PART IV

DEVELOPMENT FRAMEWORKS FOR THE HEALTH SECTOR

CHAPTER 13
FRAMEWORK FOR INFECTIOUS DISEASE CONTROL

13.1 INTRODUCTION

The framework for infectious disease control covers the following priority infectious diseases:

- Childhood infectious diseases,
- Vaccine-preventable infectious diseases,
- Malaria,
- Tuberculosis,
- HIV/AIDS, and
- STDs

The control of each of these infectious disease has either a policy or national action plan. At this stage of planning, the study still depends on the contents of those policies and national action plans. In the next stage of the study, strategic actions will be identified.

13.2 OBJECTIVES

The short-term objectives are to increase efficiency of the existing various control programmes for infectious diseases for the purpose of 1) maximizing the effects of the programmes, and 2) expanding the coverage of the programmes.

In the short-term, it is also necessary to promote under-utilised control measures, such as community-based vector control for dengue fever (cleaning stagnant pools of water) in urban and sub-urban areas.

In order to achieve these short-term objectives, capacity building at the district level is crucial, especially for planning of activities and recording of activities. Moreover, people's participation is essential, but health education on infectious diseases at the community level needs more time and interaction between health workers, VHVs and villagers.

These efforts, even in the vertical programmes in the short-term, could contribute to capacity building for preparing for the transition to more horizontal integration, coordination and cooperation in infectious disease control.

The medium and long-term objectives are to move away from vertical programmes and to promote horizontal planning and activities at each level: province, district, sub-district and community. This direction would strongly suggest situating infectious disease control within the existing organisational structure of health care services, especially in the Primary Health Care System, in order to improve efficiency and effectiveness.

13.3 IDENTIFIED ISSUES AND KEY DIRECTIONS

13.3.1 Childhood Infectious Disease Control

ARI and diarrhoea diseases are set as the target childhood infectious diseases for control. Primary prevention should be given the high priority in various measures to control childhood infectious diseases.

Basic Design of Childhood Infectious Disease Control

(1) To improve domestic and personal hygiene behaviour by providing health education.

(2) To improve the capacity and awareness of caretakers within households to reduce the risk of diarrhoea and pneumonia by health education on the importance of domestic hygiene and caretakers' initial care and initial treatment.

(3) To provide training to VHVs, at health centres or at the district level, in ideas and methods of domestic hygiene and caretakers' initial care and treatment.

(4) For the district level, to train VHVs in providing health education to caretakers at the household level by out-reach activity or by mobile team.

(5) For VHVs to screen children for serious malnutrition, to provide nutrition supplements and nutrition education, and to conduct health education to reduce people's unhygienic customs and practices.

(6) To give high priority to water supply and sanitation in improving hygienic problems at the community level.

(7) To encourage caretakers, health centre staff or VHVs to decide without delay to transport serious patients to district hospitals, which are to be prepared to treat such serious patients.

Key Directions of Short-Term and Medium-Term Efforts

(1) In the short term, preventive and curative activities will be incorporated into the IMCI programme, which is at the pilot stage but is to be expanded to cover the whole country.

(2) In the medium term, it is necessary for the dependency of infectious disease control on vertical programmes to be reduced by being incorporated into the Primary Health Care System, in which VHVs and community participation are key and assistance to communities from the district or health centre level is essential.

13.3.2 Vaccine-Preventable Infectious Diseases

Identified Issues and Key Directions

(1) To strengthen and continue the existing EPI programme in order to increase the full immunisation coverage rates.

(2) To sustain the operation and maintenance of the existing cold chain system of vaccines for the EPI programme.

(3) To encourage those who live near health facilities (district hospitals and some health centres) to come to health facilities to get their children immunised, so that they can get access to other health services at the health facilities, such as other MCH services.

(4) To integrate the existing EPI programme with other health services, such as ANC, family planning, Malaria Control and IMCI and to provide new training for integrated services to VHVs and health staff.

(5) In order to promote such integration with the existing EPI programme, it might be necessary to reduce the frequency of EPI out-reach activities. It should still be possible to give vaccinations to as many children as before, and to provide other services to villagers during each village visit. The out-reach activities carried out under the existing EPI programme are less effective and less efficient because they are carried out too quickly to provide villagers with other health services/ information.

13.3.3 Malaria Control

Basic Design of Malaria Control

(1) To promote community-based impregnated bed net (IBN) distribution to family units.

(2) To encourage all family members to sleep under impregnated bed nets and emphasise the importance of sleeping under impregnated bed nets even in their field huts during busy periods of the year.

(3) To consider programmes paying attention to health education for remote villages. It is necessary to take enough time to have interactive communication for health education in remote villages.

(4) To consider programmes paying attention to vulnerable groups of people (infants and pregnant women).

(5) For VHVs to promote the utilisation of impregnated bed nets and regular impregnation of bed nets at the village level.

(6) To regulate single specifications of bed nets and chemicals for impregnating bed nets to enable easy implementation.

(7) In poor areas, to continue to sell bed nets and chemicals for impregnation at subsidised prices.

(8) For the district level or health centre level, to conduct regular training and follow-ups to VHVs.

(9) To provide services of early diagnosis and treatment (EDAT) at the health centre and district levels.

(10) In remote villages, to promote the training of VHVs in using anti-malaria drugs in drug kits.

(11) To organise a response team for malaria outbreaks at the district level and to establish a district response system for malaria outbreaks with the assistance of the Centre for Malaria, Parasitology and Entomology (CMPE).

(12) To transport serious malaria patients to district or provincial hospitals. To develop the capacity of district hospitals with appropriate staff and equipment for treating serious malaria patients.

(13) To provide services of laboratory examination for malaria at district and provincial hospitals. To improve the quality of laboratory examinations for malaria at district and provincial hospitals.

Identified Issues and Key Directions

In the short-term, the following key directions are sought:

(1) Even under the vertical programme, financial management at the district is encouraged under the strong supervision of a central project management unit (central PMU).

(2) At the same time, capacity building of the district level in planning and implementation should be emphasised, and the district level should be encouraged to plan and implement malaria control activities by themselves.

(3) Furthermore, the utilisation of local resources and initiatives should be encouraged through people's participation.

In the medium-term,

(4) More decision-making capacity in planning and implementation should be given to the district and health centre levels, to integrate or coordinate with other health activities.

13.3.4 TB Control

Identified Issues and Key Directions

(1) To maintain the on-going TB control programme so as to cover all provinces and districts in Lao PDR.

(2) To keep TB patients in hospital by seeking partners to cover the cost of food for patients during hospitalisation.

(3) To promote the decentralisation of the treatment, administration and intensive care of DOTS to health centres in order to give more patients access to DOTS.

(4) To promote early case detection by providing training for health centre staff and VHVs.

(5) To improve the quality of sputum examination at district hospitals and to ensure that all suspect cases have sputum examination, in order to reduce mortality of TB patients and to increase the accuracy of DOTS surveillance.

(6) To integrate TB control with the Primary Health Care System, including ambulatory treatment at health centres, as well as at the community level through health centres.

13.3.5 HIV/AIDS Control

Identified Issues and Key Directions

(1) For NCCA to expand the HIV/AIDS surveillance system to cover the whole country. It is necessary to secure the necessary human and financial resources for dealing with increased blood samples for HIV/AIDS.

(2) To promote primary prevention for HIV/AIDS, by emphasising health education for urban youth, bar girls, truck drivers and migrant workers.

(3) To conduct health education for HIV/AIDS control in rural areas, starting with areas sending many migrant workers.

(4) To establish centres for treatment and care of HIV/AIDS patients including consultation. HIV/AIDS treatment is to be conducted at provincial and central hospitals, and social workers are also needed to take care of HIV/AIDS patients.

13.3.6 STD Control

The goal of STD control is to reduce morbidity of STD (prevalence, incidence and complications of STD) and to subsequently reduce the transmission of HIV/AIDS.

Identified Issues and Key Directions[1]

Establishment of Effective and Sustainable Prevention and Care Programme

(1) To develop and strengthen STD programme management

(2) To develop and establish a mechanism for surveillance and data collection/analysis

Provision of Accessible, Acceptable and Effective STD Services through the General Health Care System in the Public and Private Sectors

(3) To make STD services available to clients in a non-coercive, non-discriminatory and non-stigmatizing manner.

(4) To make acceptable, affordable and effective care for STD available to all people by allocating human, financial and institutional resources to STD control.

(5) To set standards for STD case management (national STD case management guidelines), consisting of effective treatment, education including avoidance of future risks, partner notification and condom promotion and access and counselling.

(6) To make effective and safe drugs for STD treatment available and affordable.

(7) To encourage the private sector, NGOS and other informal practitioners to deliver STD case management based on the national STD case management guidelines.

Promotion of Active Appropriate Health Care Seeking Behaviour

(8) To improve the quality of STD services and to promote STD health services in the public sector

(9) To promote appropriate health seeking behaviour among STD clients or those at high risk of STD infection.

(10) To reduce the stigma attached to STD.

Establishment of STD Prevention

(11) To integrate STD prevention with HIV/AIDS prevention activities.

(12) To collaborate with multi-sectors and mass organisations for IEC campaigns.

[1] The key directions are based on Lao PDR National Policy and Strategy for the Prevention and Care of STDs, by MOH and National Programme for Prevention and Care of Sexually Transmitted Diseases (1998)

(13) To integrate STD and HIV/AIDS prevention into the school curriculum.

(14) To pay greater attention to respect for individuals, confidentiality and non-discriminatory and non-coercive approaches.

(15) To make condoms available and affordable to people as a means of preventing STD.

CHAPTER 14
FRAMEWORK FOR PRIMARY HEALTH CARE

14.1 INTRODUCTION

This chapter deals with the key directions to address the identified issues in fully operationalising the "Policy on Primary Health Care", which was adopted in January 2000. It focuses on implementing the PHC approach to strengthen district health systems. Considering that the district is where the top and bottom of the national health system meet, where policy is translated to reality, and where the health service interfaces with the communities, application of the PHC approach to district health systems seems inevitable. Vice-versa, the "concept of the district health system has been accepted by almost all countries as a framework for the promotion of integrated health care, but it has not yet been widely implemented".[1] In Lao PDR, the challenge is "to implement and apply the PHC policy to effectiveness participation of the community and responsiveness of the authority".[2]

The district health system (DHS) is composed of three main components, namely, the district health service, the community, and the village health volunteers (VHV), traditional birth attendants (TBA), traditional healers (TH), and private medical practitioners (PMP). The district health service, or health service for short, consists of the district health office (DHO), district hospital (DH), health centres (HC), and drug kits. The community may be represented by its official local authorities, neighbourhood associations or other community organizations. In the case of Lao PDR, district health systems may have to be construed as operational districts because some administrative districts have population as few as 4585, 36 districts have less than 18000, 71 districts have less than 30000, 106 districts have less than 48000, only 15 districts have between 47000 and 65200, and only 8 have more than 65200.[3]

Because it looks at PHC as an approach to strengthening DHS, this chapter deliberately does not delve into the specific components of PHC. Other chapters are solely devoted to maternal and child health, nutrition, control of infectious diseases, health education, essential drugs. Immunisation is part of the chapters on maternal and child health and control of infectious diseases.

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[1] World Health Organisation, 1996. Integration of Health Care Delivery, (WHO Technical Report Series 861). Geneva.
[2] Ministry of Health, 2000. "Policy on Primary Health Care (PHC)".
[3] Ministry of Health and Japan International Cooperation Agency Study Team, 2002. Facility-based Survey.

14.2 IDENTIFIED ISSUES

14.2.1 District Health Services

In general, district health services are constrained in its capacity to respond to people's health needs and expectations.

(1) Implementing guidelines and strategic plans for PHC have yet to be formulated. The government long-term vision on integration has to be categorically stated vis-à-vis the position of donors supporting.

(2) The essential package of health services has yet to be defined for a country where diversity is more of a norm than the exemption.

(3) Customer-oriented service, quality assurance and quality improvement programmes have yet to be introduced in many district health facilities.

(4) Availability and delivery of quality health services at the district level are challenged by the limited number of qualified health personnel, who are imbued with team leadership and management as well as with clinical and public health competencies, particularly in rural and remote areas[4]. The MOH-JICA Study Team conducted the Facility-based Survey from January to May 2002. It revealed the following findings: at least fourteen per cent of the district hospitals in the country do not have a medical doctor; 27% do not have a medical assistant; 47% do not have a mid-level nurse and a mid-level laboratory technician; and 74% do not have a high-level pharmacist. Recently, the National Institute of Public Health has conducted short courses to enhance management skills of district health officers.

(5) Newly published treatment guidelines have not been adapted for district levels. No substantial training or orientation on them has been yet conducted.

(6) Some services are not available in majority of the district hospitals partly because of lack of skilled human resources and because of lack of enabling environment, such as infrastructure and medical equipment.

(7) Most health centres are functioning sub-optimally. In a presentation, the representative from the MOH-World Bank Loan Project and the Belgian Technical Cooperation reported four key issues: a) low curative utilization rate; b) insufficient vaccination coverage, c) low other preventive and promotional care; and d) difficult working and living conditions of staff. Many health centre staff are lacking of adequate clinical skills. They also fail to have good communication and relation with surrounding villagers. As a result, they tend to fail to attract many outpatients from surrounding villages. Therefore, it is more difficult for such health centre staff to work with communities for preventive health activities, such as MCH and health education.

[4] Ogawa S, Boupha B, Dalaloy P, and Ariizumi M, 1998. "Unbalanced Distribution of Health Sector Human Resources and Malfunctioning of Peripheral Health Services in Lao P.D.R.". Ryukyu Medical Journal. 18(4) 135-141.

(8) Availability of drugs and drug outlets is uneven throughout the country. While the population to pharmacy ratio is reported to be highly favourable in Vientiane Municipality with 1068 people per pharmacy, it is in worst in Attapeu (5722:1), followed by Phongsaly (5426:1) and Sekong (5150:1). Irrational use of drugs is another problem among the users or the public, among the dispensers and even among those who prescribe.

(9) District health officials have minimal resources coming from central or provincial governments to deal with and minimal authority over them. As a result, they do not find substantial meaning to carry the responsibility of planning and budgeting for district health systems.

(10) The Prime Minister Decree No. 016/PM appears to exempt so many members of the community (i.e. civil servants and retired officials, for low-income earners, for pupil, students and Buddhist monks) from user fees for treatment services[5] so much so that financial base becomes limited.

14.2.2 Communities, Families and Individuals

Communities, families and individuals are rarely empowered to make health-related decisions and take practical, scientifically sound, and affordable actions.

(1) The community is not commonly perceived to be part of the DHS. Traditionally in the welfare approach, it is the recipient of health services. The community has limited participation in making health-related decisions. This is true also for families and individuals.

(2) Household surveys, like the one conducted by Morikawa[6], oftentimes show that health problems top the list of household problems. Common health problems (e.g. diarrhoea, acute respiratory infection, malaria, and dengue) can be managed at home if recognized early. However, communities, families and individuals do not have sufficient understanding of the nature, preventive measures and scientifically sound home remedies for common health events. In other words, health literacy is low. The following is a case in point. In rural communities, more than 70% of pregnant women do not seek antenatal care[7] and more than 60% of the deliveries are not assisted by qualified health personnel.

(3) Community authorities have twin problems. On one hand, they are hardly familiar with the health sector, district health systems and PHC. On the other hand, they have limited authorities to use resources.

[5] Prime Minister's Office. "Decree on Medical Service No. 016/PM".
[6] Morikawa N, 2000. "Community Development Report"
[7] Ministry of Health, 2000. National Health Survey.

14.2.3 VHVs, TBAs, Informal Village Health Providers and Other Village-Level Human Resources (Traditional Healers, Traditional Herbalists, etc.)

(1) The roles of VHVs, TBAs, informal village health providers and other village-level human resources (traditional herbalists, traditional healers, etc.)should be assessed.

(2) Not all villages have VHVs or TBAs. There are many areas, particularly among non-Lao speaking groups, where such women are scarcely to be found.

(3) Over 10,000 VHVs are overstretched and, as a result, is under-supported. Some VHVs have been trained to work only on single issues, such as malaria prevention or birth spacing, while others are to provide comprehensive services, which may include taking care of village drug revolving fund (DRFs). Those who have had more intensive training in the past (e.g. as wartime auxiliary nurses) tend to be more active VHVs, while those who have very limited background and training tend to become inactive

(4) The turnover rate of VHVs or TBAs is high. The use of incentives from operating village drug kits or DRFs to keep trained VHVs, TBAs, and informal village health providers within the district health systems has yet to be proven attractive.

14.3 OBJECTIVES

(1) To prepare the conditions for beginning the strengthening of District Health Systems based on the PHC approach

(2) To make efforts at reforming existing vertical programmes, health centres, village-level RDFs, and district hospitals to prepare for the future development of district health systems based on the PHC approach

14.4 KEY DIRECTIONS AND POSSIBLE MEASURES

(1) To diffuse the PHC approach at the national, provincial and district levels:

- To reorient the attitudes of current and future key decision-makers and staff of the health sector, including the local authorities and donors, towards the PHC approach.
- To increase awareness of central, provincial and district level decision makers and health staff that it is important:
  - To allocate greater government budgets to the health sector,
  - To allocate recurrent budgets to the district level,
  - To allocate well-trained health workers to district/health centre level, and
  - To promote training for PHC workers and community nurses.

(2) To establish flexible national guidelines and regulations for developing District Health Systems based on the PHC approach by reviewing past and on-going PHC projects.

(3) To demonstrate, as an initial programme, the implementation of the PHC approach in strengthening district health systems according to the established guideline in selected provinces and districts, and to institutionalise the PHC approach within district health systems nationwide.

(4) To decentralise the planning and management of vertical programmes of EPI, malaria control, reproductive health, water and sanitation, and TB control to the district and, in some cases, health centre levels,

(5) To promote the horizontal integration of these health activities with other health activities at the district and health centre levels,

(6) To actively promote activities of MCH, nutrition and health education at first in vertical ways, and then to integrate these activities into the District Health Systems covering health centres and villages,

(7) To rationalise existing health centres and integrate them into the District Health Systems,

(8) To promote village-level RDFs under the effective guidance of district health officers or health centre staff, and

(9) To improve district hospitals so as to attract local people and to establish district hospitals/district health offices as the central points of District Health Systems.

14.5 VISION

The overall health system is reoriented toward Primary Health Care with top priority given to shifting away from a fragmented curative system, to an integrated PHC approach focusing on health and well being rather than illness. This means that essential health services are responsive to women's, men's and children's needs and demands, and will be oriented toward them, with accountability to local people and their representatives. The health system as a whole, in cooperation with other sectors, should be active in creating an enabling environment for community participation and ownership that gives precedence to prevention and promotion.

Women's and men's active participation in, and sense of ownership of, district health networks is promoted by having all PHC measures carried out in local health catchments areas or health zones being planned with local people and their representatives. There is mutually decided upon responsibility for the local health situation, recognizing the impact of social, economic and political factors on that situation.

14.5.1 District Health System Based on the PHC Approach

(1) The District is developed as the foundation of the PHC system, while Health Centres managed with the participation of local women and men are at its core.
The District Health Office, including the District Hospital, is a district health network

facilitator, actively supporting a more active, but rationalized and upgraded, network of Health Centres.

(2) District and Health Centre PHC services are provided in coordination and cooperation with other sectors, while the PHC services themselves are provided increasingly on an integrated, rather than vertical basis.

