Member countries which have no national policy for injury prevention and control should develop it.
- The WHO Regional Office for South-East Asia, through the country representatives and respective ministries of health, should monitor and evaluate the country commitment to injury prevention and control and help in implementation of policy.
- The appropriate national health authority should initiate development of a national policy and control with clearly defined goals, objectives, resources and prioritization.
- Countries should support the programme with clear political and administrative commitment, budget, and human resources to reduce the increasing number deaths and disabilities due to injuries.

It was also suggested that the recommendations from this meeting should also be appropriately incorporated in the strategic approach document (see detailed information in the document “Strategic approaches for the injury prevention and control in the South-East Asia Region, 2009).

12. Conclusion and recommendations

Conclusion

- Evidence from countries of the South-East Asia Region shows that injuries place an enormous burden on the health services. The existing institutions and processes are not adequately empowered or equipped to deal with the situation.

- Reliable data on the injury situation (especially by causes) are not available in some countries. There is a need to generate data, based on the country priority. However, reasonable data for interventions are available for Road Traffic Injuries (RTI).
- Motorcycle-related injuries are a growing concern in several countries of the Region.
- There is a need to promote and encourage primary prevention of injuries.

Recommendations

For Member States

- (1) Member States should urgently increase investment in prevention of violence and injury.
- (2) Sensitization of policy-makers and capacity strengthening of programme managers would enhance violence and injury prevention activities.
- (3) A nodal agency at the national level responsible for injury prevention in general or in a specific area according to country priority is needed. The nodal agency should have certain mechanisms for intersectoral coordination and monitoring with the concerned ministries, agencies and departments.
- (4) An injury unit in the ministry of health with adequate budget and human resources is also needed to advocate, coordinate and implement injury prevention and care, including safety promotion. Trauma care centres and hospitals should be included as partners of the unit in violence and injury prevention and safety promotion. It is an important strategy for the Region to cope with the current situation of limited resources within the ministries of health.
- (5) The minimum essential data collection and reporting on the situation of injury burden from Member countries to the Region were agreed upon in order to help improve

information on violence and injury prevention in the South-East Asia Region.

- (6) Information systems (hospital data and other sources such as police and health-sector data, vital registration, etc.) should be strengthened and the information used. Standard categorization of causes of injuries according to ICD-10, Chapter 20, should be implemented in death registries and in the hospital admission data system to facilitate policy and planning. The reports generated should be disseminated periodically to all stakeholders.
- (7) Linkages between injury and disability prevention as well as rehabilitation should be strengthened in each Member country.
- (8) Information on safety, training programmes and related materials need to be developed and adapted for the Region.

For WHO

WHO should:

- (1) Continue to advocate for institutionalizing violence and injury prevention within the ministry of health and at the national level. Continuing support should be provided to the injury unit.
- (2) Support Member countries in strengthening information systems and in utilizing the information for injury surveillance and advocacy.
- (3) Provide a template for minimum essential data collection and reporting on the situation of injury which has been agreed upon by the national programme managers (focal persons in the ministry of health for injury and disability prevention), compile the information at the regional level and disseminate to Member countries.
- (4) Support Member countries in capacity strengthening in safety knowledge and evidence-based appropriate interventions through training programmes and materials.

Annex 1

Inaugural Message by Dr Samlee Plianbangchang, Regional Director, WHO South-East Asia Region (Read by Dr Than Sein, former Director NMH)

Instances of injury, in the recent past, have rapidly increased, emerging as a major public health problem and cause of morbidity and mortality. In 2002 alone, an estimated five million deaths, or about one in every 10 deaths globally, occurred worldwide on account of injury. Half of these deaths, due to injury are believed to be avoidable. WHO estimates that the burden of deaths due to injury, would at least double in the next decade if appropriate action to check the growing trend is not urgently taken.

According to *World Health Statistics 2007*, the death rate due to injury in the South-East Asia Region in 2002 was, at 106 per 100,000 population, the second highest among the Regions of WHO. More alarmingly, the figures do not account for possible, and widely suspected, under-reporting. More than half of the Member countries in the South-East Asia Region are placed in the uppermost quartile of the deaths due to injury charts. The major causes of injuries in countries of the Region are:

- Road traffic crashes
- Drowning
- Burns
- Intentional injuries (violence, suicide and assaults)

The World Health Organization had, as early as in 1966, declared injury as a public health problem. Several resolutions on the prevention and control of injury and related issues have been adopted by the World Health Assembly, the latest being resolution WHA57.10 in 2004 on Road Safety and Health. The

first Global Meeting of Ministry of Health Focal Persons for injury and Violence Prevention, in Durban, South Africa in 2006, recognized the need for the establishment of a surveillance system, development of material, formulation of policies, strengthening capacity and improving services for victims. The launch of best practices, the guidelines established on helmets, seat belts and impaired driving, and policy development, the documentary on “violence and health”, and WHO’s Strategy on Child Injury Prevention comprise some of the global highlights of the action taken to encourage and facilitate steps towards injury prevention in countries.

