ACCIDENT AND INJURY PREVENTION AT THE PRIMARY HEALTH CARE LEVEL

Report on a Seminar

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"ACCIDENT PREVENTION LIES ON THE VERY HEART OF PRIMARY HEALTH CARE"

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1. Introduction

1.1 Opening remarks

The Seminar was opened by Dr Narong Sadudi, Director-General, Department of Medical Services, Thailand. Dr Narong emphasized that health planning for developing countries has identified the need to reduce deaths and morbidity from motor vehicle accidents and from domestic, recreational and occupational injuries. He noted that injury care is included in the essential element of primary health care (PHC) as defined by Alma-Ata, but injury prevention was rarely mentioned in community programmes in countries.

On behalf of Dr Mahler, Director-General of WHO, Dr U Ko Ko, Regional Director, and Dr Stern, WHO representative to Thailand, Dr Romer welcomed participants and extended thanks to the Ministry of Public Health for hosting the Seminar.

The participants were also welcomed by Dr Suthas Vejcho, the representative of the Governor of Chonburi Province, and Dr Amnuay Utungkarn, Public Health Experts.

2. Objectives

Dr Romer provided an overall description of the injury problem worldwide. He referred to the limited activity in injury control in the developing world, where the problem is of increasing incidence and severity, particularly among the young. This is often due to a lack of political willingness and scientific interest in promoting and studying appropriate countermeasures.

Emphasizing community injury prevention represents a breakthrough in the conceptual way of approaching the problem. Until now, injuries have been dealt with essentially at the central level only, and it was felt that this "top-to-bottom" approach has reached its limit of efficiency.

WHO considers the community-oriented approach an essential component of its Global Accident Prevention Programme. WHO appreciates the interest and cooperation of the Ministry of Public Health of Thailand, since Thailand has accumulated a great deal of experience in both PHC development and injuries management.

The Seminar was therefore jointly organized with the following objectives:

(1) to formulate principles for the integration of injury prevention within the PHC network of activities in Thailand;

(2) to select priority areas for intervention and launch a demonstration project in Thailand;

(3) on the basis of (1) and (2) above, to formulate general principles and produce WHO guidelines on community injury prevention programme for the promotion of similar activities in WHO Member States.

3. Accident and injury prevention at the PHC level

PHC involves methods and technologies that are:

- affordable;
- practical, scientifically sound, and socially acceptable;
- made universally available;
- based on the full participation of the community.

Many of the well accepted PHC activities have direct relevance to injury prevention: maternal and child health, environmental sanitation, health education, public health nursing, maintenance of records, and primary medical care. Although the types of injury will vary from one community to another, the approaches to injury control are generalizeable. These are education, regulations, technological changes and community action.

Injury control interventions must be based on local needs, utilize appropriate technologies, and involve the active participation of the community. The PHC system is vital to each of these considerations. If a community does not perceive an injury problem to be important, or if a technological solution is beyond the financial means of the average resident, then no action will be taken.

Examples of appropriate technology for injury control in developing countries include:

- development of lightweight, comfortable, low-cost and effective motorcycle crash helmets for tropical climates;

- development of simple-to-use screening tests for pesticide exposure, e.g. a dip-stick test with blood obtained by finger-prick;

- use of bamboo for improvised stretchers, splinting fractures, etc.;

- use of local textiles for head protection, neck collars, arm splints, airway and sunburn protection;

- use of wick stoves instead of pressurized stoves to reduce the risk of explosions and burns;

- designing simple and inexpensive child-proof containers for the stores of hazardous chemicals in rural areas.

How readily injury prevention activities can be incorporated into the existing PHC system depends on a number of factors (Table 1). Because village health workers have experience with medical subjects such as nutrition and family planning, learning and applying principles of first aid will be relatively easy. Acquiring skills in the mental health area (to reduce intentional injuries such as homicide and suicide) and in nonmedical injury subjects (such as road hazards and vehicle maintenance) will be more difficult. Similarly, PHC workers spend much of their time with children and parents, so targeting childhood and domestic injuries fits readily into ongoing activities. However, adolescents and young adult males - the groups most likely to suffer motor vehicle injuries - have not been active participants in PHC programmes. Strategies to reduce injuries through technological changes and regulations are not as familiar to the PHC system as

health education approaches. Actions that have a major economic impact, such as requirements for expensive repairs of motor vehicle defects, will be less acceptable than low-cost approaches, such as teaching families how to treat minor burns. In summary, health education approaches that address domestic injuries, especially those involving children, will be the easiest to incorporate into existing PHC activities.

Periodic health visits for antenatal and well-child care offer opportunities for injury prevention education. Similarly, environmental health workers can identify and remedy hazards through their activities with respect to housing and recreational establishments. Assuring that correct primary treatment of injuries, such as cool water for burns, direct pressure for bleeding, etc., is practised in a community can prevent more serious consequences for victims. This involves training PHC personnel and education of the community.

A set of educational objectives for community health workers in injury control might include the following elements:

- knowledge: resources to notify to reduce preventable injuries; the most common and serious injuries occurring in different age groups; populations at high risk for specific injuries; and injury countermeasures - education, community action and technological changes;

- skills: recognize preventable injuries; counsel individuals and families regarding injury prevention; and record in medical charts important epidemiological data;

- attitudes: injuries are preventable, not random "accidents"; and injury control is an important aspect of primary health care.

Examples of possible training approaches are found in Table 2.