(3) Adequately staffed Health Centres are providers of high quality, essential not minimum, PHC services to women, men and children in their catchment areas or health zones, and which comprise locally prioritized, (especially responding to the needs and demands of the most vulnerable groups), clinical, preventive and promotive services according to the major principles of PHC.

(4) Health Centres provide affordable health services for the entirety of the populations they serve, including more vulnerable populations such as women, children, and the elderly with due consideration given to providing both subsidized, and free, drugs and services for those clearly defined as "poor" in the catchment area.

(5) The VHV network, more supported and strengthened in remoter villages, is an integral part of the PHC system, but is not expanded beyond the level at which it can be supported by the HCs and DH/DHO.

14.5.2 Communities and VHVs

Village Health Committees should be established in Health Centre catchments, but in a process-oriented not *pro forma* way to take more responsibility for health matters in their villages. Village Health Committees should decide in consultation with others, how to support those in the village requiring health services, the role of the VHV, support for the VHV, what HC outreach teams could assist with, when they should come next, and the like.

Village Health Committees (VHCs) should be established through a process-oriented approach, including participatory exercises on village health issues, follow-up discussions and some training (training by DHO, for example), so that they may become independently active on health matters, not just the "assistants" of HC outreach teams (that role is too passive). Each VHC should include at least two women as members.

Village Health Committees should be assisted to relate health issues in the village to other issues, such as agriculture and education, and discuss these with women and men in the village.

VHVs—particularly in remoter villages—should be trained and supported by HCs to become part of the PHC network, assisted to do both simple treatment and preventive/promotive work depending on their skills levels.

VHVs need to receive small incentives (in kind or cash payments) independent of selling drugs, but decided by the Village Health Committee where the VHV resides.

In remoter areas, especially where a VHV may not be available in every village, the DHO (through its Mobile Team; see 14.5.4) should try to mobilize "Village-Based Health Providers"—those with a higher skills level (based on past experience) than a VHV—who could provide services to a small cluster of villages. Although these people could remain private providers, they should be trained to orient toward PHC services (not only curative services).

VHVs should be selected in a process-oriented way in their respective villages, with involvement of women and men, Village Health Committees, HC staff, and a group of VHV "candidates."

Regarding VHV selection:

- Women or men with previous training or experience in any health-related field (including traditional medicine), should be considered in the first instance;
- Villagers' trust in the potential of the candidate should come above literacy as a selection criterion;
- Candidates should be selected for their capacity and willingness to learn;
- Candidates need to have commitment to serving the community (and the time available to do so).

Provisions should be made to allow trained VHVs—provided they pass minimum skills requirements and a minimum service period of several years to "repay" their training—to practice privately if they so wish, in their own and surrounding villages. They must be certified to practice privately; the first point of regulation should be the Village Health Committee, then the HC and DHO.

HC Board members should be selected by villagers and their VHCs, not automatically appointed without a health zone-based selection process. The Board needs to have tasks that involve the members in problem solving in the health zone.

Village Development Plans should be established and revised through annual discussion processes in the village, highlighting the interlinking of issues, thus sparking more interest in the village in development in general and in health in particular. Ideally, this planning should be facilitated by an inter-disciplinary team from the district and sub-district.

14.5.3 Health Centres

HC staff should be given clear, PHC job descriptions, and be able to look forward to the necessary training to enable them to fulfil their job descriptions in light of the situation in their areas. Additionally, HC staff must have clear career planning and promotion opportunities, including increased salary increments for service in remoter rural areas.

HC clinical, preventive and promotive services should be provided on both a facility-based and an outreach basis to villages within their defined zone. Outreach should emphasize preventive and promotive services, and give greater emphasis to those villages farther away from the HC.

Catchments or zones of upgraded HCs should be based on the topographical and demographic features of the particular districts (with a range of perhaps 2500 to 7000 people). *Upgraded HC catchments may become larger with time, as people will be attracted by good services*. In the medium to longer term, it will *not* be possible to offer full area coverage with HCs.

HCs must be managed by "Boards of Directors" which include local people's representatives (such as members of the various Village Health Committees), including women. This should be part of an overall strategy that encourages people to consider for themselves how they may become more active in taking responsibility for their families' and communities' health.

HCs, particularly those in remoter areas, should not be established as "*full* cost recovery" centres. Those which will be serving poorer populations should emphasize subsidized and free care for the poor, while charging for services for those who can pay.[8]

HCs must be an integral part of a simple but effective referral system.

HCs should be located on roads, to the extent possible with year-round access, to enable their full participation in the district health network. (Maintaining this principle may provide assistance in deciding initially which HCs might be closed in a district.)

The HCs, not DHOs, should be learning/training centres for VHVs in the respective health zones, providing both HC-based apprenticeships and VHV on-the-job training when in villages for outreach services.

HCs of rationalized health zones or catchments should be significantly upgraded:

- Staffing: The HC should have more and better-qualified staff, especially including 1 or 2 Medical Assistant (*san kang*) staff, and 2 Auxiliary Nurses. (One of the HC staff should have training as a midwife). If there is only one Medical Assistant available, that person should preferably be a woman.
- Building: The HC should have electricity (whether generator or solar or hydro), water, and functioning toilets, be of sound construction, have pleasant staff quarters, kitchen facilities, an examining room with privacy, 2 beds for patients.

[8] An additional strategy, which could be considered for funding, is redistribution of funds from HCs in better off areas within a province to HCs located in poor areas. This would obviously require province-wide agreements between all the Districts.

- Vehicle: It should have a suitable vehicle (motorbike(s), tek-tek, boat), which can be used partly for outreach and partly for sending patients to the DH if necessary.
- Drugs: The HC must have a regular supply of essential drugs of good quality and quantity and which correspond to the needs of the local people.
- Equipment and Supplies: Simple medical equipment and supplies, but also basic administrative supplies and furnishings, such as filing cabinets.

HC staff from different HCs should have regular meetings with one another to exchange technical experiences, work on problem-solving, and get advice from each other and from District staff (with occasional participation of PH/PHO staff for specific topics of discussion).

HC outreach should include simple curative services, more preventive/promotive work, and especially include on the job training with existing VHVs. HC outreach teams should also make visits to private practitioners in the catchments villages to discuss their services with them. However, quality checks (for regulation) on private practitioners should be done by District or Provincial staff.

HC staff, when providing outreach services, should also ensure that the villagers have up-to-date and accurate information on health-related issues and policies that affect them.

In addition to participatory planning, monitoring and evaluation skills, HC staff must be helped to improve significantly additional skills:

- communication and listening;
- "participatory situation analysis" skills;
- training skills, especially for on-the-job training of VHVs.

Opportunity should be given to HC staff for rotation within the Province to gain more experience and learning, and to feel that they are more integrated into the overall health network. However, the rotation should not be too frequent (e.g. 4 years).

If adequate salaries, salary increments and per diems cannot be paid to HC staff, then measures should be taken to allow them to have an officially recognized and regulated private practice, as decided and agreed by the HC Board of Directors and made known to the villagers in the catchments.

Some additional HC staff should be recruited, if possible, from among existing health providers in the area, such as formerly trained auxiliary nurses, but also from among traditional providers such as an experienced and well-trusted herbalist or traditional birth attendant.

14.5.4 District:

DHO/DH staff are upgraded in terms of both number and quality in order to:

- Help coordinate the provision of PHC services in the District (meaning the staff must understand the PHC concept and principles and be able to facilitate its participatory management in the District);
- Support a rationalized network of upgraded HCs in terms of facilitation and supportive supervision, and which encourages the HCs to learn from one another's experiences;
- Be enabled to assist HCs in the collection and analysis of quantitative and qualitative data (the latter using participatory methods), use those data for local planning, and to be better able to implement planned programmes and activities, including their financial and administrative management. The DH/DHO staff would also require skills in participatory monitoring and evaluation.
- Provide sufficient outreach services to remoter villages on a regular basis until such time as these villages' health needs may be covered by other, more sustainable mechanisms, such as *eventual* HC network expansion, coverage by private providers, or even road network improvement which increases accessibility of remoter villages.

The District and Health Centre Health Networks must include the active participation of non-health stakeholders, such as representatives from the District Governor's Office, Agriculture, Education and the Lao Women's Union to name a few.

In the short term DHOs in cooperation with other key district stakeholders plus the PHO, should assess the Health Centre network in the District in order to rationalize it. They should close down non-functioning, non-strategic HCs, while deciding which ones to upgrade, or to change the location of HCs (for example, for equity or access reasons; see also discussion in Chapter 9 on Health Finance).

DHOs, with assistance of PHOs, should develop cost-effective strategies to cover remoter areas outside of the rationalized HC catchments in the medium term in the District.[9] District stakeholders would have to review area coverage, including the continuing rationality of HC catchments, every two - three years.

For villages falling outside of the HC catchments, they should be visited by a District Mobile Team every 3 to 4 months, starting with basic curative services as an entry point, but especially emphasizing preventive and promotive discussions and services.

[9] Measures which have been tried in remote areas in the past include, for example, recruiting a limited number of local people and training them to provide specific, limited time, services in small clusters of villages on a contract basis. These can only be understood as stopgap measures.

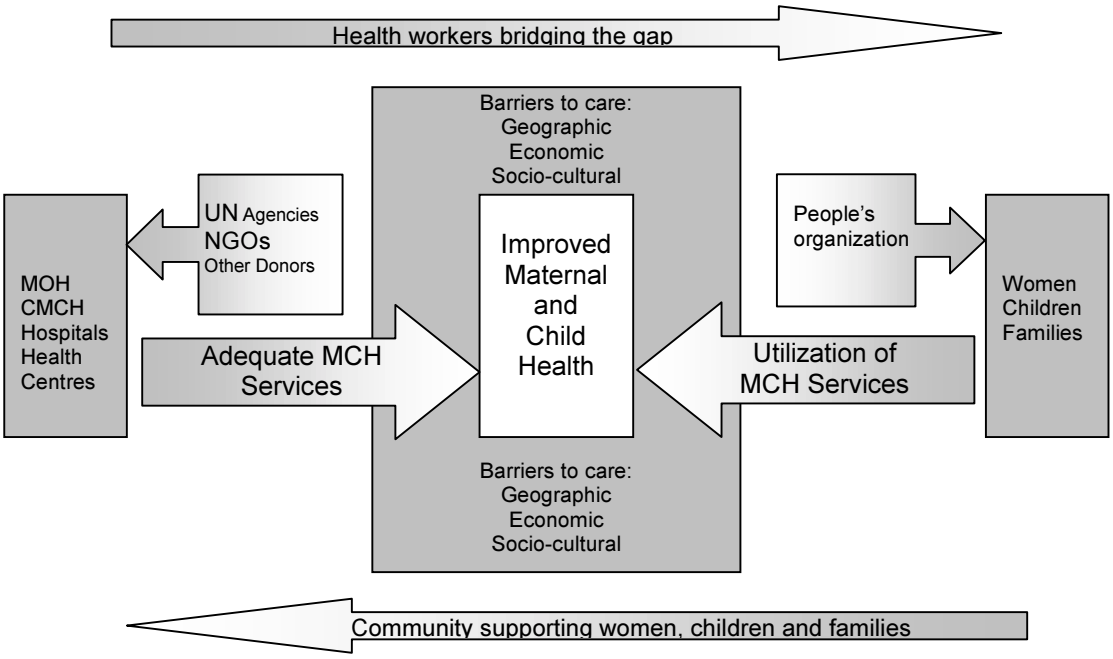
CHAPTER 15
FRAMEWORK FOR MATERNAL AND CHILD HEALTH

15.1 INTRODUCTION

This framework determines the strategic path that should be taken in the MCH sub-sector in line with the overall basic strategies of the health master plan. It outlines a direction for MCH development and identifies critical steps to help secure the positioning of the MCH agenda within the health system and help ensure that such agenda is carried out.

The severity and complexity of health problems of the total health sector is well demonstrated in the MCH sub-sector. Interventions in this sub-sector that will be able to break through formidable health barriers will surely pave the way not only to development in MCH care but also into the improvement of the over-all health system and situation.

Figure 15.1 Framework for Maternal and Child Care



It is acknowledged that the causes to MCH problems are numerous and interlinked. However, addressing all these factors at the same time and in a large scale to initiate changes is overwhelming if not outright impossible considering the amount of work needed and the scarcity of resources. Interventions will then be focused on specific measures that are reasonably attainable and are expected to impact on women and children.

The effects of socio-cultural factors in maternal and child mortality are also well recognized and will also be dealt with to some extent. However, this strategy aims to primarily address the immediate causes of maternal and child mortality which are obviously the inadequacy and underutilization of maternal and child care services.

UN agencies, NGOs and other donors play a significant role in the provision of maternal and child health services. This framework points out where support and assistance from this sector can make a difference in MCH development.

If health workers are the front liners of the health system, formal and informal leaders and village organizations are the important leads into communities. This framework considers the relationship of this sector to the health sector and how these groups are empowered as the most vital points for penetrating the barriers to MCH care.

Ensuring that the Health Master Plan is pursued is the responsibility of the entire Ministry of Health (MOH). However, the Department of Hygiene and Prevention (DHP) and the Centre for Maternal and Child Health (CMCH), as the guardians of MCH remain the main keepers of this framework in collaboration with related health programs and other stakeholders.

15.2 IDENTIFIED ISSUES

15.2.1 Access to MCH services

Women and children are prevented from using MCH services by factors in their environment. Access to maternal and childcare services remains poor despite efforts of MOH and various donors to extend and expand coverage.

(1) The economic burden of using the services of a health facility is too heavy for most women and families who largely depend on subsistence agriculture. The family not only loses important labour but also has to bear the cost of transportation, food and medical fees.

(2) Distance and transportation difficulties are major deterrents to utilization of MCH services. Women and children who live farther than three-kilometre radius from the health facility are less likely to use health services. Time that is lost and effort that is spent travelling to the health facility is valued more than the services that will be received.

(3) The social status of women and children within the household is generally low. Decision making on when and where to seek for care rests primarily on the couple's parents. Women are only able to seek care for themselves and their children, if their parents encourage them, (which is not usually the case), and if they have the financial means to do so.

(4) Socio-cultural beliefs and practices hinder women and newborns from getting access to health services. Pregnancy and childbirth are seen as family affairs that do not require interventions outside the family and/or community and there are rituals that should take place in the home. Information on health and health services rarely reach women and families. Health misinformation is widespread

(5) Many women do not want to deliver at health facilities because they are "shy" and the services do not offer psychological support. Communication is poor between the woman and her family and the health staff about the condition of the woman and the procedures and treatment that she is getting.

15.2.2 Quality of MCH Services

The quality of maternal and child services is poor. The Strategic Reproductive Health Assessment conducted in 1999 by the Centre of Maternal and Child Health (CMCH) in collaboration with the World Health Organization (WHO) revealed that while most facilities had some basic and limited equipment for normal or complicated deliveries, none of the 22 facilities visited during the survey met WHO's minimum standard for obstetrics care.

(1) There are no standards for most basic preventive and promotive activities. Procedures and treatment for common causes of maternal and child mortality and morbidity are not well established. Antenatal, delivery and postpartum care, child care and management of obstetric emergencies need to be upgraded and standardized according to the current best practices that can practically be implemented in the country. For activities with clear guidelines at the central level, the problem of enforcement is foremost. Monitoring and supervision is limited or none at all and logistics support for operation is very little.

(2) Routine MCH services that include antenatal, delivery and postpartum care, basic child care services are available to a limited extent at provincial hospitals but to a lesser extent at the district and much lesser still at health centres. Facilities need to be transformed so that it supports the delivery of effective MCH services. Modest areas for the accommodation of women and children have to be made available and the set-up should be made more considerate to women and children. Health facilities particularly delivery areas have to be made clean and better organized.

(3) The capacity of facilities to manage pregnancy-related complications is generally inadequate. In addition, referral system is largely non-functional. Most district hospitals do not have the means to transport women with obstetric complications. Haemorrhage is the most common obstetrical emergency. However, most provincial hospitals do not have available blood for this eventuality.

15.2.3 Coordination, Integration and Management

MCH coordination, integration and management need to be improved. The nature of the vertical programmes, the intrinsic characteristics of donor agencies and the weakness of the MCH infrastructure all contributes to this drawback.

(1) Management mechanisms that promotes efficiency are lacking. Leadership and unity of directives are not well demonstrated from the central level down into the hierarchy of health units. Planning, monitoring, supervision, implementation and evaluation of MCH activities need to be further developed and established in relation to the MOH management system.

(2) The flow of communication and support mechanisms within and between CMCH, DHP, other departments within MOH and the donor agencies need to be improved. MCH care and services is currently provided as vertical programs that needs to be coordinated or integrated to facilitate the delivery of services and promote efficient use of resources. Health workers are confused and overwhelmed and are unable to deliver an integrated MCH services.

(3) Operation cost is very little and almost none in health centres. Furthermore, there is an imbalance in donor assistance. Logistic support to recurrent cost and the development of management systems in health facilities is minimal compared to support accorded to other concerns. Where support is available it is usually not used to the maximum benefit.

(4) Management capabilities of MCH officials and senior staff need to be upgraded. Technical knowledge on management and knowledge on the maternal and child health situation need to be improved.

15.2.4 Human Resource for MCH

The need to reach women and children requires capable and dedicated health staff, teamwork and good organization. The capability of MCH staff needs to be drastically improved and the MCH staff organization needs to be developed so it encourages and supports MCH activities.

(1) Majority of health workers providing MCH services in health centres and district hospitals are auxiliary nurses who lack the proper preparation and training for MCH work. Their pre-service training generally consists of a 3-6 months affiliation in the district or provincial hospital. Performing routine MCH services such as antenatal care, delivery and postpartum care already poses a big challenge. Managing most obstetrical problems and emergencies are way beyond their present capacities.

(2) Relating to women, families and communities is a difficulty for most MCH staff. Communication skills is inadequate. Giving MCH information, advice or counselling is hampered and the ability to coordinate and facilitate community mobilization for health and other health related action is weak.

(3) Village health volunteers (VHVs) and traditional birth attendants (TBAs) are recognised as essential collaborators in the delivery of maternal and child services but

should not be seen as replacements of health workers. In the face of the difficulties of health facilities to reach women and families in villages, the tendency to relinquish responsibilities to VHVs and TBAs is huge. There is a need to clarify their qualifications, roles, functions and relationships with the health system.

