

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF HEALTH
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

**THE STUDY ON
THE IMPROVEMENT OF
HEALTH AND MEDICAL SERVICES IN
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC**

LAO HEALTH MASTER
PLANNING STUDY

FINAL REPORT

VOLUME 4
SECTOR REVIEW

November 2002

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PREFACE

In response to the request from the Government of the Lao People's Democratic Republic, the Government of Japan decided to conduct the study on Improvement of Health and Medical Services in the Lao People's Democratic Republic and entrusted the study to Japan International Cooperation Agency (JICA).

JICA dispatched a study team headed by Mr. Hideyuki Sasaki of Pacific Consultants International to the Lao PDR, four times between April 2001 and September 2002. In addition, JICA set up an Advisory Committee headed by Dr. Takatoshi Kobayakawa of Tokyo Women's Medical University between April 2001 and September 2002, which examined the Study from specialist and technical points of view.

The team held a series of discussions with the officials concerned of the Government of the Lao PDR and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Lao PDR for their close cooperation extended to the team.

October 2002



Takao Kawakami

President

Japan International Cooperation Agency

October 2002

Mr. Takao KAWAKAMI
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

Dear Sir,

We are pleased to formally submit herewith the Final Report of "The Study on Improvement of Health and Medical Services in the Lao People's Democratic Republic."

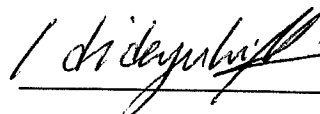
This report compiles the results of the Study which was conducted from March 2001 through October 2002 by the Study Team organized by Pacific Consultants International under the contract with JICA.

The report compiles the Lao Health Master Plan covering both reform and development of the health sector in the Lao PDR. The plan consists of 1) vision, goals and objectives; 2) overall basic strategies; 3) frameworks for health sector reform and development; and 4) priority programmes.

We would like to express our sincere gratitude and appreciation to the officials of your agency, the JICA advisory Committee, and Ministry of Foreign Affairs. We also would like to send our great appreciation to all those who extended their kind assistance and cooperation to the Study Team, in particular to the Lao Ministry of Health and provincial/district health offices.

We hope that the report will be able to contribute significantly to health sector reform and development in the Lao PDR.

Very truly yours,



Hideyuki SASAKI
Team Leader,
The Study on Improvement of
Health and Medical Services in the
Lao People's Democratic Republic



Study Area

FINAL REPORT
Volume 4: Sector Review

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FORMATION OF THE FINAL REPORT

The Final Report is comprised of the following volumes:

- Volume 1: Summary**
- Volume 2: Main Text**
- Volume 3: Priority Programmes**
- Volume 4: Sector Review**

Volume 1, Summary, contains the methodology of the Lao Health Master Planning and the outline of the Master Plan.

Volume 2, Main Text, contains the contents of the Lao Health Master Plan including vision, goals and objectives, overall basic strategies, frameworks (sub-sector strategies), and priority programmes.

Volume 3, Priority Programmes, compiles the lists of prioritised programmes (very high priority, high priority and priority programmes), and the profiles of the very high priority programmes.

Volume 4, Sector Review, contains the review of present conditions of sub-sectors.

Abbreviation and Acronym

ADB: Asian Development Bank
ANC: Antenatal Care
AIDS: Acquired Immunodeficiency Syndrome
APB: Agriculture Promotion Bank
ARI: Acute Respiratory Infections
ASEAN: Association of South East Asian Nations
ATS: Amphetamine Type Substances
AusAID: Australian Agency for International Development
BS: Birth Spacing
BTC: Belgian Technical Cooperation
CBR: Crude Birth Rate
CBR: Community-Based Rehabilitation
CCL: Comite pour Cooperation avec le Laos
CDD: Control of Diarrhoeal Diseases
CDR: Crude Death Rate
CIEH: Centre of Information and Education for Health
CMR: Child Mortality Rate
CPC: Committee for Planning and Cooperation
DALY: Disability Adjusted Life Year
DH: District Hospital
DHO: District Health Office
DOTS: Directly Observed Treatment Short-Course
EPI: Expanded Programme on Immunization
EU: European Union
FAO: Food and Agricultural Organization of the United Nations
FP: Family Planning
GDP: Gross Domestic Product
GFR: Gross Fertility Rate
GTZ: German Technical Cooperation Agency
HC: Health Centre
HIV: Human Immunodeficiency Virus
HDR: Human Development Report
HRD: Human Resource Development

IMR: Infant Mortality Rate
IEC: Information, Education, Communication
IUD: Intrauterine device
JICA: Japan International Cooperation Agency
JOCV: Japan Overseas Cooperation Volunteers
KAP: Knowledge, Attitudes and Practices
LECS: Lao Expenditure and Consumption Survey
LNFC: Lao National Front for Construction
LPRYU: Lao People's Revolutionary Youth Union
LRC: Lao Red Cross
LSIS: Lao Social Indicator Survey
LWU: Lao Women's Union
MCH: Maternal and Child Health
MCHC: Maternal and Child Health Centre
MCTPC: Ministry of Communication, Transport, Post and Construction
MFA: Ministry of Foreign Affairs
MMR: Maternal Mortality Rate
MOE: Ministry of Education
MOH: Ministry of Health
MSF: Medicins Sans Frontieres
NCCA: National Committee for the Control of AIDS
NCCAB: National Committee for the Control of AIDS Bureau
NEM: New Economic Mechanism
NGO: Non-Governmental Organization
NID: National Immunization Day
NMR: Neonatal Mortality Rate
NRC: National Rehabilitation Centre
NSC: National Statistical Centre
ORS: Oral Rehydration Solution
ORT: Oral Rehydration Therapy
PDR: People's Democratic Republic
PH: Provincial Hospital
PHC: Primary Health Care
PHO: Provincial Health Office
PIP: Public Investment Programme
RDF: Revolving Drug Fund