At the national level, the PHC system has several important responsibilities. There must be coordination of activities among many sectors. Educational material, training programmes and methods of technical support need to be developed. Systems of data collection are necessary to target problem areas and high-risk groups and evaluate programmes. Research into appropriate technologies and effective action requires national resources. Finally, laws, regulations and systems of emergency medical care must often be formulated on a countrywide basis.

3.1 Role of Nongovernmental Organizations

Nongovernmental organizations can play a major role in injury prevention activities at both the local and national levels. There are numerous private, nonprofit organizations involved in community health issues. They include safety councils, the Red Cross and professional societies (such as physicians' and nurses' associations). The unique strengths of NGOs are that they emphasize active participation of their constituents in the community; are more flexible and quick-acting than some government bureaucracies; and can organize activities that are politically sensitive, e.g. holding news conferences and lobbying legislators. Many Nongovernmental Organizations already participate in PHC programmes such as family planning, nutrition and maternal/child health. Involving these organizations in injury prevention projects and coordinating their activities with those of government agencies are important goals for the PHC system.

3.2 Evaluation and data collection

Evaluation needs to be built into the design of an action programme and not added after the programme is under way. Among the questions that must be answered at the outset are the following.

- What events will be counted as "injuries"? Only severe injuries requiring hospitalization? Both intentional (assaults, suicides, etc.) as well as unintentional injuries? Environmental poisonings? Domestic, motor vehicle and occupational injuries?

- What age groups will be included?

- What geographical area?

Both the process and the effects of the intervention deserve to be evaluated. Evaluation of the process refers to:

- description of the programme structures, how they work and how they may have differed from the original plan;

- review of the agencies, organizations and individuals who participated or did not participate;

- observations on the way in which technologies were used and whether they were fully utilized;

- description of problems and barriers to programme implementation, such as insufficient funds, disagreements among key individuals, lack of manpower or other resources;

- response of the residents to the programme, whether they found it useful, burdensome or irrelevant;

- review of the programme dynamics: Did it generate new activities in the community? Will activities spread to other communities? Are they likely to be permanent? Was there effective intersectoral coordination?

To assess the effects of injury prevention programmes, one can measure changes in knowledge, attitudes, behaviour, the environment and rates of injury. Ideally, data should be obtained before and after the programme is implemented in both target and comparison communities. Individual goals should be specified at the outset for each programme objective. Evaluating costs and expenditure is important to see if the programme is financially viable and generalizeable to other communities.

Evaluation activities need not be complicated or expensive. Important information can be obtained by interviewing key informants such as long-time residents, physicians and village health workers. Table 3 summarizes the injury problems cited by one group of individuals from a rural area of Thailand. Other approaches are to use nationally collected data on deaths and hospitalizations; review local hospital, police and health centre records; and conduct simple observational surveys (Table 4 is an example of motorcycle helmet use in Bangkok). When primary data collection is necessary, a simple form can identify the most important injury hazards in a community (Fig. 1).

4. National accident prevention programme in Thailand

In response to the rising human and economic toll of injuries, the Government of Thailand incorporated a plan for national safety in the Fifth National Economic and Social Development Plan (1982-1986). The plan addressed several problems:

- there was inadequate data for injury control planning;
- there was little coordination among the 12 ministries and 75 agencies having work related to accidents and injuries;
- there was no provision for implementation and follow-up of prevention activities at the national level.

The National Safety Council of Thailand (NSCT) was therefore established within the Prime Minister's Office (Fig. 2). Its work includes activities in all phases of injuries and in the areas of education, enforcement and engineering. Traffic, work, home and public accidents are addressed through multidisciplinary intersectoral councils and advisory committees. Three regional coordinating centres have recently been created to promote research and action throughout the nation. It is the Government's policy to integrate accident prevention activities into the basic public health programmes of the Ministry of Public Health and into the priority plans of the four main ministries.

It should be mentioned that this national development occurred following the active contribution of Thailand to the WHO Conference on Road Traffic Accidents in Developing Countries, held in Mexico, 9-13 November 1981, and was fully in line with the recommendations of this meeting. Close cooperation took place between WHO and Thailand following this conference.

A major thrust of the NSCT has been development of injury control training programmes, from core lectures for health personnel to master- and doctorate-level degree programmes.

Considerations for the future include the integration of accident control into primary health care; establishment of a Division of Injury Control within the Ministry of Public Health; and improvement of injury care - first aid, emergency transport and rehabilitation - in rural areas.

5. PHC in Thailand

An in-depth review of PHC in Thailand is presented in an up-to-date publication of the Ministry of Public Health (15). Only a few major aspects will be mentioned below.

The PHC system in Thailand is closely linked to the nation's governmental administrative structure. This consists of a central administration in Bangkok, 72 provinces, 704 districts, 6283 tambons and 56 671 villages. Medical care is provided at three main levels: at regional hospitals and other general and specialized hospitals, at provincial and district (community) hospitals, and at health centres at the tambon level staffed by public health workers.

The philosophical premises of the PHC system are:

- equity: the just distribution of health and social resources.
- health is an integral part of social development.
- direct involvement of individuals, families and the community at large is essential.

The PHC strategy emphasizes intersectoral action (ministries of public health, of education, of the interior, of industry, of agriculture, etc). and both individual and collective responsibility for health.

The three main thrusts of PHC in Thailand are:

- manpower development, including village health volunteers and communicators (VHVs, VHCs);
- community organization;
- community funding.