15.3 OBJECTIVES

The goal of this framework is to facilitate the achievement of the master health plan in the reduction of maternal and child mortality and morbidity through the following specific objectives:

(1) to help further develop, establish and/or put into practice standard health services for women and children that are effective, appropriate and implementable at health facilities;

(2) to facilitate the integration and/or close coordination of MCH services and activities;

(3) to help improve, develop and institutionalize approaches that will facilitate the utilization of MCH services including family planning by women and families;

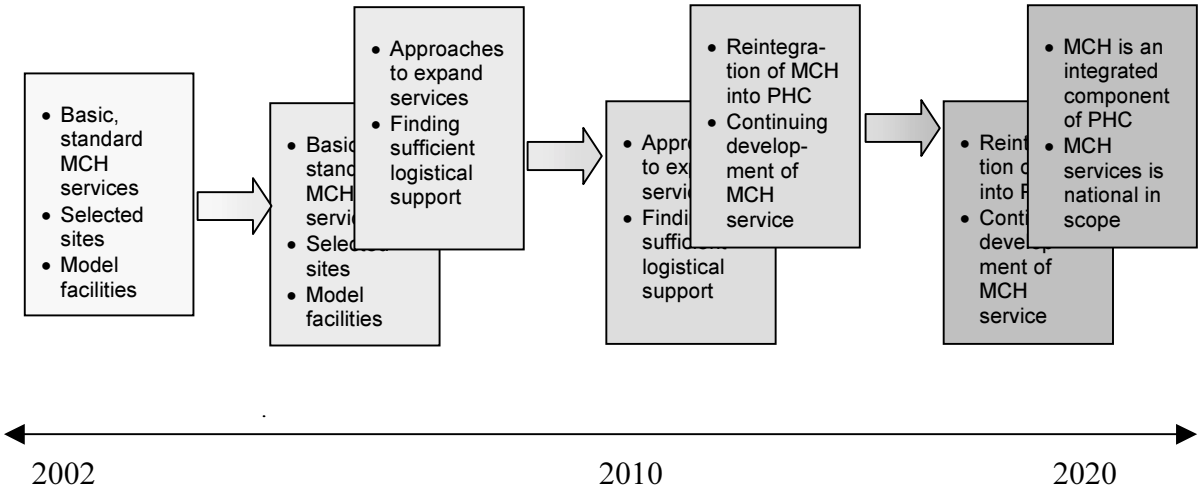
(4) to facilitate the reintegration of MCH services as a component of PHC;

(5) to help pace the development of MCH programme from establishment of quality basic services, to ensuring some form of logistic support to these activities and gradually expanding the scale of coverage to ultimately achieving a national coverage; and

(6) to help promote and facilitate the efficient use of resources for MCH by taking full advantage of the assistance provided by external donors and agencies in prioritizing, coordinating and integrating MCH services.

15.4 KEY DIRECTIONS

Figure 15.2 Critical Steps for MCH Sub-sector Strategy



To provide the synergy towards the goals and objectives of the Lao Master Health Plan, MCH will be geared more towards a primary health care (PHC) orientation.

The first initial steps will concentrate on interventions that will further develop the package of services at each level of care. This package of services will be the focus of training of MCH staff and the basis of the development of health facilities and health management in line with MCH care and in collaboration with the Curative Department and the Department of Organization and Personnel. Lessons learned from various projects and programmes and simple, cost-effective and globally accepted MCH interventions will be used as the guiding principles in the development and implementation of the initial package of services. Selected areas will used as models for the implementation of these services.

The next steps will be devoted to finding the most appropriate and practical approaches to implement the package of services and how this can be expanded into other areas with sufficient logistical support.

PHC is seen as the ultimate approach for reaching women, children and families. However, there is a need to sort out how MCH and PHC can be packaged best. At this step, reintegration of MCH as a component of PHC already starts. However, at this phase it is not yet sensible to propagate approaches that have not been tried. It is important that before propagation of selected approaches, such approaches are clear so that health facilities and health workers and the community can be prepared well for their roles and responsibilities.

Many MCH activities are preventive and promotive in nature. To charge fees for these services in the light of the financial and socio-cultural situation of the population is not feasible. Funds from the drug revolving fund cannot be depended on in the near future and if available, the cost of just one obstetrical emergency can easily deplete the accumulated funds of a health centre or a district hospital. At this step, resolutions on where and how logistic support can be funnelled to MCH interventions should be developed. Finding these resolutions is within the main responsibility of the health finance framework. However, vigilance and collaboration from the MCH sub-sector is equally important to ensure that MCH is allocated a reasonable budget for its operations.

The next succeeding steps will be directed into the full reintegration of these services into a practical and operational component of PHC. When MCH services are already well established and approaches to reach more women and children are set-up, its integration and/or coordination with other PHC components will be facilitated. A basic level of infrastructure is necessary for quality MCH services to be delivered. Currently the MOH infrastructure is being strengthened through several PHC projects scattered throughout the country. The timing of this full reintegration is appropriate when a viable level of infrastructure is in place.

After the establishment and implementation of the basic, standard packages for MCH at health facilities, continuing development will still be pursued in line with the realities in the MCH sector. It is expected that by the time MCH services is already reintegrated into PHC, the scope of services is also broadened.

Securing a strong foothold in the critical steps needs the support and assistance of NGOs, UN agencies and other external donors. Apart from DHP and CMCH, specific guardians for each of the critical steps should be identified. For example, the World Health Organization (WHO) may be able to shepherd the development of the basic standard package of services at each level of care. UNICEF and Non-government Organizations (NGO) may be in the best positions to find approaches on how to implement the package of services in the field, United Nations Population Fund (UNFPA) may be able to facilitate the improvement in the management of reproductive health activities and ensure the availability of contraceptive commodities. It is important that the outputs of these critical steps are processed, applied and eventually incorporated into regular MCH activities and services for the entire country.

The end goal of the framework is to see quality MCH services provided as an integral part of PHC, supported at all levels of MCH facilities and implemented in all facilities throughout the country and largely utilized by the population.

15.5 POSSIBLE MEASURES

The possible measures enumerated below are strategic points within the critical steps that should be taken following the strategic direction set. These measures may be taken singly or as a group of interventions or as programmes depending upon prevailing circumstances and the best possible means where the resolution of particular issues can be addressed.

15.5.1 Improvement in the Quality of Services

The quality of MCH services depends on many factors. Foremost are the knowledge, attitude and skills of health workers, availability of drugs, supplies and equipment, the physical state of health facilities, the management of MCH activities and the availability of standards of care.

With very limited resources and low MCH staff capacity, it is prudent to generally start with a limited few essential services and build the capacity of health worker and management support around these services. Gradual additional services should then be added to increase the scope of services depending on how well staff and management are able to cope.

To establish a good quality routine antenatal, delivery and postpartum services that is aimed primarily to prevent or correct anaemia, malaria in pregnant women, bleeding, infection, promote exclusive breastfeeding and introduce family planning services is feasible, cost effective and is expected to have a high impact on the health of mothers and children. Once this

is achieved, the management of the most common causes of obstetrical complications which are postpartum haemorrhage, abortion, puerperal sepsis, hypertensive disease of pregnancy and obstructed labour should be a next priority. Other additional services can be established later once these essential obstetric services are made available.

Training should be improved. Design, training approaches and methods should be made to fit the educational and training background of MCH staff. More participatory methods, simpler and straightforward approaches and opportunities to practice skills are very necessary. On the job training through improved monitoring and supervision should also be done to maintain pressure to push changes into health worker's practice.

Appropriate training for MCH personnel at the right time is also crucial. For example, central and provincial hospital staff should be the first to be trained on the clinical management of obstetrical emergencies over district and health centre staff, or upgraded health centres should be the first to receive training on routine ANC. Training on a specific procedure should not be done for staff from hospitals not equipped to do the procedure.

Possible measures towards the ultimate end of improving quality of services are also dealt with in management and in other sub-sector developmental frameworks. To streamline interventions, it is important that MCH integrates or coordinates its intervention with these frameworks. For example, PHC infrastructure development being undertaken in some project areas are starting to deploy at least a medical assistant or a middle level nurse in health centres. MCH should take the opportunity to prioritize training for this group of health workers to create the impetus for quality improvement in health centres.

MCH should work closely with the Department of Organization and Personnel, Curative Department, Department of Food and Drugs and Department of Planning and Budgeting in the various aspects of quality improvement and assurance in MCH services. The initial hassle of coordination and collaboration will be rewarded by strengthened interventions and smoother implementation.

15.5.2 Promotion of MCH Services

With the prevailing socio-cultural realities getting women and families to utilize MCH services particularly those which are preventive and promotive in nature is a challenge. For many women and families the use of MCH services is not an option to care for many reasons. There are however, women and families who do not use the services because they do not know that such service exist, how they can benefit from the services or how these services compare with their current option to care.

A campaign to let the population know and be familiar with MCH services and how can these be availed of will help fill the gap between facilities and communities. Radio plugs, health

workers announcements during village meetings and political authorities encouragements during political gatherings will help kick off and maintain such campaign.

It is important that such campaign should be timed when the facilities are already able to provide a certain level of quality MCH service so that those who will respond to the campaign will not be disappointed. Satisfied users of services are probably the most cost efficient and effective advertisement for MCH services in villages.

The contraceptive use rate and antenatal care attendance is slowly increasing through the years. However, utilization for delivery and postpartum services remains low even in zone-zero areas. It is crucial to take advantage of the rising acceptability of antenatal care. If antenatal care is further strengthened, and its health information, education and counselling component made stronger, it is a very good entry point to women families and communities to encourage them to also utilize delivery, postpartum and family planning and child care services.

15.5.3 Improvement in the Management of MCH Organization and Services

As with any organization MCH needs good management to achieve quality and relevant outputs. The whole management process of planning, monitoring, implementation and evaluation of activities and interventions should be duly given more attention.

MCH officials and senior staff need to be given inputs for good management through formal or on-the-job training. MCH officials and senior staff should be made aware of the realities of MCH and MCH services in health facilities so that they are able to provide appropriate guidance and practical measures. Target outputs should be set, made clear but also realistic. Monitoring and supervision mechanisms should be established and focused on specific points or priority activities that can be adjusted according to progress.

Within MOH, the MCH leadership line should be made more visible. The drive for the enforcement of policy and guidelines should be demonstrated from the central level not only in the form of memorandum, circulars, declarations and meetings but in the form of concrete support funnelled not only through logistics from the government but also from external support, through continuing follow-up of activities and evaluation of interventions to review achievements and identify room for improvement.

Integrated or coordinated management processes between departments and units within MOH are required to streamline activities and achieve efficiency. Most interventions for the improvement in health services require institutionalized systems that cannot rely on one or two sub-sectors alone. For example, the Department of Organization and Personnel is mainly responsible for the creation of positions, deployment of personnel or orientation and training of staff but when this and other functions are performed DHP/CMCH should ensure that the position and functions of MCH staff that will be prescribed should not disadvantage the

delivery of MCH services. Venues for such kind of coordination and integration should be created within MOH but care should be taken that these venues do not create unnecessary difficulties on the implementation of MCH projects and programs.

Coordination and collaboration between DHP, CMCH, provincial and district units also needs to be smoothened out. Streamlined procedures and instructions for coordination and collaboration should be drawn out and propagated. Roles and tasks of each unit should be clarified and management procedures should be consistently done in a coordinated or integrated fashion.

15.5.4 Development of Outreach Activity as a Regular Part of MCH Services

Past success of the immunization service hinged on the zone-zero (within 3 kilometes radius of a fixed facility) strategy where immunization services was ensured at designated health facilities and outreach immunization service was provided outside zone-zero areas.

The immunization outreach can be expanded to include other MCH services that can be practically be brought outside of a health facility. Adding a day or two stay in villages will enable health workers to do more such as providing antenatal care, selected contraceptive methods, postpartum visits and conducting health information and education sessions. It will also give health workers the opportunity to be more acquainted with villagers and their way of living thus facilitating appropriate health information/education and counselling.

Expanding immunization outreach to deliver more services has many implications. First, staff has to be multi-skilled to be able to provide more services. Second, operations cost will increase with the additional time that should be spent in the villages and/or with an additional team member who can provide other MCH services. Third guidelines for the outreach have to be developed to facilitate training of health workers, planning, implementation, monitoring and supervision. In this regard, the coordinated inputs of external donors is very necessary for the success of this intervention.

The improved outreach activity is expected to also increase the coverage of immunization service as health workers will have more opportunity to track children and mothers who do not submit for immunization. The outreach will also give health workers more time to discuss with mothers the importance of immunization and the dangers of the immunizable diseases.

15.5.5 Mobilization of Communities for MCH

The achievement of good health for mothers and children will remain far off if the burden of health services fully rest on the shoulders of health workers and the MOH organization. The participation of communities is essential and can be achieved if communities are empowered and mobilized to take the health care responsibility.

Change is a slow process and communities don't respond or develop overnight. However, the active pursuit for change in MCH or health in general should be started at once.

Community transformation for MCH or health in general has to be mediated by change agents or movers. Waiting for changes from within communities might take a much longer time. There should be initiator/s of change who should intercede for the desired transformation. The health organization particularly health workers in health centers and district health units are in a good position to help initiate this change in partnership with village health volunteers, traditional birth attendants and healers, local authorities, mass organizations and local government agencies.

The following steps should then be undertaken to help facilitate the change process:

(1) ensure that communities are organized to undertake collective decision making and actions;

(2) awareness building for MCH is undertaken targeting initially leaders and eventually communities;

(3) leadership skills of key change agents (health workers, village health volunteers, local authorities and/or other community leaders) is upgraded;

(4) local planning, implementation, monitoring of health and health related actions should take place; and

(5) village health volunteers, traditional birth attendants and village authorities are made keepers of particular community interventions.

It is important that all community activities for MCH be undertaken through collective community processes to enhance further people's participation.

Village health volunteers and traditional attendants are key collaborators in community empowerment and mobilization for health. With some training they may be able to perform specific but limited interventions for MCH such as providing iron and folate supplements for pregnant and postpartum women, supplying oral contraceptives and condoms to the community or encouraging pregnant women to submit for antenatal care in health facilities. However, their knowledge and skills will not be sufficient to perform most MCH interventions and therefore should not be groomed to become main health providers in communities. Their strength however, lies in the fact that they are in the communities and are more accessible to the women and families and to health workers. This makes them the best mediator between the community and health services.

To train health volunteers and traditional birth attendants requires a big investment. It is best that their roles and functions should be first made clear and specific so that training will be focused and training sessions will not be wasted on subjects that they do not have much use for.

Mobilization of communities is a main focus of the PHC framework. However, MCH because of the nature of its services is a very good vehicle for the delivery of PHC and should be then made as its integral component early on in PHC development.

15.5.6 Strengthening of Coordination and Collaboration with Donors

The main bulk of MCH interventions are dependent on various donors for technical, logistic and management support. Donors provide assistance in different forms which is funneled either to the central level or directly to provincial and district offices or hospitals.

Mechanisms to facilitate coordination and collaboration between activities and donors are very crucial to ensure that the critical points in this framework are achieved and these should be established.

Each donor organization has particular expertise that which when channeled properly will enrich the MOH/MCH organization. MOH/MCH should identify and utilize this expertise to the fullest. First, it is important that these organizations are also facilitated to enable them to provide the assistance in ways that are most useful to MCH and the MOH/MCH organization. Second, they should be involved in national planning (also in provincial and district planning for donors providing direct assistance to these levels), and their roles and outputs should be made clear and reflected in the plan. Third, venues should be created to coordinate and co-monitor donor and DHP/CMCH activities regardless where donor support is directed or what kind of assistance is being provided.

Several donors are operating in the field and some are concentrating on MCH activities. It is a very good opportunity to harness them to develop field approaches that will facilitate the implementation of MCH services. This is also true with regards to finding logistical support mechanisms for routine MCH activities and emergency obstetrics. However, it is worthwhile to ensure that the development of such approaches is in line with the goals, objectives and strategies of MOH. DHP/CMCH therefore should take the lead in evaluating these approaches to select the most feasible approaches or to come up with a combination of tried approaches.

15.5.7 Development of MCH Model Facilities

In conjunction with training of MCH staff and the development of monitoring and supervision mechanisms, model MCH facilities will be very beneficial.

Quality MCH services seem to be an abstract concept for most facilities. It is easily discussed but hardly demonstrated. It is important that models of each level of MCH care from the central, to the provincial, district, health centre and up to outreach services are created. These facilities should be made priority areas for MCH development be it in staff training,

infrastructure improvement, setting-up of monitoring and supervision schemes or initiating implementation of improved MCH information education activities.

Many health staff and authorities are often overwhelmed by the problems and difficulties they face in their daily work and feel helpless. Model facilities that can deliver basic but quality and practical services will hopefully provide motivation for health workers to achieve despite limitations in resources.

Furthermore, the model facilities will be good practice areas for health worker's training. Model provincial and district hospitals will be very good venues to train district and health centre staff at a much lower cost and in a more appropriate setting. These facilities can also serve as examples for the development of other facilities.

A model district unit that demonstrates a good MCH/PHC approach should be created. This is particularly important in the light of the on-going infrastructure development for PHC implementation.

15.5.8 Promotion of Births in Facilities where there is Access to Essential Obstetric Care

Antenatal care can detect risks and prevent complications during pregnancy and childbirth. However, it is not sufficient to identify all women who will develop complications during labour, delivery and postpartum.

Correct and timely management of obstetrical complications is the one of the most effective ways to address maternal mortality. There are complications of pregnancy, childbirth and postpartum that can be prevented by the provision of quality antenatal care. However, this is not sufficient to identify all women who will develop complications since obstetrical complications are more often unpredictable. It is therefore important that women deliver in a facility where services to manage obstetrical complications are available or if not where they can be easily transported to such a facility in the event of obstetrical complications.

Good quality delivery and postpartum care can easily prevent haemorrhage and infections, two most common causes of obstetric complications. Active management of labour and clean delivery are cost effective interventions that are feasible to implement. Babies can also benefit much from facility delivery. Clean cutting of the cord will prevent tetanus and other infections, immediate and exclusive breastfeeding will help ensure increased resistance from disease and prevent malnutrition and neonatal immunization can give specific protection at a much earlier and appropriate phase of the children's lives.

To encourage women and families to use delivery service in health facilities is indeed a daunting task considering the various barriers to this particular service. However, it is important that promotion of health facility delivery is started and provided support as soon as

possible. Unless this is done, the health master plan goal for maternal mortality reduction by 2020 will be very difficult to achieve.

Various means can be employed to encourage women and families to utilize facility delivery service and this overlap with the other possible measures such as promotion of MCH services or improving the quality of care. Much more specific interventions such as the establishment of maternity waiting homes, the development of community mechanisms to transport women who are willing to deliver in health facilities upon start of labour or during obstetrical emergencies, the mobilization of village health volunteers to locate pregnant women so that they can be visited and encouraged by health workers and other approaches should be tried.

15.5.9 Ensuring the Availability of Contraceptives and Providing a Wider Choice of Contraceptive Methods

One of the most important factors contributing to maternal mortality and morbidity is the high fertility rate which is 4.9 children per woman. Although access to and use of contraceptives has increased in the past few years, more effort is required to get more tangible results.

Lao women from rural areas are greatly disadvantaged. The 2000 Reproductive Health Survey estimates contraceptive prevalence rate among women from rural areas at 28 % in contrast to 54% among women from urban areas. This places women from rural areas at very much higher risk to complications of pregnancy, unwanted pregnancies and to having unsafe abortion.

Ensuring the availability of contraceptive commodities and a wider choice of contraceptive methods for women not only in the hospitals but also in health centres and in villages will make contraceptive commodities more available to rural women.

Various means should be tried to attract more women and couples, particularly those from the rural areas, to use family planning services such as including family planning in MCH Outreach, including contraceptive pills and condoms in the drug revolving fund kit, active promotion of family planning services in health facilities or improvement of the quality of family planning services.

CHAPTER 16
FRAMEWORK FOR NUTRITION

16.1 INTRODUCTION

As Nutrition activities by the Lao Government in general and the Ministry of Health in particular have not yet been fully developed and their potential rationale is not fully understood and accepted, this chapter will attempt to set the overall conceptual framework.

The importance of sufficient and balanced nutrition to growth, development, health and survival needs to become a central theme of agricultural and health activities.

This chapter will also attempt to identify the main determinants and potential key actors in improving the nutritional status of the population in general and mothers and children in particular. Thus, the chapter is going to lay the basis for an intersectoral approach to improvement of food access and balanced nutrition, but we also detail the framework of Health activities within this intersectoral framework.