RH: Reproductive Health
SCFA: Save the Children Fund Australia
Sida: Swedish International Development Agency
STDs: Sexually Transmitted Diseases
SPC: State Planning Committee
SRC: Swiss Red Cross
TBA: Traditional Birth Attendant
TFR: Total Fertility Rate
TOT: Training of Trainers
U5MR: Under-Five Mortality Rate
UN: United Nations
UNAIDS: United Nations AIDS
UNDCP: United Nations International Drug Control Programme
UNDP: United Nations Development Programme
UNFPA: United Nations Population Fund
UNICEF: United Nations Children's Fund
USAID: United States Agency for International Development
UXO: Unexploded Ordnance
VAD: Vitamin A Deficiency
VHV: Village Health Volunteer
WB: World Bank
WFP: World Food Programme
WPRO: Western Pacific Region Office of WHO
WHO: World Health Organization
WTO: World Trade Organization
WVL: World Vision Laos

PART I

HEALTH SECTOR REVIEW

CHAPTER 1

HEALTH STATUS

1.1 INTRODUCTION

The purpose of this chapter is to explain the health status of the people in Lao PDR. Specifically, the objectives are the following:

1. To describe the overall demographic and health profiles using standard indicators;
2. To identify variations in the overall trends across provinces and other groups;
3. To discuss the factors that can explain the trends and the variations; and

Data were collected from secondary sources with the assistance of various government officials.

By knowing the profile and its determinants, policy-makers and managers can improve the targeting of plans and the monitoring and evaluation of activities.

1.2 TRENDS

1.2.1 Demographic Traits

The population of Lao PDR doubled from 2.2 million in 1960 to 4.605 million as of the 1995 census (Table 1.1). Its growth rate reduced from a high of 3.1% for 1994-2000 to 2.5% for 1985-1995. The total fertility rate decreased as well to 4.9 per woman as of 2000. The downward trends were seen in crude birth rates, crude death rates and percent of rural population.

Table 1.2 is a tabulation of the estimated and targeted population for the years 2005, 2010, 2015 and 2020. The MOH set specific targets for the annual population growth rate as 2.36% and 2% for years 2005 and 2020, respectively. Using the estimates of the MCH Centre, it seems most likely that the target for year 2005 may not be achievable assuming the trends in the past years will continue. Hence, should extra-ordinary measures be taken to ensure that the target for growth could be attained?

Table 1.1 Demographic Indicators of Lao PDR

Year	Total Population (millions)	Annual Population Growth Rate (%)	Total Fertility Rate	Crude Birth Rate (per 1,000 persons)	Crude Death Rate (per 1,000 persons)	Rural Population (as % of total population)	Source
1960	2.2	2.3 (year 1960-1992)				92	UNDP: <i>HDR</i> . 1995.
1970	2.7						UNDP: <i>HDR</i> . 1998.
1975	3.0		6.2 (1970-75)			88.6	UNDP: <i>HDR</i> . 2001.
1985	3.585	2.9	6.4	46	17		State Statistical Centre and UNFPA: <i>Population of Lao PDR</i> . 1992.
1992	4.5	2.8 (1992-2000)	6.7	45	16	80	UNDP, 1995, op. cit.
1993	4.6	2.8 (1993-2000)		45.3	15.1	80	UNDP: <i>HDR</i> . 1996.
			6.8				NSC: <i>LSIS</i> .
1994	4.7	3.1 (1994-2000)	6.7	45.2	14.7	79	UNDP: <i>HDR</i> . 1997.
			7.1				NSC, Lao Women Training Centre and UNFPA: <i>Fertility and Birth Spacing Survey in Lao PDR</i> . 1996.
1995	4.9	2.8 (1995-2015)	6.7	44.7	14.4		UNDP: <i>HDR</i> . 1998.
	4.605	2.5 (1985-1995)	5.6				NSC: <i>Results from the Population Census 1995</i> . 1997.
1999	5.2	2.2 (1975-1999)	5.3 (1995-2000)			77.1	UNDP, 2001, op. cit.
2000	5.2	2.65	4.9	38.8	13		SPC and NSC, 2001, Lao Reproductive Health Survey 2000.

Table 1.2 Estimated/Targeted Demographic Indicators of Lao PDR

Year	Total Population (millions)	Annual Population Growth Rate (%)	Total Fertility Rate	Crude Birth Rate (per 1,000 persons)	Crude Death Rate (per 1,000 persons)	Rural Population (as % of total population)	Source
2005	5.941	2.36 (est.)	4.05	34	6.3		MCH Centre
		2.3 (target)					MOH, 2000, <i>Health Strategy 2020</i>.
2010	6.656	2.22 (est.)	3.5	36.5	13.5		MCH Centre
2015	7.3	2.2 (1999-2015)				67.3	UNDP: <i>HDR</i> . 2001.
2020		2 (target)					MOH, 2000, op. cit.

Compared to other members of ASEAN in 1999¹, Lao PDR has the lowest population density at 22 persons per square kilometre while Singapore has the highest at 3,900 (Table 1.3). However, Lao, together with Cambodia, has the highest total fertility rate. Its population grows

¹ UNDP: *Human Development Report*. 2001.

the second fastest, next to Cambodia. Its people are relatively young with 43% being under the age of 15 years and 3.5% being 65 and older. By 2015, there will be fewer under 15 and more who are between 15 and 65. The elderly population, though, will increase slightly only to 3.7%. As such the dependency ratio is expected to decline.