Among the many innovative activities of the country's PHC system are:

- establishment of drug cooperatives and various community-managed funds for health-related services;
- an intersectoral "basic minimum needs approach" for community development;
- technical cooperation among developing villages to share ideas and experiences;
- training of at least one village health volunteer for each village, one village health communicator for 10 to 15 households;
- establishment of four regional training centres for PHC development.

With the help of nearly half a million volunteers, Thailand has brought health services to virtually all of its villages. In PHC programmes, government officials serve as facilitators; villagers determine the priorities and strategies for action. Several essential elements of PHC in Thailand are relevant to injury control: education concerning prevailing health problems; maternal and child health care; prevention and control of locally endemic health problems; and appropriate treatment of common diseases and injuries. Future initiatives include the utilization of mothers' groups and village craftsmen for PHC efforts; and coordination of a national effort towards injury prevention that includes injury surveillance, research, community and professional education, and development of appropriate technologies.

6. The Nakornsawan project

The Health for All Research and Development Support Project (the Nakornsawan project) is a joint endeavour of the Thailand Ministry of Public Health, Mahidol University, Asean Training Center for Primary Health Care Development, and WHO.

The goals of the project are to:

- improve the quality of existing PHC elements;
- elucidate optimal ways of adding new high-priority elements;
- maximize local initiatives and management.

An early focus of effort was the medical care for common diseases and injuries. Three documents (6, 9, 19) relate to this important project. Only a few key points will be mentioned here.

The project used pragmatic, problem-solving research and an information system that was locally based. Social, cultural, behavioural, technical, managerial and financial issues were addressed in devising acceptable and feasible health care approaches.

The major injury prevention efforts were directed at chemical poisoning, road accidents and machinery accidents. Information about medical care of injuries at the village level was provided to villagers by health volunteers, local officials and village leaders, e.g. teachers and the police. A working model for accident prevention activities is given in Table 5.

The five basic elements in the project are:

- community organization;
- development innovations/appropriate technology;
- government infrastructure;
- community financial and managerial system;
- intersectoral participation.

An innovative funding scheme for health services was implemented. The scheme established a community fund with contributions from the villagers. The fund was used to make profitable investments and the profits are used to support PHC activities. Examples of investments were the establishment of a duck farm and vegetable garden.

The locally based information system relies on volunteers, who continuously collect data on illnesses and injuries among their assigned clusters of villagers. The data are regularly analysed by villagers, together with health workers.

The most unique characteristic of the project is the emphasis on self-reliance. Villagers and community-level officials identify problems, set priorities and implement interventions. Higher-level administrators and government officials serve as consultants and facilitators.

The chronology of events in the project is summarized in Table 6.

7. Information on accidents and injuries

7.1 Thailand

Since 1969, accidents have been the leading cause of death in Thailand. The death rate from accidents has more than doubled between 1975 and 1981 (from 16 deaths per 100 000 population to 33). In 1983, nearly two million people injured in accidents were treated in hospitals, and there were 31 000 deaths. Thirty per cent of hospital beds outside Bangkok are occupied by injury patients. The economic burden of injuries is staggering: 40 000 million Baht in direct costs alone. (1US$ 1987 equals 26 Baht)

The types of injury most commonly leading to death are homicides (27%), motor vehicles (19%), suicides (13%), drowning/suffocation (9%), natural and environmental causes (2%), and falls (1%) (Table 7). Intentional injuries (homicides, suicides), motor vehicles, drownings and burns are the injuries accounting for the most years of potential life lost.

The injury rate varies by region, with the Central Region highest and the North-Eastern Region lowest. The death rate from motor vehicle injuries reached a peak of 16 per 100 000 in 1978 and fell to 11 in 1984 (Fig. 3). The young adults in Thailand (aged 15-44 years) are the major victims of motor vehicle injuries, accounting for 65% of deaths. Intentional injuries - homicide and suicide - are another important concern in Thailand (4).

In addition to mortality statistics, the Division of Health Statistics of the Ministry of Public Health maintains national data on hospital discharges. Also, since 1983, the Division of Epidemiology has added noncommunicable disease items to its monthly reporting registry, e.g. poisoning, snake bites and intentional injuries. Additional data systems are available on road traffic and occupational injuries and deaths in Thailand.

Among the important findings revealed by this data:

- accidents, poisonings and violence accounted for 264 000 admissions to Ministry of Public Health hospitals in 1983, 11% of all such admissions;
- more than 3000 road traffic fatalities were recorded by police in 1983;
- more than 50% of motor vehicle deaths occur to people in the age group 15-34 years;
- among children aged 12 years and under, falls, drownings, motor vehicle injuries, lacerations and animal bites are the most common, serious injuries.

7.2 Accidents and injuries in other countries

Australia has a population of 15 million people. Injuries produce 7600 deaths each year, 300 000 hospital admissions, 10 million medically treated contacts, and $11 billion in costs (7% of the country's GNP). Nationwide goals are to reduce drownings and motor vehicle deaths involving children aged 1-4 years reduce burns and scalds by 20%; and to reduce hospital admissions from injuries by 25%.

South Australia has a Surveillance and Control Unit for injuries that utilizes three data collection sites: emergency units at a general and children's hospital and reports from a large family practice. A community accident prevention programme involves the National Safety Council, the Child Accident Foundation and other government agencies and Nongovernmental Organizations.