Figure 16.1 Conceptual Framework

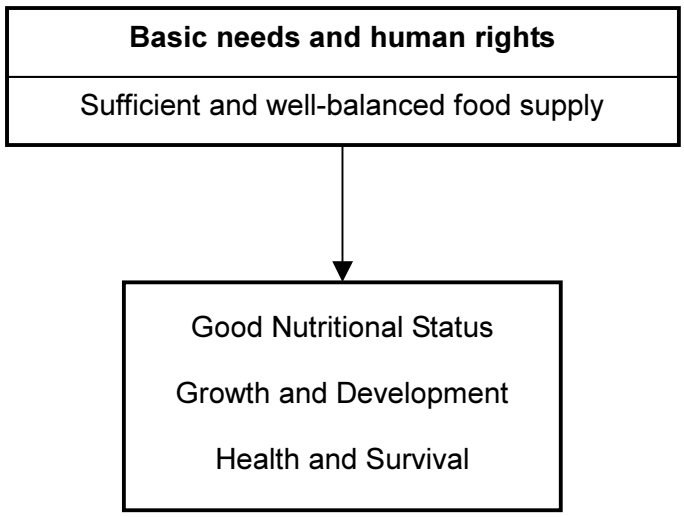
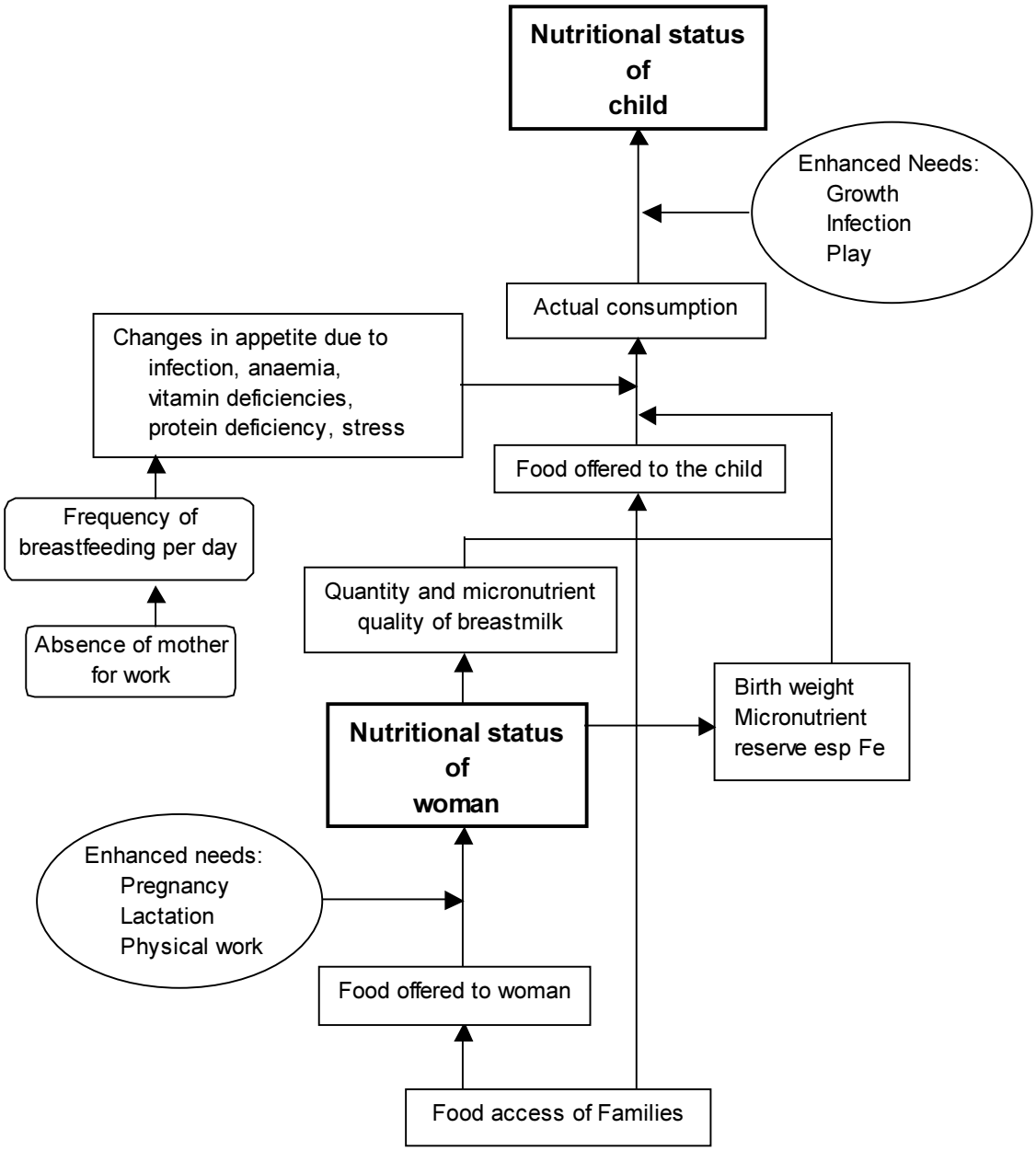


Figure 16.2 Main Determinants of Nutritional Status of Women and Children



16.2 IDENTIFIED ISSUES

(1) The socio-economic policies of Lao PDR have so far concentrated on increasing calorie availability through self-sufficiency in rice production only. This has contributed to the inequity of availability as the ecologies are not equally favourable to rice. For instance, some research concludes that families in the plains have sufficient rice throughout the year or only suffer from insufficient rice supply for 0 to 3 months while families on the plateaux, hills or mountains lack rice supply for 3 to 6 months. Therefore, the traditional ethnic variations in staple foods have been seen as "coping mechanisms" for those who lack sufficient rice supply.

Government policies have also not given enough importance to the potential of other income generating activities as well as other food crops to reach this goal.

(2) Agricultural policies have not sufficiently emphasised diversification or at least proximity marketing to widen the choice of foods and enhance the chances of access for families to balanced nutrition. National food production falls short of needs in fat, vegetables, fruits, and animal and vegetable protein (fish, meat, eggs, and legumes: peas, beans, nuts, etc.)

(3) Growth surveillance, nutrition education, and nutritional rehabilitation only acquire real meaning where families have reasonable access to a sufficient quantity and variety of food

(4) The current nutritional status of women and children in Laos is not satisfactory and necessitates coordinated action. The nutritional deficiencies of women and children occur in urban and rural areas. Remote areas tend to have higher frequencies and greater severity linked to the lack of access to food for larger families, but even in food surplus areas nutritional deficiencies are quite frequent in children and women. The present situation is briefly described as follows.

- Between 50 and 75% of cases of under 5 mortality have malnutrition of the mother and child as an underlying cause.
- Low weight for height is more frequent and severe in the 12-24 months age group but exists in all age groups in 20-30% of children. Low weight for age, which is the sum of chronic and more recent nutritional status, increases with age up to 5 years.
- A considerable proportion of infants suffer from anaemia, beriberi, Vitamin A deficiency, and iodine deficiency.
- The level of the mother's Vitamin A intake, which influences defence against infections, is inherited by her children both in utero and through breastmilk.
- 30 to 70% of surviving children have significant stunting by age 5. The degree of stunting gets worse as age advances and is more severe for boys than girls. As a result, they have less physical stamina, slower learning (short term memory impairment), and lower average IQ.
- More than 20% of women have stunting and have enhanced obstetrical risk, leading to more frequent and more severe low birth weight.
- 50% or more of pregnant women suffer from anaemia. One identified determinant of anaemia is parasite load. Those women are at risk of death if they suffer postpartum haemorrhage. Their babies have a risk of low birth weight, anaemia within the first month, folic acid deficiency, and neural congenital malformations.
- Severe Vitamin B1 deficiency in some lactating women (who observe food taboos) and their babies lead to beriberi and sudden death of the babies through heart failure.

(5) Only one nutrition project in Nalae District has accumulated enough experience. To be able to confidently launch nationwide activities, particularly of nutrition education and growth surveillance, there is a need for more sub-district level trials.

16.3 OBJECTIVE

Improve Growth, Development, Health and survival by improving the nutritional status of women and children by 2020

16.4 KEY DIRECTIONS

(1) To develop for all regions, districts and families access to a sufficient and balanced food supply (a necessary first condition to fulfilling other objectives).

(2) To provide general nutrition knowledge and clear scientific guidelines on how to feed those with special needs: pregnant women, lactating women, children and the elderly, people who are acutely or chronically ill; to children in primary school and adolescents in and out of school, to families and institutions.

(3) To reorganise delivery of services by health facilities to take nutrition issues fully into account and fully use favourable entry points for promoting preventive and rehabilitative care concerning malnutrition. It is necessary to develop a nutrition component within basic health services and MCH, and for curative medicine and IEC to become priority channels for providing the above nutrition education as well as active measures to provide meaningful prevention and rehabilitative services for malnutrition.

16.5 POSSIBLE MEASURES

The agricultural and non-health strategies relate to food access for families while health strategies relate to sufficient and balanced food access for individuals, especially women and children, and to early warning signs of impending malnutrition and maintenance or rehabilitation of nutritional status during disease.

In all cases where access is not assured to sufficient or sufficiently varied food, agricultural and non-health strategies need to be used in advance of or concurrently with health strategies.

In order to assure full respect of the intersectoral framework, our first strategy is based on it and should be used to raise awareness and assure a coordinated response between sectors.

(1) To revitalize the 1995 National Plan for Action on Nutrition, and to carefully review aspects that were not highlighted at that time.

The plan identified six national strategies:

1. Incorporate Nutrition objectives into socio-economic development (CPC)

2. Household Food security, including emergency preparedness (Min of Agriculture, Trade, Labour and Social Welfare and National Committee for Rural Development)

3. Prevention and control of micronutrient deficiencies and infectious diseases (MOH)

4. Food Safety and Quality Control FDD-MOH

5. Promotion of breastfeeding and appropriate diets MOH. MOE, LWU

6. Assessment, monitoring, evaluation of household food security and nutritional status (all Ministries involved and the National Statistical Centre)

There has been limited and largely uncoordinated implementation of a few aspects. Greater coordination and emphasis are needed. The intersectoral committee that was supposed to oversee the effort never met.

(2) To develop a focal point and coordinating committee for nutrition in MOH for providing technical support to the integration of nutrition in health services delivery.

In the health field, different departments are currently responsible for different activities:

1. MCH (growth surveillance, iron)
2. IMCI initiative (detection of malnutrition during curative sessions),
3. IMCI and Curative Department (nutrition rehabilitation)
4. EPI (Vitamin A) and,
5. FDD (salt iodisation).

There is little *or no HMIS reporting of nutrition related activities*, no definition of by whom and how they will be monitored and refined to assure effectiveness of the measures, and no technical assistance or guidance provided.

The committee should help clarify and coordinate the activities, the focal point should formalize guidelines, HMIS, supervision and monitoring, making sure that nutrition stays fully integrated in services and does not become one more vertical service.

(3) To improve general knowledge of food production, preservation and preparation as well as healthy nutrition (in conjunction with or instead of Ministry of Agriculture).

(4) To conduct focused nutrition education regarding the nutritional needs of children by age group under 5 years, with a focus on how to prepare food and feed children of different ages.

This can be started with people coming to EPI and ANC. This should in the end reach everyone in target groups, such as pregnant and lactating mothers and traditional child feeders (grandmothers, older children, fathers, vendors, etc.).

(5) Detection of malnutrition during clinical sessions at health centres and hospitals, nutrition education and rehabilitation of severe cases in the health facility

(6) Nutrition education during every illness of a child on maintenance of quality and quantity of intake, even enriching the diet

(7) Nutrition Education given during pregnancy (ANC) on good prenatal and postpartum diet for mothers

(8) Growth surveillance as a nutrition education strategy:

- Community Nutrition diagnosis
- Detection of malnutrition and rehabilitation in villages
- Preventive Growth Surveillance

16.6 DISCUSSION

Nutrition challenges MOH and the Lao government to develop coordinated integrated approaches within the health sector and between the Health, Agriculture and Education sectors at least. The organisational tasks are quite formidable and so are the technical tasks, but to assure good nutritional status for women and children by 2020 there is a need to start now and progress step by step.

CHAPTER 17
FRAMEWORK FOR HEALTH EDUCATION

17.1 INTRODUCTION

People can protect their own health when they have basic health information. In view of this, health education is essential to promote the knowledge and capacity of people to maintain and improve their health and to resolve health problems within their families and communities.

17.2 IDENTIFIED ISSUES

(1) General Issues

Laos's mountainous terrain and low population density has made it difficult for MOH mobile teams to travel to all villages. To provide health services and health-related information for rural people (including ethnic minorities), therefore, remains a big challenge.

Although some vertical programmes, such as EPI and malaria control, have reached grass-root levels, their impact on health education to villagers has been minimal because their health activities are mostly based on short-stay in each village, and health workers provide several health messages at once without careful interaction with villagers. As a result, villagers tend to get confused with those different health messages.

Language differences have also remained a constraint on communicating with people in remote areas and on collecting information needed for health service improvement. Moreover, principal issues affecting health education are as follows:

(2) Narrowly Determined Roles and Low Capacity of Centre of Information and Education for Health (CIEH)

CIEH was established to be the core organisation for implementing and supervising health education and health message production at all levels of the health sector. The CIEH's tasks include health education material and aid production, health message dissemination. But in actuality these activities are mostly done by vertical programmes independently from CIEH.

From 1989, funded by WHO, the CIEH established Provincial Health Education Units (PHE) in all PHOs, with special training on health education/ communication skills for provincial staff and some necessary equipment. The PHE belonged administratively to the PHO but

coordinated directly with the CIEH for technical support. This network functioned for a while, but it was terminated due to a lack of coordination and cooperation between the PHE and CIEH, and due to no macro planning for health education and budget shortages.

The following are some additional findings and issues regarding the CIEH's failure to fully implement its role and responsibilities:

- There is no national decree for health education activities at macro-level.
- There are duplications of health education activities by CIEH and other health programmes. Many health education activities function without close cooperation with related health programmes.
- There is no system of monitoring and evaluation for health education.
- The budget allocation for health education has been low although it is recognised as an important aspect of health development.

(3) Poor Preparation of Health Workers for Health Education

The various Human Resources Development projects within MOH exclude health education, resulting in a lack of health educators and staff with communication skills at all levels. Even the staff of CIEH have received very little training.

Health education is part of the nursing curriculum but only a small part, and there are no teachers with a background specifically in health education and communication. In the Faculty of Medical Science, health education has yet to be introduced. As resulted, the knowledge of pre-service health workers on those issues is narrowed.

The CIEH often does not have enough staff to develop health education activities effectively. Staff allocation, which is mainly based on numbers rather than qualifications, has resulted in a deficiency of staff trained in health education and communication skills.

Training in health education for health personnel at all levels has been organised for the past ten years. Training in communication skills has been provided by the Ministry of Information and Culture but concentrated in central and selected provinces only. Those staff that are trained are not assigned so as to make full use of their skills and backgrounds.

Likewise there are no mechanisms for making use of potential village resource persons such as elders or monks for health education.

(4) Poor Availability of Quality Health Education Materials

The main purpose of material and aids production is to support health programmes. It seems that the production of health education materials has been previously determined largely by the availability of funds rather than being designed to achieve health-related objectives.

Most existing health education material aids are printed media in Lao language, which limits access for 30-40% of the population, particularly ethnic minorities, who cannot understand Lao language.

Radio programmes are broadcast by Lao National Radio (LNR) and local radio stations, whose transmitters cover approximately 80-85% of the total area of the country. LNR broadcasts in 2 ethnic minority languages (Khmu and Hmong), local radio stations in 2-3 other languages (Blu, Laotheung, Soai). It seems that the CIEH does not actively coordinate with these stations on how to disseminate health messages in different languages so as to improve access for ethnic minorities and other people in rural areas. Equally health radio programmes are not broadcast at times suitable for specific target groups. As a result, target groups do not have access to health messages by radio even though it is an effective way of distributing information.

TV programming does not have a significant impact on audiences in urban areas or areas along the Mekong River because Thai TVs are much popular. It is therefore difficult for people in urban areas to access TV programmes on health. The poor quality of television reception and a lack of creativity by Lao broadcasters further reduce popular interest. Nevertheless, it is a potentially effective channel for the dissemination of health messages if programmes are presented with interesting content and relevance to people's lifestyles.

(5) Weak Health Education at Health Facilities

In MOH policies, hospitals should have both clinical and preventive functions. However, at present, hospitals focus more on clinical activities than health promotion and disease prevention. Normally, the MCH unit has a health education sub-unit with responsibility for giving health education to mothers and pregnant women, although this is a not daily activity and the scope of content is limited to ANC, vaccination, nutrition, and breast-feeding promotion.

Central and a few provincial hospitals have public relations units in charge of information dissemination and coordination between patients, their families and health staff. In actuality, however, it is used as a unit for disseminating official information among divisions. The units do have a small amount of equipment and material (TV, video, video cassettes etc.) to support health information for patients and their families.

For specific wards such as internal medicine (heart, lung, digestive system ward), it is rare that health education activities are organised in relation to relevant disease.

(6) Little Health Education at Schools

At present, textbooks of primary schools contain health-related aspects, but some teachers are not so good at delivering those health messages to pupils persuasively. It is partly because

schoolteachers have lack of understanding of those subjects, and partly because local life styles are different from those described in the school textbooks.

At present, there are some school health programmes, including de-worming, supported by WHO, acting mainly through the CIEH. However, these cover only primary schools in the pilot zone of Vientiane Municipality and some urban area schools in 5 provinces. This issue relates directly to children' health and nutrition status, but school health is given little priority by MOH.

The school health programme is coordinated directly by the Ministry of Education (General Education Department). Coordination and collaboration between the Ministries of Health and Education need to be close but it seems that there are not yet any mechanisms in place to ensure this.

It should be noticed that 40% of children drop out of school and they are not covered by school health programmes, if any.

(7) Weak Community-Based Health Education

Some priority health programmes such as maternal and child health, malaria control, immunisation, and HIV/STD/AIDS programmes conduct health education activities themselves that target specific groups at community level. Most of them are separately implemented vertical programmes with little coordination between them.

In addition, the PHC projects have also carried out activities which emphasised prevention and promotion issues. At grass-root level, local resource persons, such as VHVs, TBAs, and members of village health committees, perform some health education services. Some of the health knowledge they disseminate to villagers is incorrect and misleading. For example, malaria is caused by drinking unboiled water. This misunderstanding took place because health workers tend to deliver various health messages at the same time, very quickly and without adequate interaction with villages. Moreover, villagers do not receive follow-up support.

The concept of preparing or empowering communities by providing health messages and information is not ready in Lao PDR.

(8) Underdevelopment of Workplace-Based Health Education

Presently, governmental and private workplaces are concentrated in urban areas. While workers could be good target groups for disease prevention and health promotion, healthy workplace concept and workplace-related health messages (on non-communicable diseases, specifically urban diseases) have received little attention.

The on-going Healthy City Programme has focused on safe environments (solid waste management, market hygiene), road accidents, and dengue fever/dengue hemorrhagic fever.

17.3 OBJECTIVE

(1) To strengthen the core organisation for health education at central level,

(2) To promote capacity building in health education and communication skills for health workers,

(3) To establish IEC units in health facilities, especially district hospitals, for the purpose of improving clinical and health promotion and disease prevention services together,

(4) Increase people's awareness of and access to health messages at health facilities, schools, and workplaces by IEC activities

17.4 KEY DIRECTIONS

(1) To reform the core organisation of health education.

(2) To build the technical and management capacity of resource persons for health education and communication approaches.

(3) To promote the production and use of good quality health education materials.