Table 1.3 Demographic Indicators of South-East Asian Countries, 1999

Country	Annual Population Growth Rate (%) 1999-2015	Total Fertility Rate (per woman) 1995-2000	Population Density (per km ²) 1999	Rural Population (% of total population) 1999
Lao PDR	2.2	5.3	22	77.1
Cambodia	2.3	5.3	71	84.4
Myanmar	1.0	3.3	70	72.7
Indonesia	1.1	2.6	110	60.2
Vietnam	1.3	2.5	232	80.3
Philippines	1.6	3.6	247	42.3
Thailand	1.0	2.1	121	78.8
Malaysia	1.5	3.3	66	43.3
Brunei	1.6	2.8	50	28.3
Singapore	1.2	1.6	3900	0.0
Japan	0.0	1.4	336	21.4

Source: UNDP: *Human Development Report HDR*. Oxford University Press, Oxford, 2001.

1.2.2 Health Profile

Through the years, the Lao people have become healthier. Those born in 2000 may expect to live 19 years longer than those in 1960 (Table 1.4). In four decades, the IMR decreased by 50% from 155 in 1960 to 82.2 in 2000. The same percent of reduction was observed in U5MR in a span of three decades. As such, fewer infants and under-five children die each year. Although there are also fewer women who die of pregnancy-related illnesses, improvement in the MMR appears to lag behind.

The overall life expectancy at birth in 2000 already surpassed the MOH target of 55 years for year 2005 (Table 1.5). Using the estimates of the MCH Centre, there is a high probability that by 2005 Lao PDR will be able to reduce the rates of dying of infants and children under five years old to levels way below the MOH targets. This may not be the case for pregnancy-related deaths. Although the estimate is still lower than the target, the reduction may not be that much. The data from MCH Centre being an estimate, there is still a probability that the target may not be achieved. This may serve as an early warning sign for policy-makers.

Table 1.4 Health Indicators of Lao PDR

Year	Life Expectancy (years)			Infant Mortality Rate (per 1,000 live births)	Under-5 Mortality Rate (per 1,000 live births)	Maternal Mortality Rate (per 100,000 live births)	Source
	Overall	Male	Female				
1960	40.4			155		300 (1980-1992)	UNDP: <i>HDR</i> . 1995.
1970				145	218		UNDP: <i>HDR</i> . 2001.
1985				118	139		State Statistical Centre and UNFPA: <i>Population of Lao PDR</i> . 1992.
1992	50.3			98	145	750	UNDP, 1995, op. cit.
1993	51.3	49.8	52.8	96	141	650	UNDP: <i>HDR</i> . 1996.
	49			125	182	656	NSC: <i>LSIS</i> .
1994	51.7	50.3	53.3	93	134	650	UNDP: <i>HDR</i> . 1997.
				113	142		NSC, Lao Women Training Centre and UNFPA: <i>Fertility and Birth Spacing Survey in Lao PDR</i> . 1996.
1995	51	50	52	104			NSC: <i>Results from the Population Census 1995</i> . 1997.
1996	52.2	50.8	53.8	102	128		UNDP: <i>HDR</i> . 1998.
1999	53.1	51.9	54.4	93	111		UNDP, 2001, op. cit.
2000	59	57	61	82.2	106.9	530	SPC and NSC, 2001, Lao Reproductive Health Survey 2000.

Table 1.5 Estimated/Targeted Health Indicators of Lao PDR

Year	Life Expectancy (years)			Infant Mortality Rate (per 1,000 live births)	Under-5 Mortality Rate (per 1,000 live births)	Maternal Mortality Rate (per 100,000 live births)	Source
	Overall	Male	Female				
2005	64.9	62.5	67.3	58	70	350	MCH Centre
	55			75	100	355	MOH, 2000, <i>Health Strategy 2020</i>.
2010	66.8	65	70.5	40			MCH Centre
2020	63			20	30	130	MOH, 2000, op. cit.

Compared to the people in other ASEAN countries, it seems Lao people are the least healthiest. They have the shortest life expectancy at birth (Table 1.6). Their infants have the lowest probability of surviving. Their women suffer the most from pregnancy-related illnesses with its MMR the highest in the region. Their children under the age of five have the second lowest probability of survival, next only to Cambodia.

Table 1.6 Health Indicators in South-East Asian Countries

Year	Life Expectancy (years) 1995-2000	Infant Mortality Rate (per 1,000 live births) 1999	Under-5 Mortality Rate (per 1,000 live births) 1999	Maternal Mortality Rate (per 100,000 live births) 1980-1999
Lao PDR	52.5	93	111	650
Cambodia	56.5	86	122	470
Myanmar	55.8	79	112	230
Indonesia	65.1	38	52	450
Vietnam	67.2	31	40	160
Philippines	68.6	31	42	170
Thailand	69.6	26	30	44
Malaysia	71.9	8	9	39
Brunei	75.5	8	9	0
Singapore	77.1	4	4	6
Japan	80.5	4	4	8

Source: UNDP: *Human Development Report HDR*. Oxford University Press, Oxford, 2001.

What are the common medical complaints of Lao people? The National Health Survey 2000, conducted from March to May, revealed that the most common acute illnesses reported two weeks prior to the interviews were fever (58%), cough (27%), headache (22%), body ache (14%), running nose (14%), pain in the stomach/abdomen/uterine (11%), and watery diarrhoea (11%).²

Table 1.7 Leading Causes of Morbidity and Mortality, 1999

Morbidity (Rate per 100,000 population)		Mortality (Rate per 100,000 population)	
Malaria	1,761.60	Malaria	13.71
Pneumonia	676.12	Pneumonia	4.69
Influenza	636.88	Diarrhoea	2.71
Diarrhoea	523.28	Meningitis	1.55
Dengue haemorrhagic fever	178.53	Haemorrhagic fever	0.52

Source: WHO: *Country Health Information Profiles*. 1999.