The Netherlands is the home of the European Consumer Product Safety Institute. A community-based home and leisure injury surveillance system utilizes data from a 10% sample of hospitals. Traffic injuries are addressed by the Ministry of Transport and the Institute for Road Safety Research. In the autumn of this year, a three-year child safety campaign will be launched with a focus on community education activities.

A major injury problem in France is motor vehicles. Excessive speed, driving while intoxicated and non-use of seat belts are major factors. Mandatory seat belt laws and enforcement of speed limits have lowered the automobile death rate.

In Nepal, there is no national injury data collection system. Hospital records are often incomplete. The Nepal Pediatrics Society and UNICEF sponsored an 18-month study of injuries; the data collection phase has been completed. Although there are few motorized vehicles in the country (44 000 in 1984), there are 20 times more deaths per vehicle than in highly industrialized countries.

Malaysia has one of the highest motor vehicle injury rates in the world. The International Organization of Consumers Unions in Penang has emphasized pesticide poisonings as a major concern. While developing countries account for only 20% of the world's pesticide use, they experience 50% of all pesticide poisonings and 80% of all deaths.

8. Community injury control: a protocol for action and PHC

Any programme to reduce injuries in a community must begin with a review of the available information and consideration of alternative strategies for action. Since every community will have unique problems and resources, what works for one population may not be appropriate for another. General guidelines for developing a community-based injury prevention programme appear in Table 8.

8.1 An example from a highly industrialized country

The use of multiple strategies to control a specific injury problem is well illustrated by efforts to protect children riding in automobiles in the United States (Table 9). The involvement of many types of individuals within the community, and the different kinds of objective data used to evaluate the effectiveness of the efforts, are also apparent.

8.2 Implementation of a demonstration project on injury prevention in PHC in Thailand

(1) Obtain approval for the project from the Permanent Secretary, Ministry of Public Health.

(2) Appoint the project director within the Ministry of Public Health.

(3) Select the target community:

- population of district not over 100 000;
- capable and enthusiastic health personnel;
- less than two hours' drive from Bangkok;
- low potential for conflict with other development programmes;
- representative of region in terms of culture and geography;
- well developed primary health care activities;
- receptive political structure.

(4) Select comparison community: similar geographic, demographic and cultural profile; similar injury problems.

(5) Provincial level: form the advisory committee with the Governor as chairperson:

- include sectoral representatives: public health, education, agriculture, interior, police;
- include representatives from village committees.

(6) District level:

- train the tambon and village project workers;
- establish the data collection system;
- coordinate activities of primary health, schools, occupational health, agricultural extension, school health, police, religious leaders, etc.;
- incorporate both preventive and curative activities.

(7) Village level:

- health volunteers conduct injury surveillance and health education activities;
- health volunteers provide first aid and referral;
- village committee identifies problems and priorities for action;
- the technical cooperation among developing villages strategy is used to disseminate successful activities.

(8) Central level:

- preparation of training and public education materials, in consultation with provincial health officer and village representatives;
- set priorities by reviewing existing data and preventive activities, and emphasizing direct concerns of the villagers;
- provide technical support;
- establish evaluation instruments and methods;
- train the trainers;
- coordinate involvement of the four ministries (health, education, agriculture and interior);
- research appropriate technology;
- establish budget: existing resources, required support for materials, travel, personnel, training and evaluation.

(9) Evaluation strategy:

- utilize existing data: vital statistics, hospital discharge data from the Ministry of Public Health, police reports, epidemiology surveillance reports, tambon development data;
- consider special surveillance of injury incidents by village health workers;
- consider external evaluation team, e.g. by public health faculty members, to be involved from programme planning stage;
- include indicators of process, costs, impacts and replicability.

9. Conclusions and Recommendations

(1) Major roles for the PHC system in accident/injury prevention include:

- surveillance to identify hazards, risk groups and injury-producing behaviours;
- education of community workers and residents;
- intersectoral collaboration;
- provision of appropriate primary medical care (first aid).

(2) The first priority for injury prevention efforts is to choose problems and strategies that can be most easily integrated into existing PHC structures and activities. A further step would be to extend PHC activities to new areas and strategies, such as those involving intentional injuries.

(3) Models for community-based injury prevention - and evaluation of their process and impacts - are urgently needed.

Recommendations

(1) The Ministry of Public Health of Thailand shall consider what steps will be taken and what support will be needed for incorporating injury prevention into the PHC system. The Ministry shall serve as the focus for intersectoral collaboration in this effort.

(2) A WHO Global Steering Committee shall be established with representatives from countries - including Thailand - with active PHC/injury prevention projects. The first meeting will be early in 1988. The Steering Committee will review the progress of the projects; assess related needs for technological support and relevant materials, especially for training; seek technical cooperation among countries with active community-based injury prevention programmes; and meet periodically to review strategies, problems and successes.

(3) WHO should provide support in key areas such as training and the production of relevant material adapted to local needs. A "travelling seminar" should be organized for this purpose, held partly in developed and partly in less industrialized countries.

(4) Technical cooperation among countries should be supported and facilitated by WHO. Priority areas should include data management (such as coding forms and computer software), voluntary standards and consumer product safety regulations, and models for intervention strategies at the community level.

(5) Based on the protocol for implementation of a PHC/injury prevention project in Thailand, WHO should formulate guidelines for the replication of community injury programmes in other countries where PHC services have reached an appropriate level of development.

(6) The progress made in the PHC/injury prevention area should serve as background for a planned WHO Study Group on Domestic Accident Prevention to be held in 1988–1989.