The WHO Regional Committee for South-East Asia had also debated the subject of injury, and adopted a resolution on the same in 1994, with particular emphasis on accident prevention and trauma care management. Countries of the South-East Asia Region had developed a Strategic Plan for Injury Prevention and Control in April 2002. The strategy was aimed at promoting policy advocacy and legislation, strengthening surveillance and pre-hospital care, establishing national institutions for policy, and research and development for injury prevention and networking. A separate curriculum on injury prevention for under-graduate students and for nursing students has also been developed in 2006. Efforts are on to integrate these into the undergraduate courses of different institutions of the Region.

WHO has taken several steps at both global and regional levels to increase awareness of and reduce mortality due to injury. These include the development of the TEACH-VIP (Training, Educating and Advancing Collaboration in Health on Violence and Injury Prevention) Manual and the preparation of a user’s manual. TEACH-VIP is a flexible modular curriculum which can be adapted to a variety of different situations and audience. The emphasis now would be on the diligent implementation of the curriculum at the country level. It is, however, felt that the MoH focal persons still face several limitations and obstacles in policy and programme development, including those of strengthening institutional capacity. While it is essential to provide the necessary care for the injured, it is equally important to implement primary preventive measures to reduce the number of cases of injury.

Some countries no doubt have made good progress in developing and implementing national programmes for prevention and control of injuries. On the other hand, some have not yet placed injury prevention and care on the public health agenda. This may be on account of the fact that injury is a domain considered to be the responsibility of sectors other than health, such as the police, transport, education and legal authorities.

Since systems, processes and priorities in each Member country of the South-East Asia Region differ, this platform is, therefore, considered the most appropriate forum for finalization of the “draft” of the regional strategies.

The development and implementation of strategies for injury prevention and care requires determination at various levels, including of policy-makers in ministries. As such, those attending this meeting have a crucial role to ensure that the system helps in the adoption of the outcomes of the meeting on how to mitigate the death burden due to accidents and lack of proper care.

I am sure participants will have the opportunity to exchange viable experiences in the field during this meeting to the benefit of each other.

I believe that the coordinated work and commitment of the participants will ensure that the meeting achieves its important objectives. I await news of the outcome of the meeting.

Annex 2

Agenda

- (1) Inauguration
- (2) Global Injury Prevention
- (3) Regional Injury Prevention and Collaboration
- (4) Disabilities scenario and linkages between injury prevention, disability prevention and rehabilitation.
- (5) Exchange of experience in national injury and disability prevention
 - Injury information
 - Establishment of injury Unit and mechanism for national programme implementation and coordination with multisectoral.
 - Policy action from Injury information and surveillance system.
 - National programme on injury prevention and care and responsible unit
- (6) Professional Visits:
 - (i) Visit to Injury Unit, MOH, Thailand;
 - (ii) Visit to Epidemiology Unit, MOH, Thailand; and
 - (iii) Visit to Sirindhorn National Rehabilitation Centre, MOH, Thailand.
 - (iv) Visit to Narendhorn EMS Centre, MoH, Thailand
- (7) Review and update regional priorities and strategies for injury and disability prevention.

Annex 3

Programme

Wednesday, 26 September 2007

08.30-09.00	Registration of participants	
09.00 -09.30	Opening Session	
09.45-10.15	Introduction of the meeting, expected outcome, Election of chairperson, co-chairperson and rapporteur	<i>Dr Than Sein</i> , Director, Dept. of Non-communicable Diseases & Mental Health, WHO/SEARO
10.15-11.00	Presentation and discussion on WHO wide activities on injury and violence prevention and disability	<i>Dr Etienne Krug</i> , Director, Department of Injuries and Violence Prevention, WHO/HQ
11:00-11:45	Presentation and discussion on regional activities on injury and violence prevention and disability	<i>Dr Chamaiparn Santikarn</i> , RA-DPR, SEARO
11:45-12:10	Presentation and discussion on the role of the MoH in injury and violence prevention	<i>Dr Etienne Krug</i> , Director, Department of Injuries and Violence Prevention, WHO/HQ
12:10-12:30	Presentation and discussion on the new global road safety project.	
13.30-15.00	Visits to Sirindhorn Centre and meeting with disabled persons	Director, WHO CC, Sirindhorn Centre
15.15-16.00	<ul style="list-style-type: none">• Presentation of disability scenario and need for linkage to injury prevention programme (15 minutes each including discussion)• Injury surveillance and linkage with research to obtain disability from road traffic (preliminary report)• (15 minutes each including discussion)	<ul style="list-style-type: none">• <i>Dr George Tharion</i>, CMC Vellore, India• <i>Dr U Moe Aung</i>, Yangon, Myanmar• <i>Dr Daranee Suvapan</i> WHO CC, Sirindhorn Centre