(4) To strengthen facility-based health education.

(5) To expand school health programmes.

(6) To promote community-based health education..

(7) To create workplace-based health education

17.5 POSSIBLE MEASURES

(1) To reform the core organisation of health education

1) Change the name of the core health education organisation from "Centre of Information and Education for Health" to "Health Education Centre" and reformulate its roles and responsibilities to include:

- Identify and analysis health problems which health education can address,
- Formulate a National Direction for health education,
- Support the formulation of a health education action plan for all related health programmes and health education units at provincial and district levels,
- Formulate a public relations plan for MOH,
- Develop skills and capacity for health education activities of health staff at all levels of health facilities,
- Develop key health messages and modify them specifically for dissemination through different medias,

- Produce and supply health education materials,
- Provide health education materials for related sectors outside health and for all health programmes, and
- Conduct health education study and research in order to develop suitable techniques and methods.
- Supervise and monitor health education activities.
- Evaluate health education activities.

2) Re-establish the health education network at provincial and district levels with a clear functional and operational framework for health education.

3) Promote better coordination and cooperation between different sections within MOH and with other related bodies outside MOH; between core organisations and vertical programmes through seminars, workshops, annual meetings concerning health education and communication issues.

(2) To build the capacity of resource persons for health education

1) To emphasise the importance of health education and communication skills in pre-service education by promoting learning opportunities in public health Schools as well as at the Faculty of Medical Science by:

- Improving basic knowledge on health education, behaviour change communication and IEC material production.
- Redeveloping the curriculum to give more credits to both theory and practice. The practical part should be conducted in both facility and community settings.
- Integrating health education as a part of PHC

2) Promote in-service training in health education and communication (including basic knowledge, planning, IEC material production and management), especially for CIEH staff and for health staff at all levels (including hospital staff). The main purposes of the training will be to develop health education and communication skills and to promote their use at all health facilities.

(3) To promote the production and use of quality health education materials

1) To strengthen coordination and cooperation with other vertical programmes in order to build a sound health education framework. Health programme staff will be detailed to collect information on health problems from the field and analyse those problems for practical solutions, while health education staff will design and develop the key health messages to address the problems.

2) To strengthen the use of radio programmes as a vehicle for disseminating health messages to target groups in rural areas and among ethnic minorities by developing a national radio broadcasting programme in collaboration with CIEH, LNR (including local radio stations), and the Department of Non-Formal Education (including

Community Learning Centres) of MOE. The radio programmes should be aired both in Lao and minority languages.

3) Radio programmes produced outside the studio (live programmes) with full audience participation, including competitions among villagers, should be implemented in parallel.

4) To re-develop health TV programmes at central level. On-site recording of part of the programmes could attract greater interest of viewers.

5) To develop print and audio-visual materials for health education, which reflect actual lifestyles of local people. Careful attention must be paid to the design of health education materials in order to reach remote and ethnic minority groups

6) To provide basic audio-visual materials for central, provincial and district levels in order to support health education activities. The proposed basic audio-visual kit (see Table 17.1) should be the responsibility of the Health Education Unit of each level. Together with the equipment support, training in maintenance and management of the equipment should be considered as well.

(4) To strengthen facility-based health education

The prevention and promotion services in health facilities at all levels (central, regional, provincial, district, and health centre) should be improved in line with health care services (see Chapter 19). However, the establishment of an IEC unit at district level facilities should be the first priority since they are at the front line of disease outbreak response and some of them have no access to sources of health information.

1) Establish IEC units in hospitals with the following roles and responsibilities:

<u>For health education</u>

- Study and analyse the health problems and health behaviour in the area.
- Formulate a health education plan
- Coordinate and support relevant sectors/programmes.
- Develop techniques and create health education methodologies which are suitable for local conditions.
- Conduct health education activities and health information dissemination
- Function as an Information Resources Centre
- Provide a health education materials service for other sectors.
- Provide technical support for related sectors.

For Public Relations

- Carry out study on the potential of the facility and the barriers to communication with the target group.
- Formulate a public relations plan
- Conduct public relations activities
- Coordinate and support relevant sectors in planning and implementing the public relations activities.
- Evaluate the activities.

2) To promote health education in outpatient wards

This activity will be a part of services and taken once week that focus on Mother and Child Unit, Well Baby Clinic, and reception areas. Health education activities should be systematically implemented by individual or group approach (patient and their relative), in conjunction with the action plan of their own unit.

3) To promote health education in inpatient wards

Health knowledge and information activities should be carried out weekly, related to the diseases patients are suffering from. The implementation must be planned and delivered systematically.

4) To promote health information within hospitals (for central and regional hospitals)

These activities aim to disseminate health knowledge and information for patients in outpatient and inpatient wards, and are the responsibility of the hospital IEC units.

5) To establish outreach activities and/or health special campaigns in line with the master plan of the province/ core organisation, or pertaining to specific health problems of the area.

6) To establish mobile teams for community health education for the purpose of reducing common diseases.

(5) To expand the school health programme

Health education in school provides an excellent opportunity to raise community awareness about preventable non-communicable and communicable diseases.

1) To prioritise primary schools throughout the country for health awareness improvement on the specific topics of soil-transmitted infections and hygiene education.

2) To study the establishment of a “Model School” for disease prevention and health promotion within schools.

3) To build the capacity of schoolteachers to hold health education classes in ways suitable for the cultural and environment context.

4) To support and encourage "model schools" by competition for Minister's Awards.

5) To strengthen the de-worming project at primary schools

6) To establish health special campaigns to target health problems in the school or community.

(6) To promote community-based health education

The community-based health education concept relies on educating and developing community leader groups (village authorities, women's groups, youth groups, etc) for the purpose of health knowledge dissemination, community health development, and promoting community participation in addressing health problems.

1) To organise meetings and training for community leader groups at village level on health topics. These groups will then act as counterparts to health education staff in health discussions and activities.

2) To offer continuing health education for community leader groups and VHVs

3) To implement health information/ knowledge dissemination in villages through a group approach, community learning centres in villages (non-formal education system), or video houses. Health knowledge dissemination activities by community leader groups should receive frequent support from health education units, particularly technical and materials support.

4) To conduct special health campaigns in line with particular health problems or common disease at village level by community leader groups.

(7) To create workplace-based health education

1) To identify target workplaces for health knowledge dissemination

2) To establish health knowledge dissemination to target groups in workplaces (offices, factories etc) as one component activity of the Healthy Cities project

3) To develop key health messages for different target groups and publicise them through suitable mass media channels.

(8) To establish mobile teams for health education from district level

Mobile health education teams are needed for villages with difficult access to health services, which would also be responsible for monitoring disease outbreaks. The establishment of district mobile teams is essential.

(9) To promote health education through mass media

It is also important to make health knowledge available to target groups through all types of mass media (radio, TV, newspapers, magazines, newsletters etc) and through approaches such as notice boards and loudspeakers (public address systems).

Table 17.1 Basic Audio-Visual Set for Health Education Unit

No.	Items	Unit
1	21-inch Television	1
2	Video player	1
3	Radio tape recorder	1
4	Amplifier 600 W	1
5	Microphone	2
6	Speaker 600 W	2
7	Electric generator 1,5 kW	1
8	Stabilizer 1,5 kW	1

CHAPTER 18
FRAMEWORK FOR COMMUNITY HEALTH

18.1 IDENTIFIED ISSUES

(1) The more than 10,000 VHVs in Laos are overstretched and, as a result, undersupported. Some VHVs have been trained to work only on single issues, such as malaria prevention or birthspacing, while others are able to provide more comprehensive services which include taking care of Village-Level Revolving Drug Funds (V-RDFs). Those who have had more intensive training in the past (for example as wartime auxiliary nurses) tend to be the more active VHVs, while those with very limited background and training tend to become inactive. Once VHVs are selected and trained, they do not receive adequate support from DHOs/district hospitals and health centres.

(2) Where VHVs are active, they sometimes combine private drug selling and giving injections with their public duties such as taking care of the V-RDFs. Active VHVs and village health providers are appreciated by the communities they serve, as their private services appear to correspond more closely with people's felt needs. Their private services are, however, unregulated by either the public health services or the local communities, and the extent to which they sell drugs or give injections appropriately is unknown.

(3) Although the MOH "Policy on PHC" recognises traditional health practitioners such as herbalists, they have had little involvement in the district health systems based on the PHC approach, either as VHVs or village health providers, or in any other capacity.

(4) The limits to people's voluntarism need to be adequately considered when VHVs are selected and trained. Financial and in-kind incentives for VHVs have not been properly considered to date, but may have the potential to help keep them motivated.

(5) The presence of traditional birth attendants varies throughout the country. There are many areas, particularly among non-Lao speaking groups, where they are scarcely found at all. They may not be a major human resource which can be drawn upon to help make local health services more effective.

(6) Communities have tended to be too little involved in decision-making regarding how VHVs should work, or how they should be supported to do a better job.

(7) In remoter areas, where regular health services have barely reached the local population, there are many obstacles to women and men seeking services from health

facilities, including economic factors (such as cash shortages, full allocation of labour to agriculture), poor communications (for instance the road network but also including language barriers) and socio-cultural factors (such as different beliefs as to the causes of ill health), as well as people's perceptions, past experiences and expectations of health facilities. There is a positive correlation between physical and socio-cultural remoteness and the barriers to people's use of formal health services.

(8) An emerging issue for the Lao PDR is the irrational use of medicines, particularly antibiotics, but also including chloroquine and corticosteroids. The widespread wrong use of both antibiotics and chloroquine may lead rapidly to drug resistance. This in turn will lead to the need to use more expensive forms of treatment drugs for common diseases. Chloroquine-resistant falciparum has already been reported in the Lao PDR.

(9) Many rural communities are too passive in community health matters, particularly in making demands of the health sector to provide better and more reliable services. Communities and their representatives participate too little in health problem-solving discussions either among themselves, or with local health service providers. They may not see the importance of various preventive behaviours.

(10) The potential positive uses of people's traditional beliefs and knowledge have not been deeply explored as entry points to improve women's, men's and children's health. These would include, for example, the positive effects of certain rites and rituals on individual and community wellbeing, the healing effects of plants and roots known to traditional health practitioners, and the preservation of plant bio-diversity through traditional farming practices which are determined by a complex of nature spirits (water, trees, animals).

(11) In remoter areas, accurate and effective health education and health information have not reached the local population.

(12) In less remote areas, health staff do follow health sector policies on providing information to local people about malaria prevention, the "three cleans," the importance of drinking boiled water, and the importance of EPI. However, in areas where there are language difficulties or where staff are unable to go regularly, these preventive messages are not clearly understood by the local population. They tend to be delivered in a one-way style which does not allow women or men, and especially women who may have Lao language difficulties, to ask questions or relate the messages to their own situation and health status.

(13) Simply providing minimum standardised services cannot respond to people's needs and demands, since their needs and demands depend on both socio-cultural and economic and living conditions. Their health-seeking behaviours are a product of socio-cultural and economic factors, including poverty, and of their knowledge and attitudes.

(14) Health development has not sufficiently combined with other sectors. Since socio-cultural and economic and living conditions, including gender issues, are major determinants of health in the rural areas, primary health care service development should not be isolated from other development efforts in any given area.

18.2 BASIC UNDERSTANDING

Community health activities are to be promoted through support from DHO officers and district hospital/health centre staff. However, district health systems remain underdeveloped and are unlikely to be strengthened sufficiently in the short term. Therefore, it is impractical to begin promoting community health activities immediately.

For this reason, community health activities should be promoted only after the district health systems have been strengthened to a certain extent.

18.3 KEY DIRECTIONS

Key directions for the present to improve the present situation:

(1) To rely on VHVs and informal village health providers for community health; even though knowledge levels of VHVs/informal village providers are uneven and mostly poor, they have important roles to play in community health development, because it is impossible to allocate formal health workers to every village and the coverage of the health facilities will in any case not expand so dramatically as to serve all villages.

(2) To continue the activities of strong vertical programmes such as EPI, malaria control and reproductive health[1] for the present in order to maintain the provision of health services to communities

(3) At the same time, to improve and expand health services to communities by actively promoting activities of weaker vertical programmes such as MCH, nutrition and health education[2]

(4) To promote village-level RDFs under the effective guidance of district health officers or health centre staff in order to provide some health services to remoter areas which will not be reached by adequate health services in the near future

(5) To provide MCH services to communities by integrating MCH services into EPI activities, in other words, by expanding the scope of EPI activities to include MCH outreach

[1] Those strong vertical programmes need to be decentralised and to be integrated horizontally with other health activities at district/health centre levels.
[2] Those weak vertical programmes also need to be integrated horizontally with other health activities at district/health centre levels in the future.

Key directions to be taken from now towards establishing district health systems based on the PHC Approach:

(6) To make preparations for promoting the utilization of village-level human resources (VHVs, informal village health providers, TBAs, traditional herbalists, etc.) in district health systems in the future; by establishing flexible guidelines covering the role of health staff of district hospitals/health centres to train those human resources through facility-based activities and outreach, and by establishing appropriate regulations.

(7) To promote training for PHC workers and community nurses from now in order for them to be able to work at DHOs/district hospitals and health centres and to support communities' and VHVs' health activities according to the PHC approach in the future.

Key directions to be followed once district health systems based on the PHC approach have been strengthened to a certain extent:

(8) To actively promote community health activities as a component of PHC activities in integrated district health systems

(9) To promote community health by relying on VHVs and informal village health providers: they need to play important roles in the future, since it will be impossible to allocate formal health workers to every village even in the future.

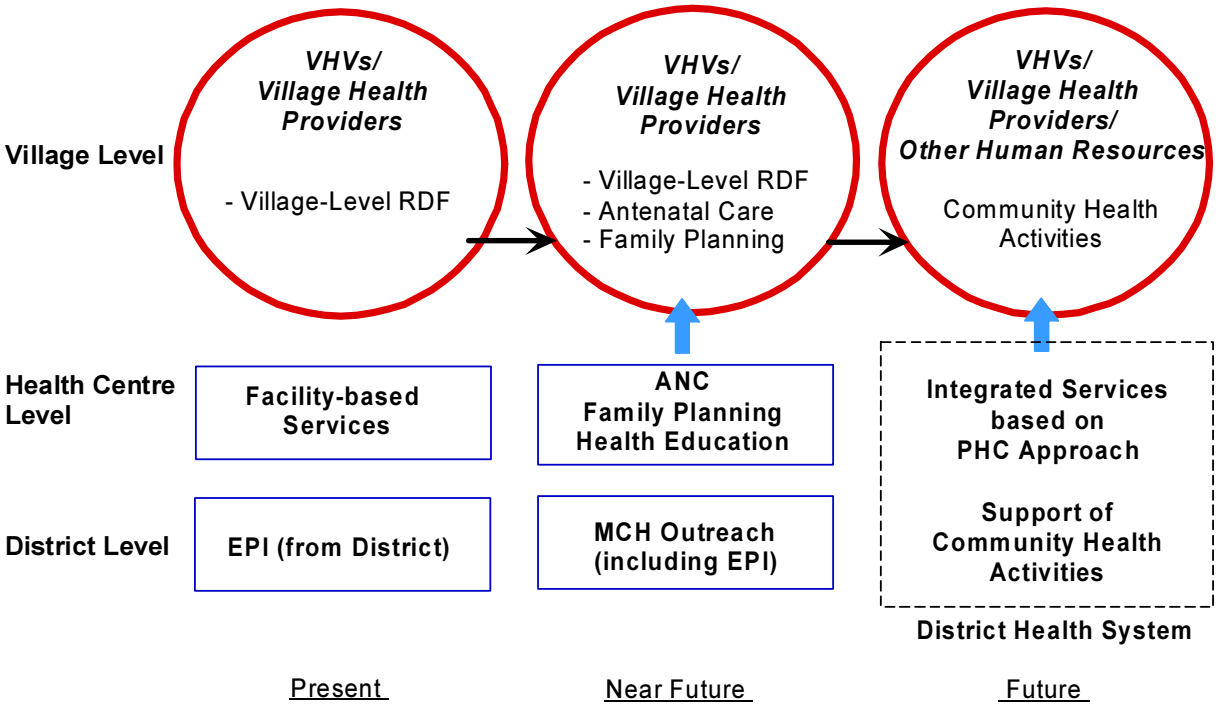
(10) To promote utilization of village-level human resources (VHVs, informal village health providers, TBAs, traditional herbalists, etc.) in district health systems: staff of DHOs/district hospital and health centres will provide training for them, and monitor and support their activities.

(11) To build local networks of VHVs, informal health providers, and other village-level human resources in order for them to help and support each other in community health activities: DHOs/district hospitals will support the establishment of such local networks and their activities.

(12) To promote communities' participation in health activities and to empower them so that they can make their own health-related decisions and become self-reliant: staff of DHOs/district hospital and health centres will support and guide their activities.

(13) To promote community health activities starting from the areas near district hospitals/health centres which are comparatively well-managed.

Figure 18.1 Community Health Development Scenario



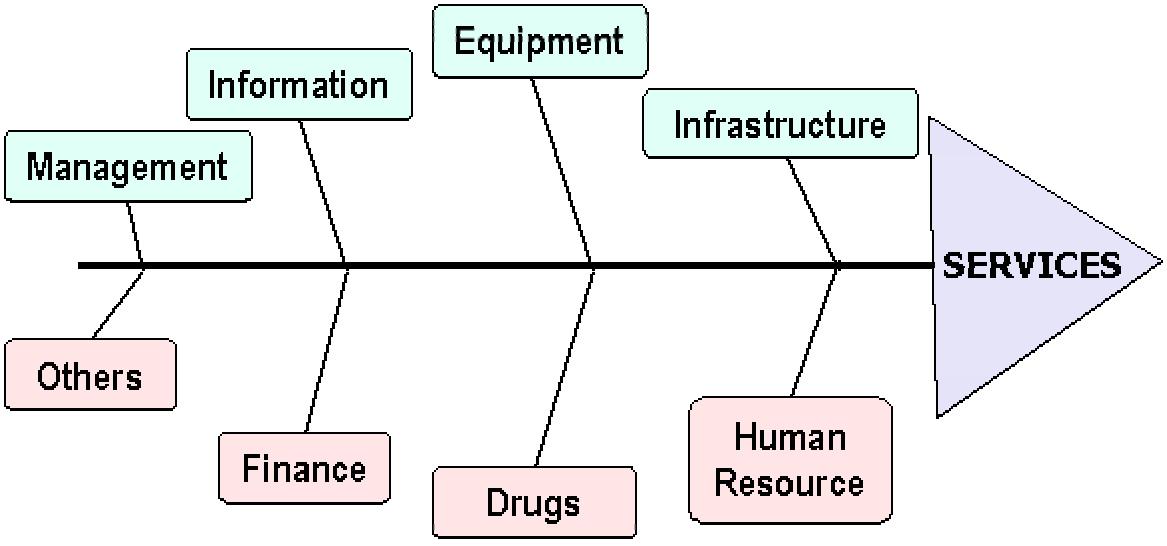
CHAPTER 19
FRAMEWORK FOR HOSPITAL SERVICES
INTRODUCTION

19.1 INTRODUCTION

Health service delivery is one of the five major factors that influence the health status of individuals and populations. The other factors are public policy, environment, heredity and behaviour. For this chapter, the discussion is limited to health services that are hospital-based. It will cover the entire area – promotional, preventive, curative, rehabilitation, and palliative or supportive, but discussion will be limited to MOH facilities from the central hospitals to district hospitals.