(7) Through the WHO/NGO liaison meeting, WHO should make an analysis of the potential role of Nongovernmental Organizations in supporting and implementing community-based injury programmes.

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Table 1. Incorporation injury control into the PHC system

Factor	Easier to incorporate	More difficult
Subject matter	Medical	Mental health, Nonmedical topics
Target group	Parents, children	Adolescents
Strategy	Health education	Regulations, technological changes
Economic impact	Minor	Major
Injury type	Domestic	Intentional

Table 2. Injury control training elements for community health workers

Element	Possible training formats
Know the most common and serious injuries in a community and the at-risk groups	Lectures Self-study course
Conduct home and community hazard surveys	Field visits with supervisors Slide show or videotape
Report hazards to proper agencies	Field manual
Provide safety counseling	Role playing Field manual Educational handouts for families
Demonstrate safety items	Demonstration kits
Provide first aid for injuries	Lectures Self-study course Practical supervision at hospital or health centre

Table 3. Injury problems in a rural community cited by a group of key informants (Thailand)

Burns from farming practices

Drownings in irrigation canals

Motor vehicle crashes involving locally made pick-up trucks

Electrocutions from recent electrification projects

Pesticide poisonings: occupational and suicidal

Snake and animal bites

Burns from LPG gas explosions as LPG replaces charcoal

Falls

Motorcycle crashes

Homicides and assaults

Pedestrian injuries

Overturning buses

Table 4. Observations of 405 motorized two-wheel vehicles at one Bangkok Street corner, 8-20 March 1987 (Dr L. Berger)

	Motorcycles	Motor scooters
Total number of vehicles observed	305	100
per cent of drivers wearing helmets	44%	41%
per cent of passengers wearing helmets	2% (1/46)	5% (1/21)
Total number of vehicles with no passengers	260	79
per cent of drivers wearing helmets	48%	47%
Total number of vehicles with passengers	45[a]	21
per cent of drivers wearing helmets	22% (10/45)	19% (4/21)
per cent of passengers wearing helmets	2% (1/46)	5% (1/21)

Conclusions

1. There are no major differences between motorcycles and motorscooters in the percentage of helmet use of drivers or passengers.

2. Drivers are much more likely to be wearing a helmet than passengers (43% as opposed to 3%).

3. Drivers of vehicles without passengers are more than twice as likely to be wearing helmets than drivers carrying passengers (48% as opposed to 21%).

[a] One motorcycle was carrying a driver and two passengers

TABLE 5

PHC ACTIVITIES IN ACCIDENT PREVENTION & RESCUE: A WORKING MODEL (Thailand)

(Home and Village level example/Road/Traffic Accident) HFA R&D Support Project 1985-1987

Level	Activities	Actor(s)	Information, Knowledge & skills	Providers & Trainers	Equipments & Logistics	Method or approach used	Evaluation Indicator(s)
Home	Give guidance to family members about road and traffic accident prevention	Family Heads	Causes of R & T accident R & T Law and safety regulations How to prevent/ avoid accident How to rescue	Village leaders Volunteers	Information documents Leaflets Recorded cassettes Posters, signs and signals	Loud speakers Village gatherings Home visits Group discussion Group training & demonstration	Improved knowledge and behaviours concerning road and traffic safeties.
	Know basic rescue and the referral channels for accident treatment	Adults in the Household	Proper first aid treatment and delivery of patients to appropriate service outlet	Volunteers & Health trainers	Same as above	Demonstrations and learning by doing it with the trainers	Improved ability to provide first aid, and to cope with accidents when occur
Village	Provide knowledge and information to villagers Coordinate with related sectors for assistances	Leaders/ Volunteers	Same as above but more detail	District level Trainers and local highway police unit	Same as above but with additional self-learning guidebook	Group training and actual practicing	Improved ability to provide inform. and knowledge
	Support costs of activities	Village Fund Committee	* see operational guide and principles	Cooperatives and marketing Trainers + TCDV uses	Provide budget	Incentives approach	Functional and continuous operation of activities

Table 6. Nakornsawan project - chronology of events

In 1986, the Wanghoi village demonstrated an interest in creating village development projects.

Towards the end of the year, a request for technical assistance was made to Nakornsawan project staff by the village through the health workers. The following events then took place.

1. A meeting with village heads, leaders and local officials was held in Wanghoi. Emphasis of the meeting was placed on:

   - the concepts of true village development planning and implementation;
   - the concepts of village organizations and group representatives necessary for village actions.

2. A village meeting was organized by villagers to motivate and persuade people to understand the benefits of participatory efforts; and how the community can be organized to make such efforts. As a result, villagers agreed to elect a village committee by nominating and selecting a representative from their residential clusters. This election was done in order to do away with the earlier non-active committee members who were appointed by the village chief and the district officials alone.

3. The new village committee and leaders met with the R&D provincial district operational teams. Emphasis was made on health problems and the ideas of the new PHC action programmes.

4. The village committee and villagers brought their ideas to the discussion during the village reorientation for village development actions. Here, volunteers for health, agriculture, education, etc., were nominated and elected. For health matters, these elected volunteer groups consist of both newcomers and former (ministry-supported) volunteers.

5. New volunteers were introduced to villagers and leaders concerning their roles in and contributions to achieving community health improvements. This was aimed at promoting community recognition and acceptance of health volunteers. Here, volunteers were given guidance to learn and work "by doing".