What are the common illnesses among Lao people? The most common causes of morbidity are malaria, pneumonia, influenza, diarrhoea, and dengue haemorrhagic fever³, in descending order (Table 1.7). Except influenza, these are also the most common causes of deaths. Moreover, the number of malaria cases per 100,000 people exposed to malaria-infected environments has remained high. In 1991 there were 1,010⁴; in 1997 there were 1,075.8.⁵ These imply the difficulty in controlling malaria.

² MOH, 2000, *National Health Survey 2000*.

³ WHO: *Country Health Information Profiles*. 1999.

⁴ UNDP: *Human Development Report*. 1995.

1.3 VARIATIONS

1.3.1 Across Geo-political Boundaries

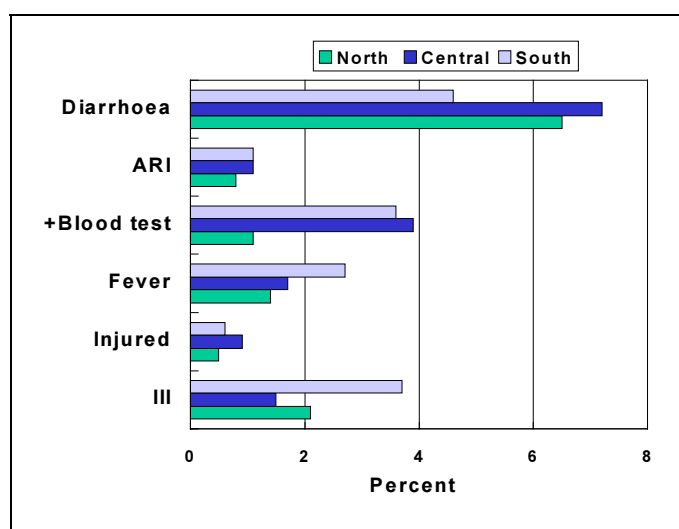
Most of the existing data are descriptive. They are helpful in providing a broad understanding of the situation particularly in showing trends.

(1) North-Central-South Regions

While comparatively more people in the south fell ill and who complained of fever during the past two weeks prior to the time the National Health Survey was conducted, there were fewer under-five children who had diarrhoea (Figure 1.1). Injuries and road accidents were most common in central provinces. Further analysis should be done to account for the state of road network or availability of motor vehicles.

The positive dipstick test for malaria was lowest in the northern region, where there were also fewer people who had fever and malarial symptoms. Among children under the age of five, the incidence of ARI seems not to vary widely.

Figure 1.1 Comparison Across Regions, 2000



Source: MOH, 2000, National Health Survey 2000.

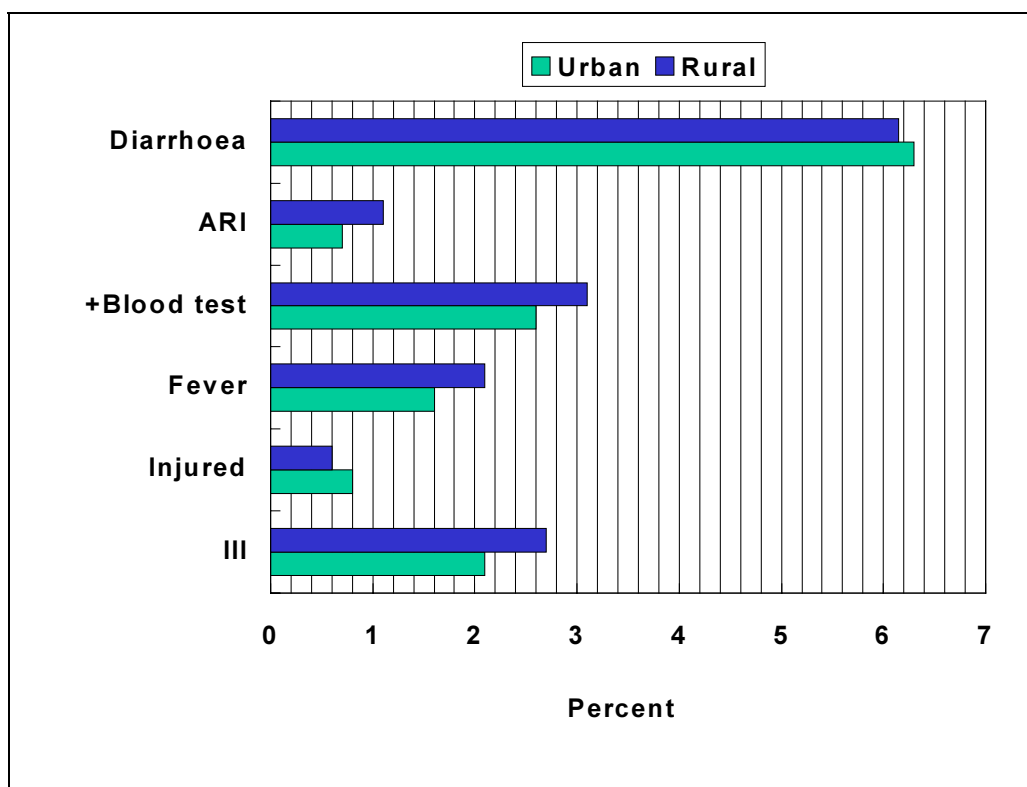
Note: Data for "Ill", "Injured" and "Fever" are percent of population; for "+Blood test" are percent of population with malaria symptoms; and for "ARI" and "Diarrhoea" are percent of children under five year old.

(2) Urban-Rural

⁵ UNDP: *Human Development Report*, 2000.