To improve hospital services, one has to consider a number of subsystems of the entire health system (Figure 19.1) such as human resources, drugs, finance, infrastructure, equipment, information, management, and others (e.g. linkage to community-based services and other sectors). Some of those subsystems are discussed more extensively elsewhere in this report. Analysis of these subsystems are essential in order to understand health services. Although attention has been focused on the present situation and near future, the planning time frame is for year 2020 and beyond.

Figure 19.1 Schematic Relations of Frameworks: Factors that Influence Health Services



19.2 IDENTIFIED ISSUES

(1) Referral System

The Government of Lao PDR and the MOH have expanded the network of health facilities such that all provinces have a provincial hospital, more than 90% of districts have a district hospital, and there is on average one health centre for every 20 villages. There are 8 central hospitals that can provide specialised services. However, studies show that geographical access to a public health facility is still limited.

The improvements in the road network is still ongoing all over the country. All provincial capitals, except Huay Xai (Bokeo), can already be reached by all-weather roads. In the near future, Bokeo will be part of this national road network. However, transferring patients from provincial to central hospitals can be a challenge. To reach Vientiane, people in Sekong have to travel more than 18 hours by land or more than 5 hours by air and land, and the fee for the flight is around US$25 per person one-way. Provincial hospital ambulances are also being used to transport patients for a fee.

The range of population covered by each type of health facility varies widely. Savannakhet provincial hospital served 766,000 people and Sekong 73,000 in 1997. To address this problem, district hospitals have been upgraded to inter-district hospitals in Savannakhet province and to sub-provincial hospitals in Bolikhamxay province.

In general, referral of patients is not common and is mostly from lower to higher-level health facilities. A number of patients bypass health centres such that some district hospitals have barely a 50% bed occupancy rate while some higher level facilities complain of attending to simple illnesses. Although some nearby provincial hospitals, at times, refer patients to central hospitals, both of these facilities are visited directly by patients. The current situation does not guarantee coverage to all villages.

There are 18 provincial hospitals in Lao PDR, all of which provide medical services in Internal medicine, Obstetrics and gynaecology (OBGYN), Paediatrics, Dentistry, Emergency Clinic and Clinical Laboratory. Almost all provide services in Radiology, Surgery, Outpatient clinic (OPD), Ophthalmology, and Mother and Child Health (MCH). On the other hand, other highly specialized medical care such as Urology, Neurology and Orthopaedics are provided at perhaps only three. Thus, the current situation is that health services provided by provincial hospitals vary widely, and the same has been observed for District Hospitals and Health Centres. Variations in functions and services from one health facility to the next may result from a lack of guidelines or standards for each level of health facility regarding the proper medical services that are required. This situation seems to make it difficult to establish an appropriate referral system in Lao PDR.

(2) Quality of Service

A preliminary report of an ongoing study of staff at a Provincial Hospital shows that the five main reasons people choose to go to a provincial hospital are: trust in the facility, good service, sufficient staff, cheaper fees, and as a last resort. On the other hand, there were some people who prefer not to go to the provincial hospital when they are ill and their reasons include: long waiting time due to bureaucracy, too many tests and prescriptions, bad service and unequal treatment from staff.

Through the years, the MOH and its partners have cooperated in improving the quality of services. From now until 2020, their efforts will have to focus on unfinished tasks which include to finalise the quality service standard and using it as primary basis for capital investment and human resource development. The design of quality standards for hospital services has to be based on priority communicable diseases, non-communicable diseases as well as other health situations (e.g. complicated pregnancy) that require hospitalisation. The following are some additional findings and issues regarding the quality of services.

- Training of medical staff at the district and provincial levels needs improvement. For instance, the lack of continued education programme results in a lack of skilled staff.
- A lack of medical and technical staff who are knowledgeable, skilled and committed to quality services and lack of incentives to retain those competent staff, particularly in remote areas
- Standards for hospital services not yet approved
- No incentives for staff working in remote areas

(3) Infrastructure and Equipment

In coordination with its partners, MOH has been building a number of health facilities and equipping many that are newly renovated or upgraded. However, the availability of functioning infrastructure, medical and support equipment is still limited partly because of the under-developed electricity supply and roads.

Some of the critical issues that have negative effect was that there is no management policy for equipment procurement/donation, and there is no guidelines/standards indication required medical equipment based on the medical services to be provided.

The maintenance of hospital infrastructure and equipment is arranged by each hospital separately. At present, however, only the central hospitals and eight provincial hospitals have a maintenance unit for infrastructure or equipment and a proper engineer/technician. Total number of technical staff in provincial hospitals is 6 engineers and 21 technicians, who have received either short-term training, three-month training or overseas training. According to the

survey of health facilities conducted by MOH and JST, nearly all provincial and district hospitals have an equipment inventory list. But the section responsible to manage equipment inventory has greatly differed from one hospital to the other, which includes Administrative management office, Head of storage section, Pharmacy, Hospital administrator and so forth.

MOH established the Medical Equipment Service Centre (MES) to ensure the availability of functional and safe medical and other support equipment. It has trained 16 maintenance/repair engineers/technicians including 10 engineers/technicians from seven provincial hospitals in 2001. It will establish two other service centres in the northern and southern regions of Laos. But the number and capabilities of engineers/technicians are still far below normal requirements. The major issues concerning the lack of functional infrastructure and equipment are as follows.

- Some infrastructure and equipment cannot be used because of the lack of consumables (e.g. fuel, reagents or chemicals), absence of spare parts, and/or lack of maintenance/repair staff as a consequence of lack of funds.
- A significant number of second-hand equipment donated without service and/or operation manuals, which makes it difficult to keep them operating.
- Poor maintenance and no inventory and maintenance/repair records
- Equipment to be covered ranges widely from simple medical devices to infrastructure equipment, and from electronic devices to high voltage devices. Therefore, it is difficult for a single engineer or technician to cover everything.
- Wide varying levels of health service are provided even at the same category of health facility depending on infrastructure, equipment, human resources and so forth.
- Privacy of patients and cleanliness of facilities have too low a priority.

19.3 OBJECTIVES

1) To continue efforts to improve hospital services in order to make health facilities "patient-friendly" and worthy of people's trust.

2) To improve the quality of services in hospitals by introducing a progressive approach to achieve a comprehensive service standard which is basic and responsive to people's needs and expectations.

3) To provide more equitable hospital services for remote areas by improving and strengthening the quality of services provided by district hospitals in remote areas and by inter-district hospitals.

4) To improve the quality of services in hospitals by improving hospital management.

19.4 KEY DIRECTIONS

(1) To prioritise hospitals in investment measures for improving the quality of hospital services so as to establish better hospital networks.

(2) To improve the quality of health services in hospitals by introducing the initial service standards which are basic and responsive to people's needs and expectations, and by using the initial package for investment.

(3) To ensure existing infrastructure and equipment are fully functioning.

(4) To make hospitals "patient friendly".

(5) To improve the organisational management of hospital for better performance.

(6) To institutionalise external and internal mechanisms for assessing and monitoring skills of hospital staff, for example, by using improved patient care.

(7) To introduce support systems for health staff.

(8) To strengthen the national referral system.

19.5 POSSIBLE MEASURES

19.5.1 To prioritise hospitals in investment measures for improving the quality of hospital services so as to establish better provincial hospital networks

(1) To give high priority to inter-district hospitals which support district hospitals in remote areas

In order to strengthen health services within the province, the role of district hospitals as being the core of the district health system is crucial. However, the current capacity of district hospitals varies widely according to geographical conditions, and transportation and infrastructure networks. Therefore, district hospitals located at the nodes of the road network, and being able to cover neighbouring remote districts, should be given high priority for upgrading to inter-district hospitals.

(2) To give priority to district hospitals in remote areas

District hospitals in remote areas (some remote districts are shown in Figure 19.4) should also be given high priority for upgrading, since people in remote areas have difficulty in accessing provincial hospitals. The remoteness of these areas, however, is expected to be reduced in the future with the development of communications and transport links.

19.5.2 To improve the quality of health services in hospitals by introducing initial service standards which are basic and responsive to people's needs and expectations.

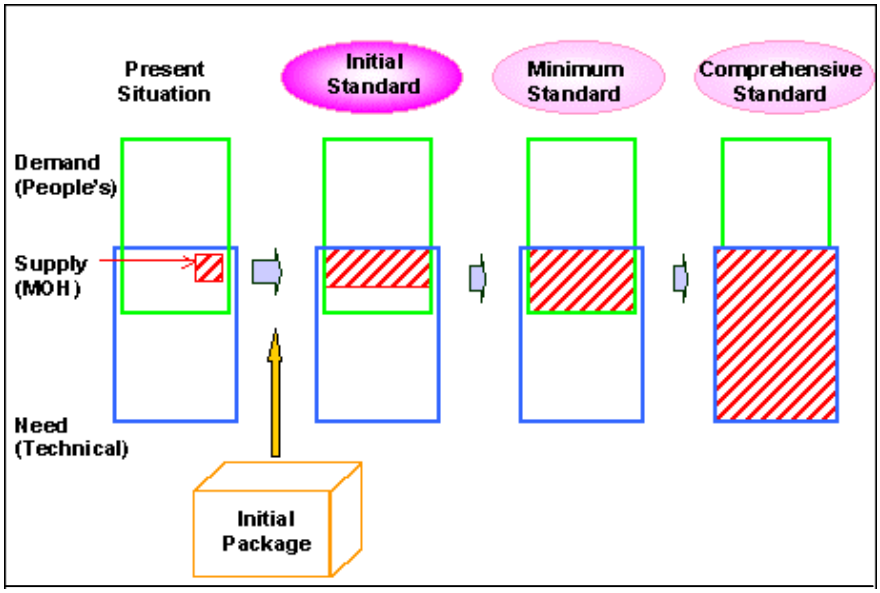
(1) To establish and use initial standards for improving hospital services that will be used for the initial package of integrated investment in staff, equipment and infrastructure.

1) by clarifying definition and category of each type of hospital.

2) by applying the initial package of integrated investment covering aspects of human resources, infrastructure, equipment, operation and management system(see (2)),

3) prioritise facilities by area and level.

Figure 19.2 Concept to Achieve Standard



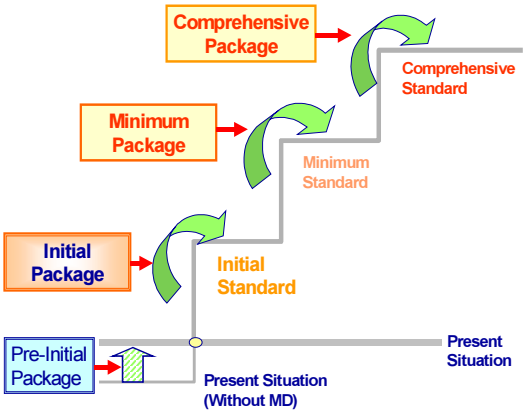
(2) To improve the prioritised hospitals with the initial package to achieve the initial standards

1) District Hospital Improvement Programme

The upgrading of priority district hospitals will be implemented progressively based on the classification of hospitals, the service standards for each hospital (the classification of district hospitals is shown in Table 19.5), and the availability of medical doctors.

As a first step, district hospitals will be upgraded with an initial package to achieve the initial standard. District hospitals without medical doctors should implement the pre-initial package as a preliminary stage, which aims to introduce services that respond to people's needs and expectations. After a new doctor is assigned, the hospital will be provided with the Initial Package for each District Hospital.

Figure 19.3 Concept of Investment Packages



Initial Package for Inter-District Hospital

- Service and human resource development (additional items to Initial Package for District Hospital Type-A):
  Training for medical doctors in the hospital on modern and appropriate management of priority communicable and non-communicable diseases, on medium surgeries requiring spinal anaesthesia (e.g. appendectomy, Caesarean section and open fracture), and on other common emergencies and image diagnosis by using X-ray and ultrasound equipment. Training for other health staff on using X-ray and ultrasound equipment. Mobile team will be organized from provincial hospitals to inter-district hospitals.

- Infrastructure (additional item to Initial Package for DH-A) :
  Construction of operation theatre, X-ray room etc.

- Equipment (additional item to Initial Package for DH-A) :
  Equipment for X-ray diagnostics, instruments for medium operations, and Dental chair etc. will be provided.

Initial Package for District Hospital Type-A

- Service and human resource development(additional item to Pre-initial Package):
  Training for medical doctors in the hospital on modern and appropriate management of priority diseases, on minor surgeries requiring local anaesthesia, and on other common emergencies. Mobile team will be organized from provincial hospitals to district hospital type-A.

- Infrastructure (additional item to Pre-initial Package) :
  Construction of minor operation theatre and laboratory etc.

- Equipment: (additional item to Pre-initial Package):
  Instruments for minor operations, microscope, stethoscope, and blood pressure measurement etc. will be provided.

Pre-initial Package (for all District Hospitals: these components should be reviewed by each province based on the local conditions)

- Service and human resource development:
  Traditional medicine, herbal sauna, nutritional education including cooking; well-baby clinic (e.g. growth monitoring, EPI, promotion of breastfeeding), safe motherhood etc. will be strengthened.

- Infrastructure:
  Electricity and water supply system: All District Hospitals should have electricity (generator or solar system) and water supply system (at least two sources). Space for health education, physiotherapy, sauna, and herbal garden. Improvement of building to be “Patient Friendly”.

- Equipment:
  Microscope, child weigh scale, child height scale, television, and video player, communication method, transportation (e.g. health bus, “tuktuk”) etc.

2) Provincial Hospital Improvement Programme

Priority Provincial Hospitals should be upgraded with the following Initial Investment Package.

- Service and human resource development: Medical doctors in the hospital will be trained in diagnosis and case management, training to be specialists in areas such as ophthalmology and E.N.T., major surgery such as Gastrectomy and Cholocystectomy. Training will include use of Ultrasound machines. Doctors should be trained for counselling of substance abuse and mental health patients. A blood bank with facilities for cross-matching and screening should be established. HIV tests also should be available.
- Infrastructure and Equipment: Operating theatre and equipment for major surgery, including shadow-less light, anaesthetic machine and instruments, patients monitor, defibrillator, Ultrasound and X-ray, Computer for data collection etc. Electricity with back up generator for the operating room. (See Table 19.3.)

19.5.3 To ensure existing infrastructure and equipment are fully functional

(1) By strengthening the national system for property management and maintenance support, and establishing Provincial Maintenance Units at provincial level.

1) A national system of property management and maintenance will include an inventory system of all property, a regular maintenance system for infrastructure and equipment, and procedures for repair/renovation work and new construction/procurement work.

2) A provincial maintenance unit which takes care of all the facilities within the province, the tasks of which are special maintenance such as simple repair, procurement of spare parts, coordinating complex repairs, technical advice on procurement and construction work, should be established in each province. The maintenance unit should have responsibility for MOH property within the province and keep documents, drawings and maintenance records etc.

3) Engineers or technicians should be recruited and trained for each Provincial Maintenance Unit to cover equipment, carpentry, electrical, plumbing and mechanical work, and an incentive system should be introduced for the staff with experience and knowledge of hospital maintenance.

(2) MOH and Provincial Health Office should allocate budgets for maintenance

1) For MOH or Provincial Health Office to earmark or reserve a fund for minor maintenance or repairs, particularly those that generate revenue. For PHO to plan to use part of the medical service fee for maintenance/repair.

2) For the MOH to establish an Equity Fund that will be used to pay for the repair of equipment in poor areas.

(3) Hospital staff should be involved in the user-side reporting system, and patients and accompanying persons should be informed of how to use hospital utilities

19.5.4 To introduce support systems for health staff

(1) To establish a system of continuing medical education(CME)

1) By establishing alumni association of medical doctors and other health professionals for the purpose of organising CME and preparing the groundwork for the human resources development foundation (see item (2)). In the future, earning credits by attending CME may be set as a requirement for renewal of licences.

(2) To introduce an incentive system

1) By establishing a human resources development fund/foundation

- Purpose and functions:
  To provide incentives and other support for health staff working in remote areas and other priority facilities.
  To support staff working in remote and other priority facilities (e.g. through journals or other information materials, scholarships for children).
  To support the CME of priority staff.
- Funding Source : Aside from donors and the private sector, one possible regular source of funding is the 3 government pharmaceutical factories. If the MOH hospitals and health centres are able to purchase a percentage of their drug requirements from the 3 factories, then a percentage of the mark up could be donated to the HRD Foundation.

2) By introducing a system of incentives to health staff working in remote areas

- To prioritise staff working in remote areas for training either locally or overseas, and for promotion
- Personnel Division should monitor the priorities that are given to those in remote areas

19.5.5 To improve the organisational management of hospitals for better performance.

(1) To train hospital officials in management of finance, personnel, logistics and information.

(2) To clarify job descriptions for all positions in each hospital, using a bottom-up approach.

(3) To introduce external and internal systems to built staff morale:

- Minister's Awards for health facilities that are best performing and facilities having difficulties.

- To introduce hygiene competitions such as the cleanest room in order to build staff morale.

19.5.6 To institutionalise external and internal mechanisms for assessing and monitoring skills of hospital staff, for example, by using improved patient charts.

(1) To improve the patient charts system to be used for the evaluation of staff skills.

(2) External assessment and monitoring system; to organise mobile teams from the upper level organisations such as MOH and Provincial Health Offices for monitoring activities and competence, and for on-the-job training.

(3) Internal assessment and monitoring system; to monitor/evaluate the performance of units and individual staff, and link the results of such evaluations to promotion, awarding of training opportunities and even to a benefits package on top of basic salary.

19.5.7 To make hospitals "patient friendly"

(1) By providing comfortable space for patients and accompanying persons

To improve existing facilities by building the following facilities in order to make them more comfortable for patients and accompanying persons.

- Waiting space for patients and accompanying persons
- Room for the patient's family
- Kitchen, laundry space for the patients and accompanying persons
- Space and devices to provide health education/ demonstration space for patients and to attract people, such as demonstration room, sauna and massage room.

(2) By introducing patient-friendly prescription and labels on packages of medicine.

To introduce Patient-Friendly Prescription and Labels on Packages of Medicines (PFP): When prescribing and/or dispensing medicines, staff should instruct patients about the dosages with the use of aids that can be understood even by those with limited reading ability.

19.5.8 To strengthen the national referral system

(1) By clearly defining the functions and levels of hospitals (central, regional, provincial and district hospitals) and guidelines for referring patients.

(2) By assessing the priority and needs of upgrading or strengthening of central and provincial hospitals in comparison with other health development needs.

- Central Hospital: Mahosot, Friendship and Setthatirath Hospitals to become University Hospitals, which will have three main functions which include training, research, and providing health services.

- Regional Hospital : Phasing the development of regional hospitals to balance the vision of access, quality, equity, and efficiency.

(3) To strengthen the training and supervision networks from upper-level to lower-level hospitals. The training and supervision system will be conducted according to the hierarchy of Central Hospitals, Regional Hospitals, Provincial Hospitals, District Hospitals, and Health Centre's.

(4) To strengthen transportation and communication system to support the network system. (see to 19.6.5)

(5) Further discussions will be held for the referral system in urban areas, such as Vientiane Municipality, Savvanakhet, Champasak, Luangphrabang etc. (See to 19.6.3.)