6. Problem searching and identification of ill health was undertaken by volunteers who collected illness and health information in a simple format. Each of the collected information forms was later compiled, and ranked for priority.

7. Village committee members and health volunteers (with the assistance of local health workers) made a village plan of action, and submitted requests for technical and service support.

8. Training of volunteers took place concerning appropriate health knowledge and technical skills related to the control, prevention and primary care of locally identified sicknesses and injuries.

9. Volunteers extended knowledge and information about illness control, prevention and care to villagers in each of their responsible clusters, through:

- home visits;
- group conversations;
- village loud speakers;
- village gatherings;
- radio programmes (from province);
- leaflets, posters, booklets and other appropriate media.

10. Primary illness detection services and primary care assistance are provided by these volunteers.

11. Campaigns against specific health problems have been made by the collaborative hospital-public health teams from the district.

12. Related government sectoral and NGO representatives are requested to help address problems related to, for example, farming machinery and chemicals. The sectors include:

- agriculture organizations;
- drug and food control;
- police and law enforcement;
- schools.

13. The cycle of activity at the village level consists of the villagers themselves considering the following steps:

- what is the problem?
- what causes the problem?
- what can be done to solve the problem?
- take actions;
- what are the results of actions?

Table 7. Number and percentage of deaths from injury (Thailand, 1985)

Type (ICD 9)	Number	Percentage
Railway accidents (E 800-E 807)	77	0.36
Motor vehicle (E 810-E 829)	3 955	18.56
Water transport (E 830-E 838)	19	0.09
Air and space (E 840-E 845)	12	0.06
Poisoning (E 850-E 869)	128	0.60
Falls (E 880-E 888)	181	0.82
Fire and flames (E 890-E 899)	123	0.52
Natural and environment (E 900-E 909)	380	1.78
Submersion, suffocation and Foreign bodies (E 910-E 915)	1 953	9.17
Others (E 916-E 949)	5 898	27.68
Suicides (E 950-E 959)	2 805	13.16
Homicides (E 960-E 969)	5 794	27.19
Total	21 325	100.00

Table 8. Developing an injury prevention programme

1. Gather and analyse data on injuries in the region

- to develop an understanding of the specific circumstances, injury types and high risk groups;
- to establish baseline information for evaluation;
- to justify the programme to key decision-makers.

2. Select the target injuries and target population

- select target injuries on the basis of their frequency, severity and feasibility of interventions,
- determine why, when and how the injuries occur;
- choose a target population based on both their rate of injury and susceptibility to changes in behaviour.

3. Determine intervention strategies

- consider three factors (host, vector and environment) and three phases (pre-event, event and post-event);
- active interventions require participation by individuals;
- passive ("automatic") interventions do not rely on individual behaviour, e.g. manufacturing safe products;
d. strategies are EDUCATIONAL, LEGISLATIVE or TECHNOLOGICAL.

4. Identify and select community agencies and individuals to carry out the prevention programme

- create a programme advisory committee;
- develop written protocols regarding what will be done, by whom, how, and what the monitoring and support process will be;
- a pilot project in a limited area will identify problems, suggest improvements and lay the ground work for expanded support.

5. Develop the materials needed for programme implementation

- written protocols developed with the staff of participating agencies and with community representatives;
- educational materials must be focused on key messages, simple to read and simple to use;
- the media (radio, newspapers, etc.) are useful tools for promoting community awareness but alone cannot change behaviours.

6. Monitor and support the programme

- make regular contacts with participants;
- offer technical assistance and problem-solving;
- recognize people's efforts formally and often.

7. Evaluate and revise the programme

- evaluation is an essential part of programme design and should be considered at the planning stage;
- descriptive, process and impact evaluations all provide useful information.

Source: Micik, S. (13)

Table 9. Protecting children in cars: an example of community injury control in the United States.

Problem

The number one cause of death in children in the United States is motor vehicle collisions. A major factor: children riding in cars without safety restraints.

Strategies

A. Technologic
- develop child restraint systems that will protect infants/toddlers/older children in crashes;
- develop means of securely anchoring the devices in all types of vehicle.

B. Regulatory
- pass laws requiring that children be transported in child restraint devices (CRDs).

C. Educational
- inform parents of the importance of CRDs, their correct use, the existence of laws;
- inform health professionals of same facts and of the need to educate/motivate parents;
- inform children in schools of the need to ride safely in cars;
- inform police and judges of the importance of enforcing child safety laws.

D. Community action
- hospitals and clinics make CRDs available at a cost;
- loaner programmes lend CRDs at a nominal fee;
- "safety fairs" examine CRDs for correct use.

Evaluation
- sales of CRDs rise dramatically;
- percentage of children riding in safety restraints increases from 5% to 50-60%;
- deaths and injuries of children from motor vehicle crashes decline impressively.

Major groups responsible for these activities
- concerned parents;
- pediatricians, surgeons, public health experts;
- nurses in hospitals, health centres, and private offices;
- Biomechanical engineers (design and testing of CRDs).