In the rural areas, there were more people who fell ill, who complained of fever, and whose blood tests for malaria were positive (Figure 1.2). There were more under-five children who suffered from ARI. On the contrary, urban residents were more predisposed to injuries and/or accidents, and to diarrhoea. The difference between rural and urban residents in terms of being afflicted by diarrhoea is slight only.

Figure 1.2 Comparison Between Urban and Rural Areas, 2000



Source: MOH, 2000, National Health Survey 2000.
Note: Data for “Ill”, “Injured” and “Fever” are percent of population; for “+Blood test” are percent of population with malaria symptoms; and for “ARI” and “Diarrhoea” are percent of children under five years old.

(3) Provinces

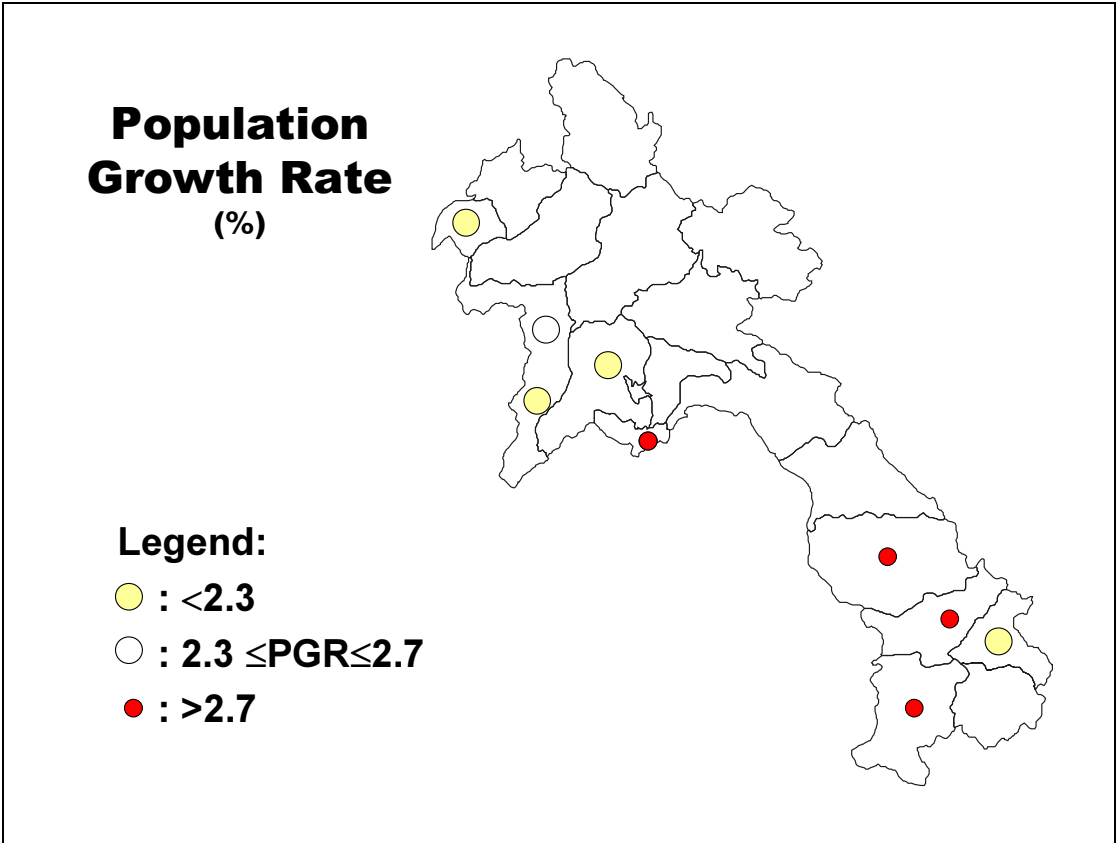
To compare the demographic and health profiles of provinces, data from the 1995 Lao Census⁶ were used. The inter-quartile ranges were computed for each variable to categorize the provinces into three – those that fall below, within and above. The variations among provinces are shown in Figures 1.3 to 1.5. The provinces without marks have values that fall within the inter-quartile range. For some indicators, the Census disaggregated the data for Xayaboury province into two groups. For this reason, Figures 1.3 showed two circles for this province.

The provinces whose population increase faster than those in the inter-quartile range are Vientiane Municipality, Savannakhet, Saravane, and Champasak (Figure 1.3). On the other

⁶ NSC: *Results from the Population Census 1995*. 1997.

hand, the provinces with slower rate of increase in popular are Bokeo, a part of Xayaboury, Vientiane province, and Sekong. The rest of the provinces have growth rates that are between 2.3 and 2.7%, inclusive. Aside from the provinces with slower growth rates, Phongsaly, Luangnamtha, Bolikhamxay, and Xaysomboun provinces have already achieved the MOH target of 2.3% for year 2005. The growth rate in north-western province of Bokeo is 2%, equivalent to the MOH 2020 target.

Figure 1.3 Annual Population Growth Rates in 18 Provinces, 1985-1995



Source: NSC: *Results from the Population Census 1995*. 1997.