Table 19.1 Health Events Manageable with Proposed Initial and Comprehensive Standard

Health Events Manageable with Proposed Initial Standard[1]

Facility	Examples of Health Events			Examples of requirement	
	Communicable disease	Non-communicable disease	Surgical	Specially Required Infrastructure	Specially Required Staff
CH (TH)	◆ ***Mahosot:*** Cardiovascular; GIT; Infectious; Ear, Nose & Throat; Surgery (renal & paediatrics); Pulmonary; Mental health and substance abuse; Neurology ◆ ***Friendship:*** Trauma/orthopaedics; Neurosurgery; Haemodialysis ◆ ***Setthathirath:*** MCH, Cancer, Infectious, Haematology, Digestive, Heart, Endocrine (diabetes)		Super-specialist surgery: ◆ ***Mahosot:*** Renal, Gastro-intestinal tract ◆ Friendship***:*** Trauma including those due to traffic accidents, Other Neuro-surgical cases (e.g. brain tumour) ◆ Setthathirath***:*** Paediatric	Operation Room (Major surgery) CCU, ICU (in specific centre) Dormitories for Trainees (residents and/or fellows[2])	Specialists in all departments
RH	Requiring further investigation and management	Requiring further investigation and management Follow-up of Chronic Diseases	Major surgery:		
PH	◆ Malaria (severe) ◆ HIV/AIDS (diagnosis & initial palliative services)	Cancer: breast, cervical, or thyroid	Major surgery: ◆ ***Cholecystectomy*** ◆ Fracture requiring open reduction and internal fixation Others: Cataract	Rooms: for major surgery, ICU, Image intensifier, haemodialysis Back up generator Dormitories for Trainees	Anaesthesiologist Ophthalmologist & ophthalmic nurse ENT
IDH	Requiring in-patient services Dengue haemorrhagic fever (requiring blood transfusion)	Requiring in-patient services	Medium surgery: ◆ Appendectomy, ◆ Caesarean, ◆ Fracture (emergency)	Room for X-ray, Ultrasound, and medium surgery	M.D. at least 2 (generalists) Lab. technician Anaesthetist
DH-A	Requiring in-patient services	Requiring in-patient services	Minor surgery	Ward 20beds,	M.D. at least 2 (generalists) Lab. technician
DH-B	Requiring in-patient services	Requiring in-patient services	Minor surgery	Ward 10beds, Kitchen, Laundry, Incinerator, Room for patients family	
DH-C	Emergency management of diarrhoea (with severe dehydration) Follow up of HIV/AIDS	Emergency management of hypertension, acute asthmatic attack	Minor surgery (requiring local anaesthesia): ◆ Excision of superficial cysts	Room for minor surgery, laboratory Telephone/VHF radio Water: two sources with reservoir tank Power source	M.D. (generalist): at least 1 MA/Nurse (mid level) Lab. technician
HC	Diarrhoea (mild to mod. dehydration) Intestinal parasitism	**HC-A:** Normal delivery **HC-A & HC-B:** Breast mass & stroke (referral); Hypertension (clinical diagnosis & follow up management)	Wound care	Room for Consultation, Treatment, MCH, Pharmacy, Observation Bed (for 24 hours), Staff Quarters, Waiting Space Water reservoir tank **HC-A:** Delivery room	Medical assistant and/or Nurse

[1] The arrow on the left side of the table indicates that, in general, health events that can be handled at lower level facility can also be managed at higher levels.

[2] Residents are doctors who undergo specialization training and fellows are those who undergo sub-specialization training programmes.

Health Events Manageable with Proposed Comprehensive Standard[3]

Facility	Examples of Health Events			Examples of requirement	
	Communicable disease	Non-communicable disease	Surgical	Specially Required Infrastructure	Specially Required Staff
CH (TH)	◆ ***Mahosot:*** Cardiovascular; GIT; Infectious; Ear, Nose & Throat; Surgery (renal & paediatrics); Pulmonary; Mental health and substance abuse; Neurology ◆ ***Friendship:*** Trauma/orthopaedics; Neurosurgery; Haemodialysis ◆ ***Setthathirath:*** MCH, Cancer, Infectious, Haematology, Digestive, Heart, Endocrine (diabetes)		Super-specialist surgery: ◆ ***Mahosot:*** Renal, Gastro-intestinal tract ◆ ***Friendship:*** Trauma including those due to traffic accidents, Other Neuro-surgical cases (e.g. brain tumour) ◆ ***Setthathirath:*** Paediatrics, Heart Surgery	Operation Room (Major surgery, Microsurgery, Heart Surgery) Radiotherapy Room Interventional radiology Rm. CCU, ICU (in specific centre) Dormitories for Trainees (residents and/or fellows[4])	Specialists in all departments
RH	Requiring further investigation and management	Requiring further investigation and management	Specialist surgery: ◆ ***Severe trauma*** ◆ ***Lung cancer*** ◆ ***Cerebral haematoma*** due to stroke	Rooms for angiography	Specialists: Pathologist, Psychiatrist, & Microbiologist
PH	◆ ***Malaria*** (severe) ◆ HIV/AIDS (diagnosis & initial palliative services)	Cancer: breast, cervical, gastric, lung, or thyroid	Major surgery: ◆ ***Gastrectomy*** ◆ ***C***holecystectomy ◆ Fracture requiring open reduction and internal fixation Others: Cataract	Rooms: for major surgery, ICU, Image intensifier, endoscopy & bronchoscopy, haemodialysis Back up generator Dormitories for Trainees	Anaesthesiologist Ophthalmologist & ophthalmic nurse ENT
IDH	Same as DH-A	Same as DH-A	Same as DH-A	Same as DH-A	Same as DH-A
DH-A	Dengue haemorrhagic fever (requiring blood transfusion)	Ischaemic heart diseases (diagnosis & initial management)	Medium surgery: ◆ Appendectomy, ◆ Caesarean, ◆ Fracture	Room for X-ray, Ultrasound, and medium surgery	M.D. at least 2 (generalists) Lab. technician Anaesthetist
DH-B	Requiring in-patient services	Requiring in-patient services	Minor surgery	Ward, Kitchen, Laundry, Incinerator,	
DH-C	Emergency management of diarrhoea (with severe dehydration) Follow up of HIV/AIDS	Emergency management of hypertension, acute asthmatic attack Follow up of cancer-operated patients	Minor surgery (requiring local anaesthesia): ◆ Excision of superficial cysts	Room for laboratory Telephone/VHF radio	M.D. at least 1 (generalist): MA/Nurse (mid level) Lab.technician
HC	**HC-A:** STD, TB, malaria (diagnosis & management of simple cases) **HC-A & HC-B:** Diarrhoea (mild to moderate dehydration) Intestinal parasitism	**HC-A:** Normal delivery **HC-A & HC-B:** Breast mass & stroke (referral); Hypertension (clinical diagnosis & follow up management)	Wound care	Room for Consultation, Treatment, MCH, Delivery (HC-A only), Pharmacy, Observation Bed (for 24 hours), Staff Quarters, Waiting SpaceWater and Power source	Medical assistant and/or Nurse Lab. Technician (HC-A only)

[3] The arrow on the left side of the table indicates that, in general, health events that can be handled at lower level facility can also be managed at higher levels.

[4] Residents are doctors who undergo specialization training and fellows are those who undergo sub-specialization training programmes.

Table 19.2 Proposed Standards of Services by Facility

Legend: ***I***: *Initial standard;* ***M***: *Minimum standard;* ***C***: *Comprehensive standard;* ***HC***: *health centre (****HC-A*** *Exclusively for HC type A , which can assist deliveries and has laboratory);* ***DHC***: *district hospital in large urban area;* ***DHB***: *district hospital neither in large urban nor in remote areas;* ***DHA***: *district hospital in remote area;* ***IDH***: *inter-district hospital is a DH that serves as a referral hospital for other remote DHA;* ***PH***: *provincial hospital and inter-district hospital;* ***RH***: *regional hospital;* ***CH(TH):*** *central hospital (particularly the teaching hospitals);* a:*not all CH;;* b*: may participate in outreach services organised by lower level facilities but not expected to be the main organiser;* c*: initial services should be provided in all CH(TH) according to guideline or protocol of Rehabilitation Centre*

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
1) Promotion service																								
1.a Counselling of clients, patients, and/or relatives	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1.b Peer education	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1.c Group approach; does not require electronic equipment	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1.d Group approach; requires electronic equipment				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1.e Pre-marital counselling				+	+	+		+	+		+	+	+	+	+									
1.f Hotline counselling					+	+											+	+	+	+	+	+	+	+
1.g Electronic and print mass media																	+	+		+	+	+	+	+

	HC			DHC			DHB			DHA			IDH			PH			RH			CH (TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
2) Prevention and Palliative/Supportive service																								
2.a Family planning	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.b Antenatal care	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.c Normal delivery	HC -A	HC -A	HC -A				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.d Newborn care	HC -A	HC -A	HC -A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.e Postnatal care	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.f Vaccination (children, pregnant women and women of reproductive age)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.g Under-Five children (Growth monitoring, deworming, micronutrient supplementation)		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.h Promotion of breastfeeding (Exclusive)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2.i Other palliative care (e.g. for HIV/AIDS)					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	C	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
3) Diagnostic Services																								
3.a History-taking; Physical examination; & Clinical diagnosis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.b Laboratory diagnosis (Routine stool / urine; Malaria smear; TB sputum; Wet mount & Gram stain for STD)			HC -A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.c Laboratory diagnosis (Haemoglobin, haematocrit and complete blood count)				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.d Laboratory diagnosis (Blood sugar)				+	+	+			+			+		+	+	+	+	+	+	+	+	+	+	+
3.e Laboratory diagnosis (Urine test for substance abuse)					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.f Collection of Specimen for Referral (Pap's smear & for breast mass)									+			+		+	+	+	+	+	+	+	+	+	+	+
3.g Laboratory diagnosis (Biochemistry)											+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.h Radiological diagnosis (X--- -ray)											+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.i Ultrasound diagnosis											+	+	+	+	+	+	+	+	+	+	+	+	+	+
3.j Other diagnostic examination (ECG)												+		+	+	+	+	+	+	+	+	+	+	+
3.k Laboratory diagnosis (HIV test)												+		+	+	+	+	+	+	+	+	+	+	+
3.l Laboratory diagnosis (Other serological tests, Bacteriology, Drug Resistance Testing)																+	+	+	+	+	+	+	+	+
3.m Laboratory diagnosis (Coagulation factor)																	+	+	+	+	+	+	+	+
3.n Other diagnosis (Endoscopy & Bronchoscopy)																		+		+	+		+	+
3.o Histo-cytological diagnosis (initial reading)																		+	+	+	+	+	+	+
3.p Pathological diagnosis (Final reading)																				+	+	+	+	+
3.q Other diagnostic examination (EEG)																					+	+	+	+
3.r Coronaty angiography for Mahosot' General angiography for Friendship; Simple angiography for RH; & CT Scan for Mahosot & Friendship)																					a		a	a
3.s MRI - Angiography for Friendship)																								a

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)/ Others		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
4) Emergency Services																								
4.a Emergency care (including basic life support)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
4.b Emergency care (including advanced life support)		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
4.c Ambulance (appropriate mode of transport e.g. "tuktuk")			+					+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
4.d Blood transfusion (after cross-matching)											+	+	+	+	+									
4.e Blood transfusion (after cross-matching & screening) and Blood bank																+	+	+	+	+	+	+	+	+
5) Surgical services																								
5.a Wound care-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5.b Minor surgery (local anaesthesia)		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5.c Medium surgery (spinal anaesthesia' appendectomy, caesarean)											+	+	+	+	+	+	+	+	+	+	+	+	+	+
5.d Post-operative care											+	+	+	+	+	+	+	+	+	+	+	+	+	+
5.e Major surgery (general anaesthesia)																+	+	+	+	+	+	+	+	+
5.f Surgery by specialist (e.g. lung cancer, severe trauma, cerebral haematoma)																					+	+	+	+
5.g Surgery by sub-specialist (e.g. brain cancer at Friendship, coronary artery bypass at Mahosot)																							a	a

	HC			DHC*			DHB*			DHA*			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
6) Other Health Services																								
6.a 24-hour observation	+	+	+																					
6.b In-patient services							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.c Out-patient services	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.d Pharmacy(including traditional medicine/herbal)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.e Traditional Medicine(practice): acupuncture, physiotherapy, sauna etc.					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.f Primary eye care		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.g Eye specialist care																+	+	+	+	+	+	+	+	+
6.h ENT specialist care																+	+	+	+	+	+	+	+	+
6.i Counselling for substance abuse and other mental health cases -(but not specialist)					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.j Psychiatrist and other specialities																				+	+	+	+	+
6.k Dental (prevention and extraction)					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
6.l Dental (other advanced care)																		+			+			+
6.m Intensive care (adult)												+		+	+	+	+	+	+	+	+	+	+	+
6.n Intensive care (children)																+	+	+	+	+	+	+	+	+
6.o Rehabilitation (clinical)																	+	+	+	+	+	c	c	c
6.p Rehabilitation (prosthetic)																		+		+	+	a	a	a
6.q Interventional radiology																					+		+	+
6.r Radiotherapy (for Mahosot only)																							a	a

* Although no a standard of services, a pre-initial package is proposed for all district hospitals without a medical doctor yet. The package should respond to local people's needs and expectations. It may include the following : traditional medicine (product), herbal massage and sauna, transportation (e.g. health bus or "tuktuk"), nutrition education (including cooking classes).

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
7) Management services																								
7.a Patient record management (non-computerized)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7.b Patient record management (computerized)						+			+			+		+	+	+	+	+	+	+	+	+	+	+
7.c Surveillance and reporting of notifiable diseases		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7.d Research management (e.g. Drug resistance testing; survey of high - risk groups for priority diseases such as STD / AIDS; Survey on Parasite Rate; Epidemiological Surveys, etc.)																	+	+	+	+	+	+	+	+
7.e Training of HC staff					+	+		+	+		+	+	+	+	+	+	+	+						
7.f Training of DH staff																+	+	+	+	+	+			
7.g Training of PH staff																					+	+	+	+
7.h Training of RH staff																						+	+	+
7.i Training of CH staff																						+	+	+
7.k Management of national programme for non-communicable diseases																		+		+	+	+	+	+

Table 19.3 Proposed Package of Major Equipment

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
1) Promotion service																								
Public address system																+	+	+	+	+	+	+	+	+
TV video system				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Copying machine													+	+	+	+	+	+	+	+	+	+	+	+
2) Prevention/palliative																								
Examination table		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Child weight/height scale	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EPI refrigerator	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3) Diagnostic services																								
Examination table	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stethoscope	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BP measurement device	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thermometer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Microscope			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glassware			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Centrifuge																+	+	+	+	+	+	+	+	+
Blood cell counter																+	+	+	+	+	+	+	+	+
Biochemical analyser																	+	+	+	+	+	+	+	+
Colorimeter/Spectrophotometer											+	+	+	+	+	+	+	+	+	+	+	+	+	+
X-ray system w/ film processor											+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ultrasound equipment											+	+	+	+	+	+	+	+	+	+	+	+	+	+

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
ECG												+		+	+	+	+	+	+	+	+	+	+	+
Endoscopy																		+		+	+		+	+
Bronchoscopy																				+	+		+	+
EEG																					+	+	+	+
Simple angiography																					+		+	+
General angiography																								**
Coronary angiography																								*
CT scanner																							***	***
MRI/MRA																								**
4) Emergency services																								
Emergency kit	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Suction unit		+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Defibrillator																+	+	+	+	+	+	+	+	+
Ambulance																+	+	+	+	+	+	+	+	+
Blood bank refrigerator																+	+	+	+	+	+	+	+	+
5) Surgical services																								
Minor surgical instruments	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Medium surgical instruments											+	+	+	+	+	+	+	+	+	+	+	+	+	+
Operation light											+	+	+	+	+	+	+	+	+	+	+	+	+	+
Operation table											+	+	+	+	+	+	+	+	+	+	+	+	+	+
Major surgical instruments																+	+	+	+	+	+	+	+	+
Anaesthetic machine																+	+	+	+	+	+	+	+	+
Electro-surgical unit																+	+	+	+	+	+	+	+	+
Sterilizer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

	HC			DHC			DHB			DHA			IDH			PH			RH			CH(TH)		
	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C	I	M	C
6) Other services																								
Inpatient beds							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Otoscope/Ophthalmoscope		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Slit lamp microscope																+	+	+	+	+	+	+	+	+
Dental chair unit					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dental X-ray unit																		+			+			+
Patient monitoring system												+		+	+	+	+	+	+	+	+	+	+	+
Rehabilitation equipment																	+	+	+	+	+	+	+	+
IVR equipment																					+		+	+
Radiotherapy equipment																							*	*
7) Management services																								
Computer system						+			+			+			+	+	+	+	+	+	+	+	+	+
Slide projector					+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
OHP					+	+		+	+		+	+	+	+	+	+	+	+		+	+	+	+	+
Computer projector											+	+	+	+	+	+	+	+		+	+	+	+	+
Incinerator																	+	+	+	+	+	+	+	+
Electric generator	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Legend
CH : Central Hospital, TH: Teaching Hospital, RH: Regional Hospital, PH: Provincial Hospital, IDH: Inter-District Hospital, DHA: District Hospital type A
DHB : District Hospital type B, DHC: District Hospital type C, HC: Health Centre
IP : Initial Package, MP: Minimum Package, CP: Comprehensive Package
* : Mahosot Hospital, ** : Friendship Hospital, *** : Mahosot and Friendship Hospitals

Figure 19.4 Remote Area and Development Axis

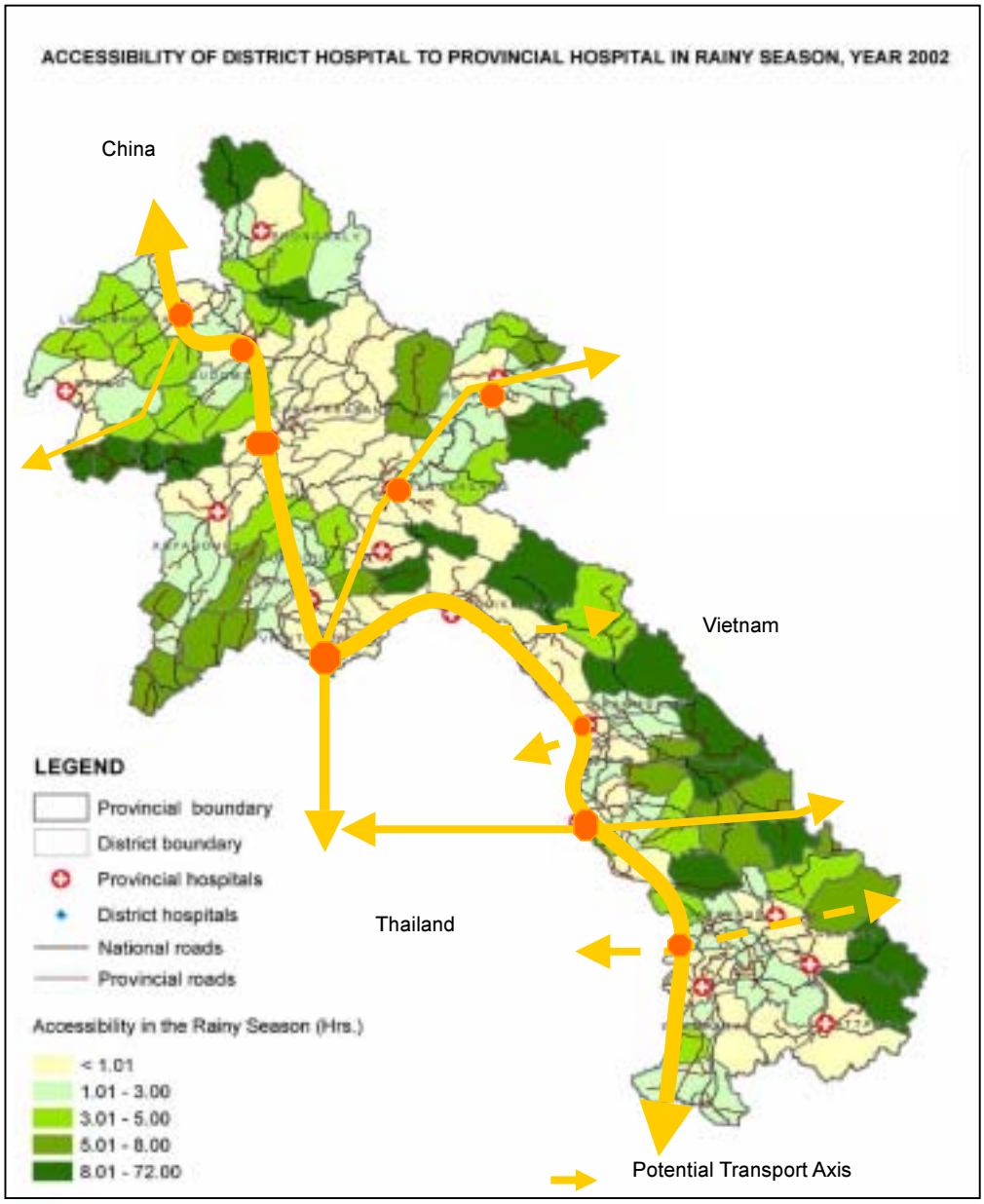


Figure 19.4 shows access time from district hospitals to each provincial hospital and the potential axis of transportation with linkage to neighbouring countries.