Fig. 1. Sample village injury recording form

VILLAGE NAME _____

NAME OF PERSON COMPLETING FORM _____

VICTIM'S AGE _____ SEX _____ DATE INJURED _____ TIME _____

NATURE OF INJURY (e.g. fracture, cut) _____

BODY PART INJURED _____

DESCRIPTION OF HOW INJURY HAPPENED: _____

_____

_____

EXTERNAL CAUSE OF INJURY:

A. MOTOR VEHICLE:

TYPE: MOTORCYCLE _____ CAR _____ BUS _____ OTHER (state) _____

VICTIM: DRIVER _____ PASSENGER _____ PEDESTRIAN _____ CYCLIST _____

OTHER (state) _____

B. BURN: OPEN FLAME _____ HOT LIQUID _____ OTHER (state) _____

C. DROWNING _____

D. POISONING (state substance) _____

E. FALL: SAME LEVEL _____ FROM HEIGHT _____

F. OTHER (state) _____

OUTCOME: MINOR, TREATED AT HOME _____

TREATED BY HEALTH WORKER, SENT HOME _____

SENT TO HOSPITAL FOR TREATMENT, RELEASED _____

ADMITTED TO HOSPITAL _____

DIED WITHIN 7 DAYS OF INJURY _____

FIGURE 2

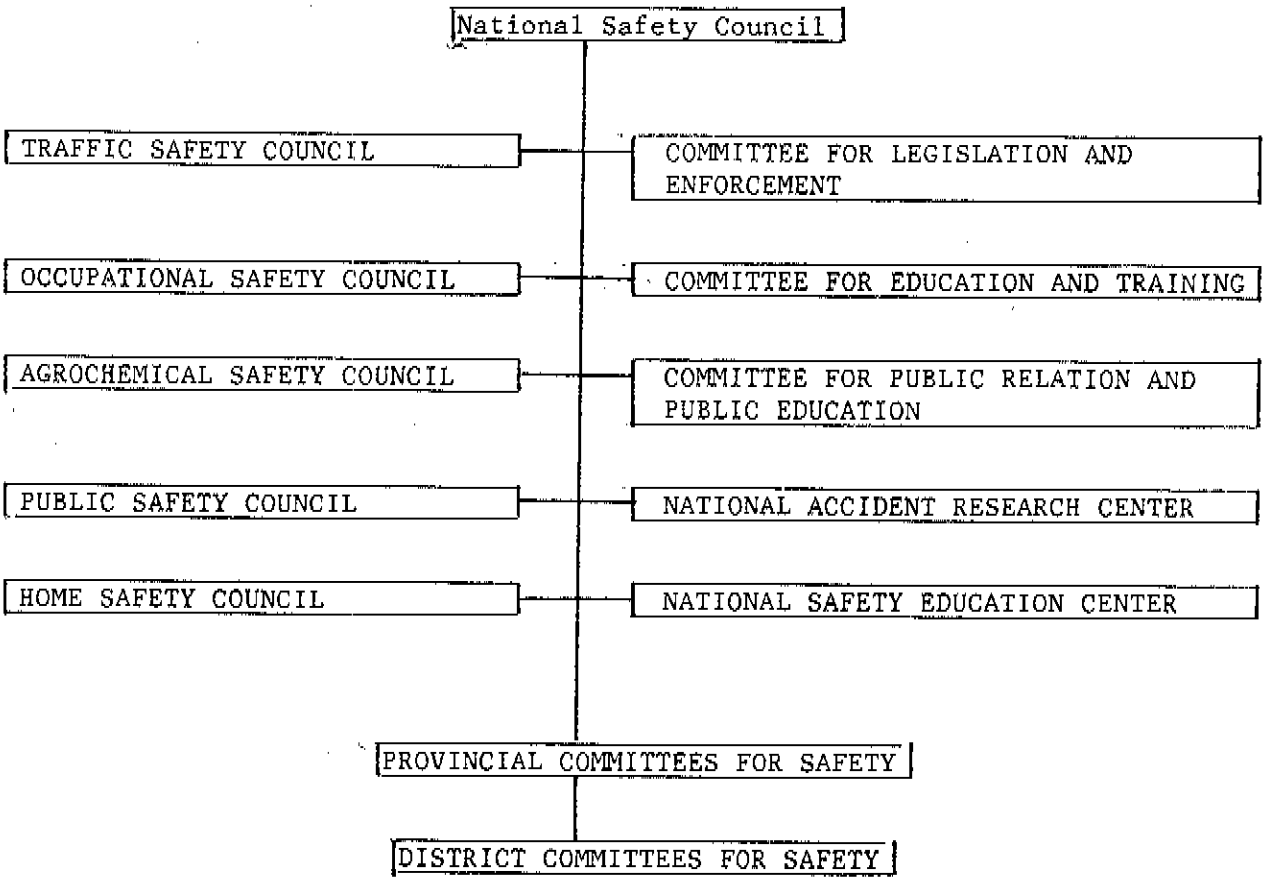
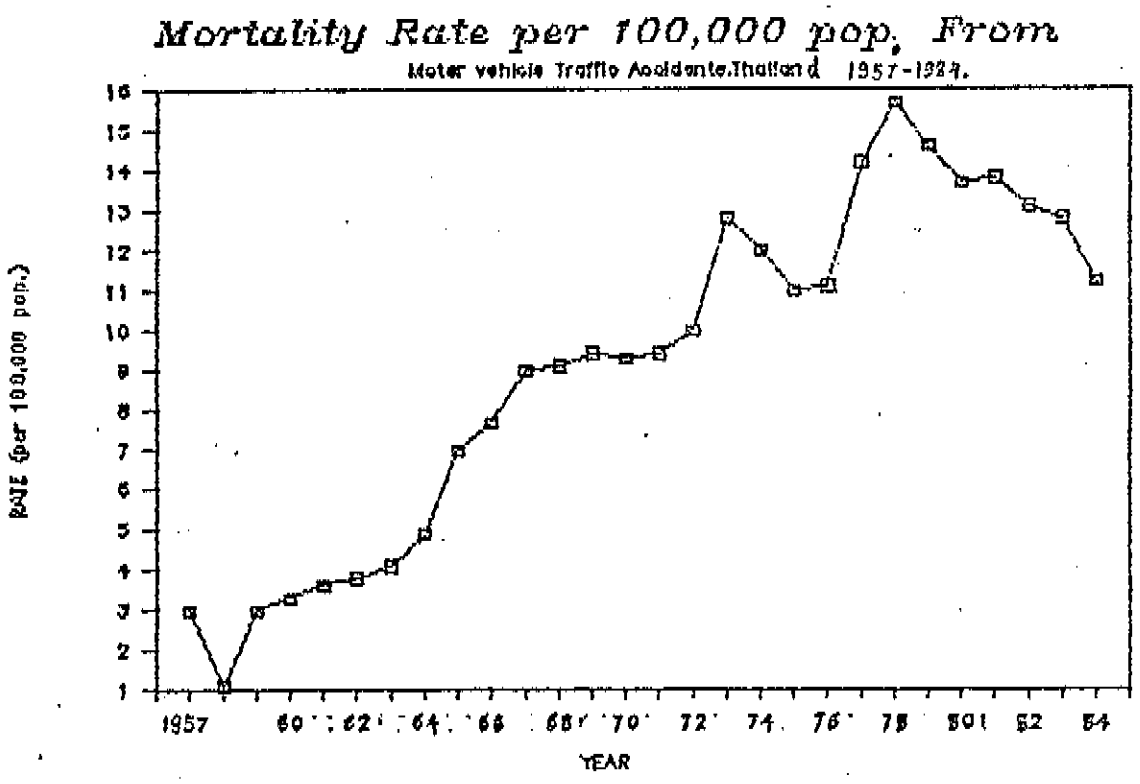