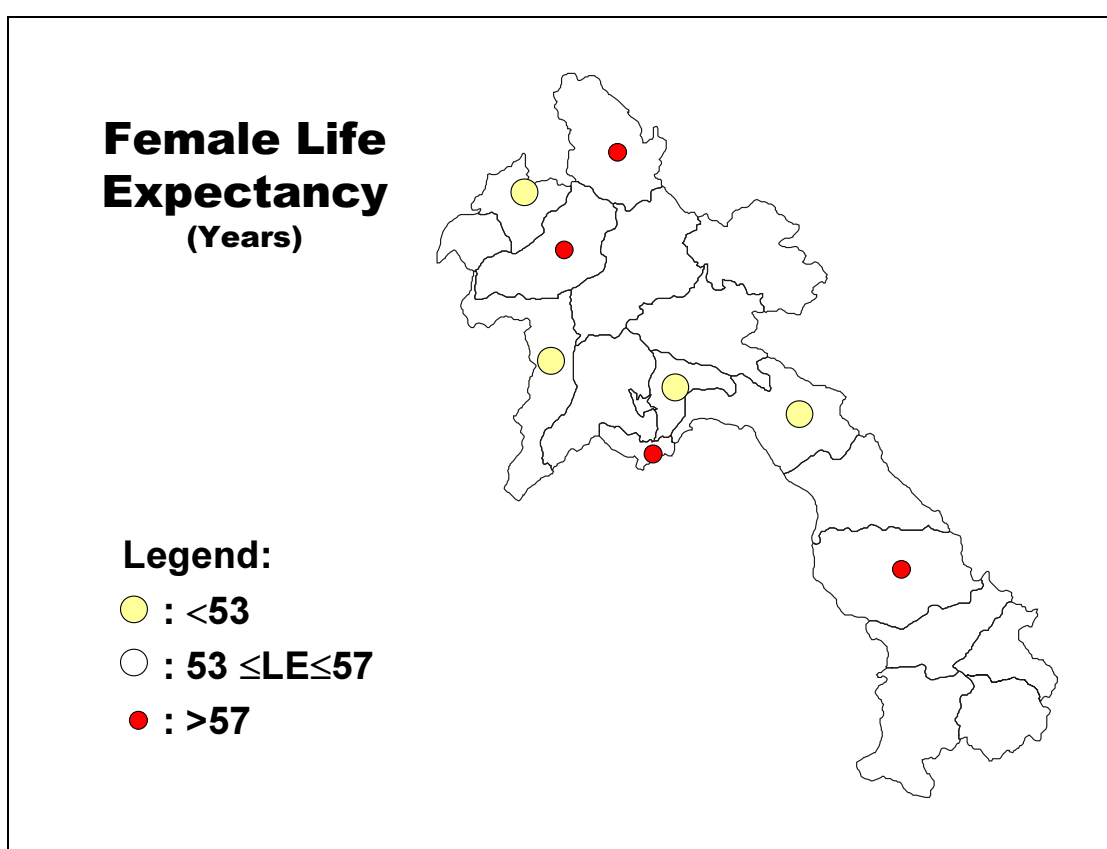
In all provinces women can generally expect to live longer than men. Women and men in Vientiane Municipality have the longest life expectancies, which are 59 and 57, respectively. Their counterparts in Xaysomboun have the shortest life expectancies of 50 and 47 years.

The MOH set 55 as its life expectancy target by year 2005. The National Health Survey demonstrated that the target has been achieved already for women in Phongsaly, Luangnamtha, Oudomxay, Vientiane Municipality, Khammuane, Savannakhet, and all the four provinces in the south. Men in the following provinces can also expect to live at least 55 years - Phongsaly, Oudomxay, Vientiane Municipality, and Savannakhet.

If one is to categorize the provinces into three based on the inter-quartile range, then the provinces that have life expectancies better than the range are Phongsaly, Oudomxay, Vientiane Municipality, and Savannakhet (Figure 1.4). Those with poorer life expectancies are Luangnamtha, Xayaboury, Xaysomboun, and Bolikhamxay. The other provinces have life expectancies between 53 and 57.

A review of the life expectancies for males revealed that the provinces that fall within the three different groups categorized using the inter-quartile range are the same as those for female life expectancies. The inter-quartile range for males, though, is lower and it is 50-54 years.

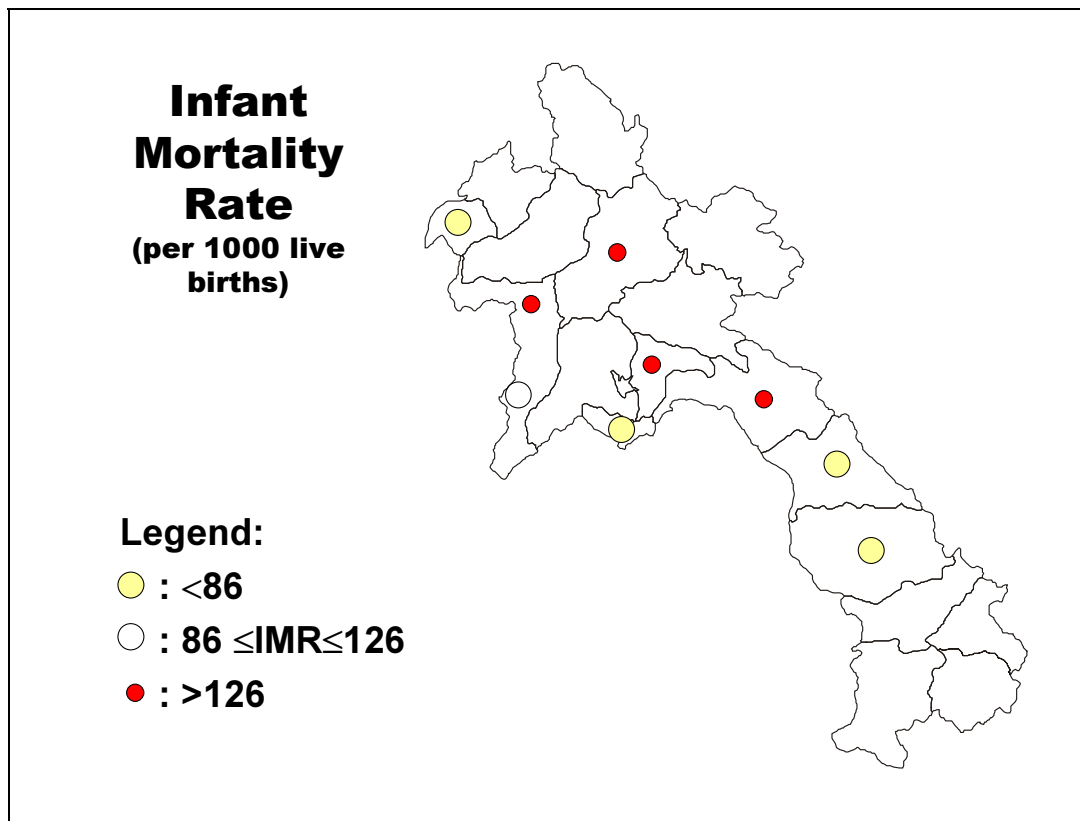
Figure 1.4 Life Expectancies of Females in 18 Provinces, 1995