Condition of the area along these axis is expected to be improved in future.

Source:
Facility-Based Survey
2000/01, JICA Study Team

Table 19.4 Future development plan of Infrastructure

	2005	2020
Road*1	All provincial capitals are connected to VTE Municipality by all weather road. Road: 40% of district centres are asphalt. Others are two weather roads	All district centres will be connected to provincial capitals by paved provincial road.
Electricity *2	All provincial capitals receive electricity.	90% of household receive electricity.
Telephone *1	All provincial capitals are connected. Telephone: all leaders have telephone line. (Target: 3lines /100 persons)	All district centres have telephone lines with wire and wire less. Village which has more than 500 persons.(Target : 6lines /100 persons) will be connected.

Source: *1 Development Plan on Communication, Transport Post and Construction to Year 2020, 2010 and 20017005a
*2 Development Plan of Ministry of Industry and Culture

19.6 DISCUSSION AND BACKGROUND INFORMATION

19.6.1 Clarification and Selection of Priority District Hospitals

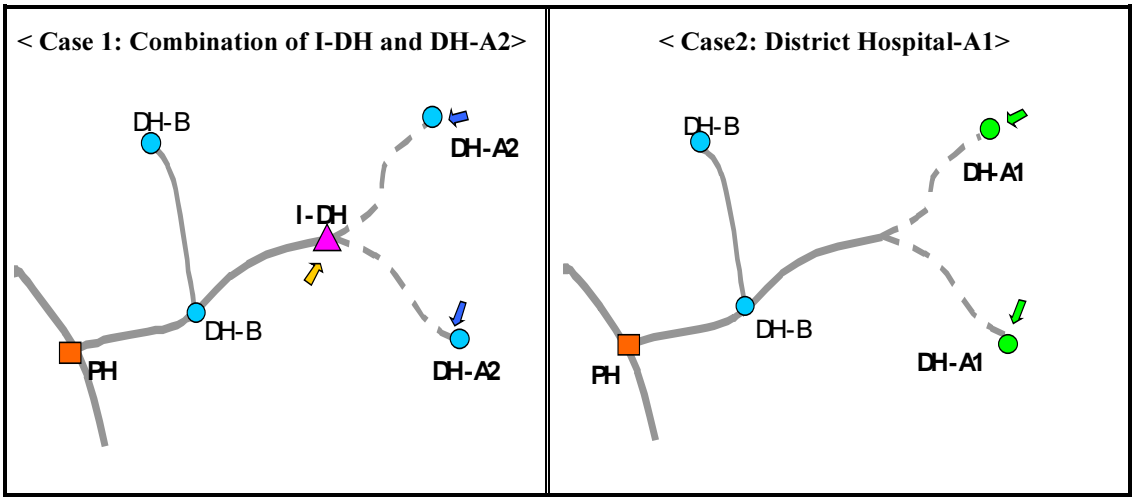
The selection of prioritised district hospitals may take into consideration various characteristics of the entire province such as geographical conditions, the transportation network, and population. Proposed basic criteria for district hospital classification are as follows:

Table 19.5 Classification of District Hospitals

Category		Criteria
I-DH	Inter-District Hospital	District Hospitals located at the node of transportation network which can provide service to several districts.
DH-A1	District Hospital Type-A1	District Hospitals located in remote areas, which will not be covered by Inter-District Hospital.
DH-A2	District Hospital Type-A2	District Hospitals located in remote areas, which can be covered by the Inter-District Hospital.
DH-B	District Hospital Type-B	District Hospitals located in non-remote and non-urban area.
DH-C	District Hospital Type-C	District Hospitals in urban area or near Provincial Hospitals.

The following figure shows two possible cases of the relationship between Inter-District Hospital and District Hospital Type-A. When there is an Inter-District Hospital, nearby district hospitals are considered to be District Hospital Type-A2 (Case1). When there is no Inter-District Hospital, district hospitals in remote areas are considered to be District Hospital Type-A1 (Case2). Priority for upgrading should be given to Inter-District Hospitals and District Hospital Type-A1.

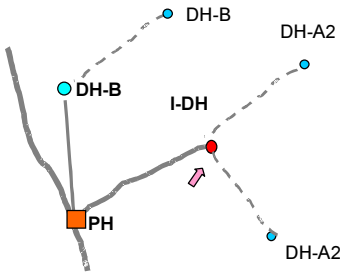
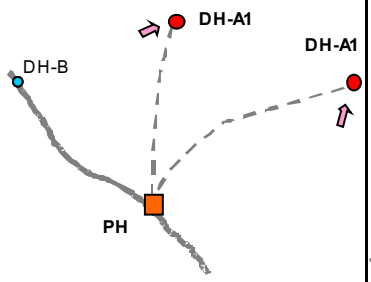
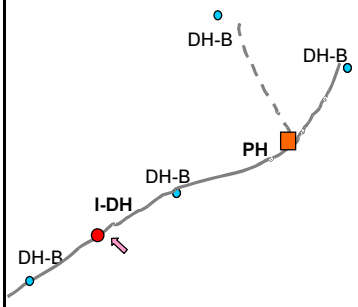
Figure 19.5 Relationship between I-DH and DH-A



The network of provincial and district hospitals is categorised according to the following three patterns. Allocation of District Hospital Type-A, Type-B, and Type-C, and Inter-District Hospital will be decided after studying the health service networks among health facilities

within each province. Geographical network patterns of district hospitals are shown in Table 19.6.

Table 19.6 Comparison of three network patterns in selection of possible measures

	Pattern A	Pattern B	Pattern C
Current Condition	**Geographical Condition:** - Large and Flat area : - Many Districts(District Centres) **Accessibility:** - Road transportation is available between District Centres and Provincial Centre. **Population:** - Large population (Savannakhet : 766,000pers/97 Khammuane : 311,000pers/97) **Problems** - Long journey to PH from all districts. - Too large population to be covered by 1 PH.	**Geographical Condition:** - Mountainous - Few Districts **Accessibility :** - Only seasonal transportation is available between District Centres and Provincial Centre. **Population:** - Small and scattered population (Sekong: 73,000pers/97 Luangnamtha : 131,000pers/97) **Problems** - Difficult access, especially in the rainy season, no access to PH from DH in remote area. - District Centres are not connected to each other.	**Geographical Condition:** - Elongated shape of province **Accessibility :** - Most of the district centres are located along one road. **Population:** - Medium population (Oudomxay: 240,000pers/97 Xayaboury : 333,000pers/97) **Problems** In the rainy season, difficult access to PH from DHs along the road.
Possible Options	Upgrade district hospitals located at the node of transportation network which can service several districts to Inter-District Hospitals.	Upgrade district hospitals which are located in remote mountainous areas with poor access to provincial hospital as District Hospital Type-A1.	Upgrade district hospital which is located at the end or middle of the district hospitals located along a main road or improve the road from the district to the provincial hospital.
Model			

19.6.2 Discussion of the Referral System in Urban Areas

District hospitals located in the urban area are categorised as District Hospital Type-C. However, several options has been discussed for a referral system in urban areas where Central Hospitals are located or Regional hospitals are planned to be located.

Table 19.7 Possible options of referral system in Urban Area

Option 1	To introduce economic incentives to reduce the number of out-patients at Central Hospitals. District Hospital will continue to provide curative service. Health centres will operate for a few days a week.
Option 2	To change the functions of Central and District Hospitals. Investment should be concentrated on strengthening the Central and Regional Hospitals and the functions of DH should be limited to prevention, promotion and referring patients.
Option 3	To strengthen the curative service for out-patients in District Hospitals and transfer the basic curative service for out-patients from Central or Regional Hospitals. Central Hospitals will focus on specialist care, teaching and research function.
Option 4	To introduce a new type of facility, such as Medical Service Centre, which provides only, preventive and promotive service, and abolish the District Hospital.

19.6.3 Investment package for the Central and Regional Hospitals

(1) Central Hospitals

Mahosot, Friendship and Sethathirath Hospitals will have three main functions: provision of health services, training, and research. They will be the premier institutions in Lao PDR and the final referral centres. They should emphasise non-communicable diseases, and each hospital will be a centre for specialist care. The following measures are to be considered:

- Specialist and Sub-specialist Training (both international and domestic)
- Support for Training in and Conduct of Scientific Research
- Career Paths for Clinical Professors/Teachers
- Publication of Lao Medical/Health Journal and/or Lao Health Forum Journal
- Teaching and Learning Aids Package (include audio-visual equipment, models or mannequins, library)

(2) Regional Hospitals

Regional hospitals should perform the following: provide specialist care for all types of health events, conduct clinical training for in-house staff as well as those in the provincial and district hospitals, manage research, surveys and other investigations, and integrate health promotion and prevention activities in curative, palliative and rehabilitation programs.

- Initially, training for staff in the regional hospitals should be conducted by the central hospitals in major surgery such as stroke, severe trauma, lung cancer etc. Psychiatrists and pathologists are also required.

- Establishment of a Regional Management Unit, which will be composed of representatives from all provinces within the region and from the MOH. Technical advisers may come from multilateral and bilateral agencies. The functional aspects or expectations of the unit are the formulation of a Regional Hospital Development Plan, coordination of training of future staff, mobilization of financial and logistical resources, and overseeing the operations of the regional hospital.

19.6.4 Communicable Diseases

(1) To handle outbreaks of communicable diseases, Emergency Response Teams should be established and funds for outbreaks ("Minister's Fund for Emergencies") should be earmarked by MOH.

(2) These Emergency Response Teams should be established in the District Hospitals.

19.6.5 Strengthening the Network of Health Facilities

(1) Strengthening transportation and communication systems to support the network system is also to be discussed in addition to the upgrading and improvement of each hospital.

- Communications network: Phasing to expand the VHF radio network; all health facilities should be connected by a combination of telephone and VHF radio.
- Transportation between health facilities within the province: Operating a health bus, or "tuktuk", that can operate regularly and serve multiple purposes such as transporting patients, reports, medicines and other logistics, staff and supervisors. The health transport can also take ordinary passengers and can be used for other commercial purposes so it will be self-supporting.
- Economic disincentives within the referral system may be applied so that those who bypass intermediate facilities, except for emergency cases, will have to pay more for services.
- Health services for remote areas through regular outreach programmes, such as mobile clinics particularly on market days, and through programmes to build the capacities of villagers to take care of their own health, and through construction of health centres when it is cost-beneficial.

19.6.6 Establishment of Health Staff Cooperatives

Staff may set up a cooperative store that can buy goods from patients who do not have cash. The store may also sell commercial goods for the use of patients and accompanying persons. Using space within the health facility, the store should allocate a percentage of its revenue to reward best performing units and/or staff. In the future, the cooperative may extend other benefits to its members.

19.6.7 Maintenance of Infrastructure and Equipment.

In addition to the establishment of maintenance units at provincial levels and the maintenance fund, the following measures are also to be discussed.

(1) Through introducing standardisation and modularisation, basic spare parts for maintenance should be stocked and supplied by the unit.

(2) To introduce a contract-based maintenance system of the particular facility / equipment at provincial level if there is a private company.

(3) To ensure conditions of after-sales service when equipment is acquired or donated. Used equipment, in particular, should be accompanied by a service manual.

(4) To introduce the inventory and maintenance record systems for efficient maintenance and to make a budget plan. Inventories and records should be updated regularly.

(5) To conduct a feasibility study for manufacturing medical devices (e.g. beds, stretchers, wheelchairs, glassware, drip stands)

CHAPTER 20
FRAMEWORK FOR MEDICAL LABORATORY TECHNOLOGY

20.1 INTRODUCTION

This chapter discusses issues and objectives of laboratory examination in order to formulate the framework for medical laboratory technology.

This framework is concerned with a wide range of aspects, covering the policy on utilisation of medical laboratory technology in the health sector, human resources for laboratory examination, the quality of laboratory examination, and the enabling environment needed to improve the quality of laboratory examination.

20.2 IDENTIFIED ISSUES

(1) The quality of both pre-service and in-service education for medical laboratory technologists (MLTs) is insufficient.

(2) The functions and responsibility of medical laboratory technologists are not highly regarded by the Ministry of Health. In fact, there are no MTLs in higher managerial positions in the Ministry of Health at the central level. There is no legislation concerning MLTs.

(3) Existing MLTs are not clearly aware of their professional responsibility.

(4) There is no reference laboratory.

(5) Allocation of MLTs is uneven among education institutes, clinical facilities, and management/administration sections of MOH.

(6) MLTs are currently qualified at low and middle levels only. There are no high-level MLTs. The professional quality of existing MLTs is variable as a result.

(7) Tools and equipment provided by donor organisations are often inappropriate. Most equipment has been provided free of charge through grant aid and is therefore not always treated as it should be. Spare parts are difficult to obtain, especially for donated equipment, which is mostly second-hand.

(8) Maintenance of equipment is not systematized. There are few specialized staff for repairing medical equipment in Lao PDR. A budget is not allocated for the maintenance of laboratory equipment.

(9) Laboratory work in many hospitals is often hampered by the unstable provision of water and electricity. At a considerable number of hospitals, water is unavailable, difficult to obtain, or not appropriate for using for laboratory examination. Often there is no electricity supply or power cuts are frequent.

(10) The importance of health and safety at laboratories is not recognised. Laboratory hygiene and the possibility of environmental pollution are not given due attention. Infection control measures are not sufficient. In addition, laboratories are not designed, furnished or maintained from the viewpoint of safety and efficiency.

(11) Stock control of chemicals, consumables, test tools and equipment is not carried out appropriately. Out-of-date chemicals and consumables are often seen at laboratories.

(12) Medical professionals, such as doctors and nurses, are not well informed on how to take and keep samples appropriately. Equally laboratory staff have little information as to how samples have been taken and kept. Likewise, patients are not appropriately informed about sample-taking methods.

(13) There is a shortage of chemicals and equipment for carrying out laboratory tests.

(14) Doctors have limited knowledge on which laboratory examinations are useful and appropriate for certain symptoms. MLTs cannot maintain the requisite level of skills and knowledge because too few laboratory examinations are ordered by doctors.

(15) MLTs cannot interpret the results of laboratory tests correctly so that they cannot give appropriate information and advice to doctors. As a result, trust of MLTs is low. This is attributed to insufficient and improper training on the interpretation of test results, a failing of medical doctors also.

(16) There is neither internal quality control nor an external monitoring system for laboratory testing for several reasons: 1) the concept of quality control is not well established, 2) there is no education or training on quality control either pre- or in-service, 3) no external organisation exists to monitor and supervise quality control, 4) health facilities cannot afford to purchase control materials, and quality control methods which do not require control materials are yet to be developed.

(17) There are few opportunities for international and national exchanges among MLTs.

20.3 OBJECTIVES

The goal of medical laboratory technology in the future is to provide medical laboratory services satisfying the following conditions:

- Selecting appropriate laboratory examinations for checking health conditions with certain symptoms,

- Using appropriate technology for Lao situation,
- In a prompt, accurate and consistent manner, and
- Responding to patients' demands.

The following objectives have been identified by analysing present problems and future visions:

(1) To clarify the roles and responsibilities of medical laboratory technologists and laboratory examinations of health facilities.

(2) To encourage each laboratory to seek better management of the laboratory both technically and financially.

(3) To prepare an environment conducive for each laboratory to seek good laboratory practice.

(4) To promote quality assurance of laboratory examinations by conducting internal and external evaluations of laboratories.

(5) To establish and diffuse the concept of evidence-based medicine based on the utilisation of medical laboratory examination among Lao medical practitioners, by improving the quality of pre-service and in-serving training.

20.4 KEY DIRECTIONS AND POSSIBLE MEASURES

(1) To clarify the roles and responsibilities of medical laboratory technologists and laboratory examinations of health facilities.

1) To allocate well-balanced groups of medical laboratory technologists in the Ministry of Health, hospitals and educational institutions for discussing and implementing the policy and strategies on medical laboratory technology.

2) To consider the number and levels of medical laboratory technologists required in the Lao health sector.

(2) To encourage each laboratory to seek better management of the laboratory both technically and financially.

1) To establish job descriptions of low-level and middle-level MLTs in laboratories at hospitals, and to manage the laboratory using job descriptions.

2) To encourage interaction with medical doctors who should use the results of laboratory examination.

3) To make records and reports of laboratory activities, chemicals used, and revenue from laboratory examinations.

4) To manage the inventory of equipment, chemicals and other medical products for laboratory examination.

5) To seek appropriate technologies for laboratory examination in actual laboratory conditions.

(3) To prepare an environment conducive for each laboratory to seek good laboratory practice.

1) To set appropriate levels of user fees for laboratory examinations.

2) To select appropriate technologies for laboratory examinations (expensive technology vs. cheap technology, advanced technology vs. basic technology, automatic equipment vs. manual methods, and complicated technology vs. using kits)

3) For MOH and PHO to allocate budgets for maintaining medical equipment including equipment for laboratories.

4) For MOH and PHO to keep a group of maintenance engineers for medical equipment.

5) For MOH and PHO,to provide infrastructure (electricity and water supply) to support appropriate laboratory examinations.

6) For MOH to establish a list of standardized names of laboratory examinations, standardized order sheets for laboratory examinations, and ranges of normal conditions for each laboratory examination,

(4) To promote quality assurance of laboratory examination by conducting internal and external evaluations of laboratories.

1) To introduce the concept of quality assurance of laboratory examinations in pre-service education, in-service education and actual laboratory management.

2) To conduct external evaluation of the quality of MTLs.

3) To conduct internal evaluation of the quality of MLTs.

(5) To establish and diffuse the concept of evidence-based medicine based on the utilisation of medical laboratory examination among Lao medical practitioners, by improving the quality of pre-service and in-serving training.

1) To improve the education system for MLTs by producing teachers for MLT education

2) To improve the quality of existing MLTs by introducing standardized training packages rather than continuing seminar-type training.

3) To provide training on evidence-based medicine to medical doctors who would work with MLTs, including how to use laboratory examinations and how to interpret the results of laboratory examinations.