National Safety Council
TRAFFIC SAFETY COUNCIL
COMMITTEE FOR LEGISLATION AND ENFORCEMENT
OCCUPATIONAL SAFETY COUNCIL
COMMITTEE FOR EDUCATION AND TRAINING
AGROCHEMICAL SAFETY COUNCIL
COMMITTEE FOR PUBLIC RELATION AND PUBLIC EDUCATION
PUBLIC SAFETY COUNCIL
NATIONAL ACCIDENT RESEARCH CENTER
HOME SAFETY COUNCIL
NATIONAL SAFETY EDUCATION CENTER
PROVINCIAL COMMITTEES FOR SAFETY
DISTRICT COMMITTEES FOR SAFETY

FIGURE 3


Mortality Rate per 100,000 pop. From
Motor vehicle Traffic Accidents.Thailand 1957-1984.
RATE (per 100,000 pop.)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
1957
60
62
64
66
68
70
72
74
76
78
80
82
84
YEAR

Annex 1

PROGRAMME FOR THE SEMINAR

Monday, 2 March 1987	
15.00 - 16.30	Registration
Tuesday, 3 March 1987	
09.00 - 09.30	Opening Session
	Opening Addresses by - Dr Narong Sadudi, Director-General, Department of Medical Services, - Dr C.J. Romer, Chief, Accident Prevention Programme, WHO
	Welcome Address - The Representative of the Governor of Chonburi Province, - Public Health Expert
09.30 - 10.30	Keynote Address 1. "Objective of the Seminar on Accident and Injury Prevention Programme Management " by Dr C.J. Romer 2. "National Accident Prevention Programme" by Prof Vichit Punyahotra
10.30 - 10.45	Tea Break
10.45 - 11:00	- Election of Chairman, Co-Chairman and Rapporteur - Adoption of the Agenda and Introduction of Participants
11.00 - 11.20	"Accident and Injury Prevention Programme Intervention" by Dr Z.J. Sestak
11.20 - 12.00	Review of Primary Health Care Progress in Thailand and Other Countries of the Region
12.00 - 13.00	Lunch
13.00 - 14.00	Continue

14.00 - 15.00	Nakornsawan Project (HFA R/D Support Project): A Case of PHC in Accident and Injury Prevention by Dr Sriwongse Havanonda Dr Thavisak Svetsreni Dr Prateep Bhokakul Dr Ekachai Chulacharitta
15.00 - 15.15	Tea Break
15.15 - 16.30	Review of Available Data on Accidents and Injuries, Mortality Trends and Morbidity Trends, Evaluation of Information System - Motor Vehicle Injuries - Injuries at the Workplace - Poisoning, Burns, Falls, Drowning - Others
19.00	Dinner hosted by the Director-General, Department of Medical Services
<u>Wednesday, 4 March 1987</u>	
09.00 - 16.30	Group Discussion
<u>Thursday, 5 March 1987</u>	
09.00 - 10.00	Reports of Group Discussions
10.00 - 10.15	Tea Break
10.15 - 12.00	Consolidated Plan of Implementation
12.00 - 13.30	Lunch
13.30 - 15.00	Conclusion and Recommendations Closing Session

Annex 2

LIST OF PARTICIPANTS

AUSTRALIA

Dr C.C. Baker (Co-chairman)
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CHINA

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Director, Division of Urban Medical and Health Service, Ministry of Public Health, Beijing

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Lerdsin Hospital, Bangkok

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