16.00-16.40	UNESCAP – Collaboration in disabilities	<i>Ms Aiko Akiyama, UNESCAP</i>
16.40-17.00	Discussion on improving VIP information in SEAR	<i>Dr Chamaiparn Santikarn</i>

Thursday, 27 September 2007

08.30-09.00	Injury Unit in MoH – Institutionalized Capacity <ul style="list-style-type: none">• Establishment and evolution of Thailand injury unit• Establishment and functions of Sri Lanka injury unit	<ul style="list-style-type: none">• <i>Dr Tairjing Siripanich, Thailand</i>• <i>Dr Anil Jasinghe, Sri Lanka</i>
09.00-09.30	Empowering children against violence through life skills and resilience: a population-wide approach	<i>Dr Prawate Tantipiwatanaskul</i>
09.30-10.30	Country presentations on National profile on Injury Prevention and Care (10 minutes – each country): <ul style="list-style-type: none">• Injury burden• Policy action from injury information and surveillance system• National Programme on Injury prevention and care and responsible unit• Mechanism for national programme implementation and co-ordination with multi-sectoral	Country MoH focal person
10.45-11.45	Country presentation (Continued)	Country MoH focal person
11.45-12.30	Discussion on gaps between reality and regional strategies and ways to move forward	<ul style="list-style-type: none">• <i>Dr Etienne Krug</i>• <i>Dr Mathew Varghese</i>• <i>Dr Witaya Chadbunchachai</i>
13.30-14.45	Visit to Injury Unit/NCD Bureau, DDC, MoPH: <ul style="list-style-type: none">• Briefing on establishment, development and functions of NCD epidemiology section in operational epidemiology (10 Min)	<ul style="list-style-type: none">• Director, Epidemiology Bureau

	<ul style="list-style-type: none">• Briefing on the NCD Bureau and Injury unit – (10 Min)	<ul style="list-style-type: none">• Director, NCD Bureau
14.45-15.45	Visit to Narendhorn (EMS Centre) <ul style="list-style-type: none">• Briefing on establishment and development of the centre, functions and system	Director, Narendhorn EMS Centre
16.15-17.30	Presentation and queries on draft situation and Strategy Plan for Injury Prevention and Control in South-East Asia Region - 2008-2013	<i>Dr Gururaj Gopala Krishnan, NIMHANS, Bangalore, India</i>

Friday, 28 September 2007

09.00-09.45	Group work on draft situation on Injury Prevention and Care and development of strategy for 2008-2013	RA-DPR/SEARO and <i>Dr Gururaj Gopala Krishnan, NIMHANS, India</i>
10.00-12.30	Group work (Continued)	
13.30-15.00	Group work – finalizing and presentation	
15.15-16.30	Conclusion and Closure	<i>Dr Than Sein, Director, Dept. of Non-communicable Diseases & Mental Health, WHO/SEARO</i>

Annex 4

List of participants

Bhutan

Ms Karma Doma
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Department of Public Health
Ministry of Health
Bhutan

India

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Senior Orthopaedic Surgeon
CIO, Safdarjung Hospital
New Delhi

Indonesia

Dr Achmad Hardiman
SpKJ, MARS - Director of
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D/G of DC & EH
Ministry of Health
R.I., Jakarta

Maldives

Dr Mohamed Habeeb
Senior Registrar in Orthopaedics
Indira Gandhi Memorial Hospital
Hospital Male
Maldives

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Professor & Head
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University of Medicine
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Nepal

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WHO – Secretariat

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Dr Than Sein
Director
Noncommunicable Diseases & Mental
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WHO/SEARO

Dr Chamaiparn Santikarn
Regional Adviser
Disability Prevention and Rehabilitation
WHO/SEARO

Dr Krishnan Rajam
STP
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Dr Myo Paing
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Dr Suci Melati Wulandari
National Consultant
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The Regional Office for the South-East Asia, World Health Organization organized a Regional meeting of the National Program Managers on “Injury Prevention and Care in the South-East Asia Region” to review the situation of national programmes on violence and injury prevention and its linkages with disability prevention and rehabilitation in Member countries. Programme managers from all Member countries except Bangladesh, DPR Korea and Sri Lanka participated in the meeting. Besides, seven (7) regional experts attended the meeting as the Temporary Advisor and WHO secretariat. Increase investment by the Governments of the Member countries in prevention of violence and injury as well as the WHO's role in capacity building for strengthening violence and injury prevention were focused during the meeting.



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