Source: NSC: *Results from the Population Census 1995*. 1997.

The probabilities of children not surviving beyond the age of 1 year vary across provinces (Figure 1.5). The inter-quartile range for IMR is 86-126 per thousand live births. The provinces with infants that are better off (with IMR lower than the range) are Bokeo, Vientiane Municipality, Khammuane, and Savannakhet. Those with infants that are worst off (with IMR higher than the range) are Luangphrabang, a part of Xayaboury, Xaysomboun, and Bolikhamxay. With an IMR of 72, Vientiane Municipality is the only “province” that surpassed the MOH target for year 2005.

Figure 1.5 Infant Mortality Rates in 18 Provinces, 1995



Source: NSC: *Results from the Population Census 1995*. 1997.

1.3.2 Across Ethnic Groups

The 1995 Lao Census classified the ethnic groups into 47 major ones.⁷ Sixty-three percent of the population belong to the Tai-Kadai family, of which the Lao group constitute a little more than half and the Phutai group a tenth of the total population. The other 11% of the population are Khmu, 7% Hmong and the rest belong to 43 other groups.

1.3.3 Across Gender

In general, females have longer life expectancies at birth than males.⁸ The average girls born in 1995 can live 2 years longer than boys, whose life expectancy is 50 years. By year 2000, the gender gap is estimated to widen to 4 years.⁹

⁷ NSC, 1997, op. cit.

⁸ NSC, 1997, op. cit.

⁹ SPC and NSC, 2001, *Lao Reproductive Health Survey 2000*

What can explain the gender gap in Lao PDR? The National Health Survey in 2000 documented differences between health conditions of men and women (Table 1.8). The differences, however, seem not to be significant in most cases.

Table 1.8 Comparison of Health Conditions of Men and Women

Conditions	Percentages	
	Female	Male
Population with previous illness	2.3	2.5
Population with injuries and/or accidents	0.5	0.9
Road accidents	25.2 (of road accidents)	74.8 (of road accidents)
Population with fever	1.8	2.0
Population with fever and other malaria symptoms	53.8	63.4
Positive blood test for malaria	2.8	3.2
Children with ARI	0.7	1.3
Children with ARI and taken to appropriate health provider	37.5	37.6
Children with diarrhoea	5.7	6.6
Children with diarrhoea and given any recommended home fluids or ORS	95.4	95.7

Source: MOH, 2000, National Health Survey 2000.

1.4 DETERMINANTS

1.4.1 Infant Mortality

In a retrospective study using the 1993 LSIS with a sample size of 5,112 infants, Dr. Swady Kingkeo¹⁰ found the IMR to be higher among the following:

- Sex of infants – males;
- Characteristics of mothers – had no schooling; no tetanus immunization; aged 30 years or older compared to those between 20 and 29; had miscarriage, still birth; wanted more children;
- Access to health care – infants living at a distance of 5 kilometres or farther from nurses, health centres and hospitals; living at a distance of less than 5 kilometres from pharmacies; living in villages that do not have anti-malarial drugs, did not have projects for immunization and environmental cleanliness;
- Household facility – no toilet or electricity; poorer quality of sources of water for drinking and domestic use; and
- Higher malaria index.

¹⁰ Kingkeo S: “*Factors Affecting Infant Mortality in Lao PDR.*” Master’s Thesis, Mahidol University, 1996.

Dr. Alex Malyavin¹¹ of UNICEF categorized the causes of infant and child mortality in Lao PDR into three:

(1) Immediate Causes

Close to half (forty-four percent) of the 82.2 IMR¹² reported in the Lao Reproductive Health Survey 2000 can be attributed to deaths of neonates. The other common causes are acute respiratory infection, diarrhoeal diseases and malaria.

(2) Underlying Causes

- Lack of basic health services – 89% of the deliveries were outside health facilities
- In places where health services are available, the quality is needs improvement in as much as required activities are not fully performed, inadequate basic drugs, supplies and equipment, and lack of follow up on referral procedures for high-risk patients.
- High level of malnutrition - in 1994, 47% of children under five years of age suffer from chronic malnutrition and 10.5% from acute malnutrition.
- High level of micronutrient deficiencies
- Low birth weight
- Inadequate breastfeeding practices
- Low level of ORT use
- EPI coverage less than 80% (Routine Reporting 1996)
- Very high fertility rate
- Poor water supplies and sanitation

(3) Basic Causes

- Lack of health infrastructure and low utilization of existing ones
- Lack of operational structures
- Lack of management and planning skills
- Urban bias in service provision
- Organizational structure and administrative functions of the MOH are weak
- Lack of manpower development policy
- Level of women's literacy is low

¹¹ MOH: *Report on the Health Sector and Donor Participation in the Lao PDR*. 1997. (Annexed Dr. Malyavin's analysis).

¹² SPC and NSC, 2001, *op. cit.*

- Lack of clean water and sanitation

1.4.2 Maternal Mortality

Dr. Malyavin¹³ elaborated on the three types of causes of pregnancy-related deaths, too.

(1) Immediate Causes

The obstetric causes are haemorrhages due to retained placenta, uterine inertia, ruptured uterus or cervical lacerations, sepsis, complications of induced and spontaneous abortions. The non-obstetric causes include malaria, cardiopathies, acute pneumonia, hepatitis and injuries. Over 90% of the deaths occurred at home with 72% occurring either during or after delivery and 28% during delivery only.

(2) Underlying Causes

- Lack of basic health services
- High level of micronutrient deficiencies
- High level of anaemia
- Very high fertility rate
- Low antenatal care
- High level of non-induced abortions

(3) Basic Causes

- Lack of health infrastructure and low utilization of existing ones
- Few TBAs

¹³ MOH: *Report on the Health Sector and Donor Participation in the Lao PDR*. 1997.

CHAPTER 2

HEALTH-SEEKING BEHAVIOURS OF THE PEOPLE

2.1 INTRODUCTION

Health-seeking behaviour refers to action taken (or lack of it) for a health event. A health event does not always mean sickness. Pregnancy is a health event, too. This chapter will describe the health-seeking behaviours¹ based on the results of the National Health Survey 2000 and the Household Survey in 11 Provinces. Its specific objectives are as follows:

1. to compare the overall trends of the two surveys; and
2. to determine the variations in the trends across geo-political boundaries, gender, age groups, educational attainment, and employment.

2.2 OVERALL TRENDS

The categories of health-seeking behaviours for the National Health Survey (represented as MOH) and the Household Survey in 11 Provinces (represented as ADB) are not similar but are comparable. Table 2.1 shows the correspondence of these categories

Table 2.1 Comparison of Health-Seeking Behaviours

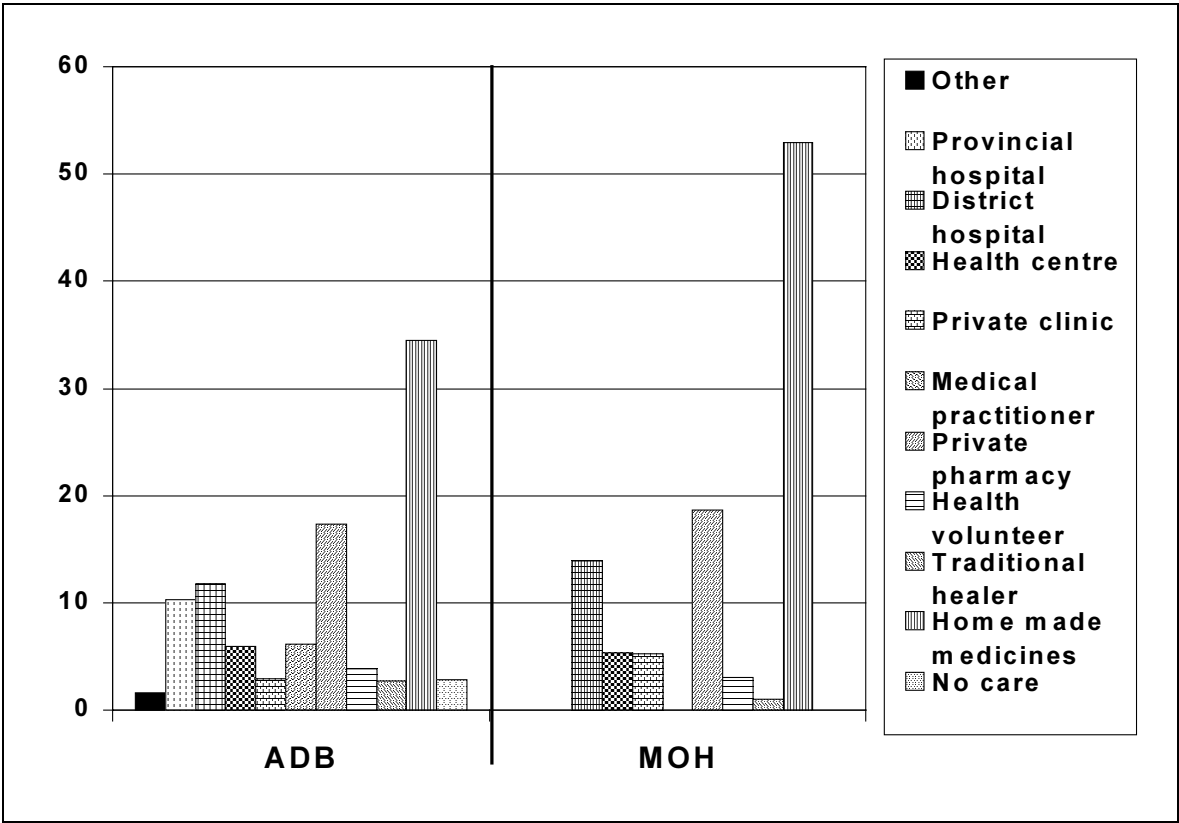
	ADB	MOH
1	No care	
2	Homemade medicines	Self-medication
3	Traditional healer	Spiritualist
4	Health volunteer	VHV or TBA
5	Private pharmacy	Pharmacy
6	Medical practitioner	
7	Private clinic	Doctor
8	Health centre	Health centre
9	District hospital	Hospitals
10	Provincial hospital	
11	Others	

Both surveys demonstrated the extreme popularity of taking homemade medicines or self-medication for acute illnesses (Figure 2.1). In fact, about half in the MOH and a third in the ADB who fell ill during the two weeks prior to surveys took medicines without first consulting a health worker. For both surveys, the second and third most popular actions for acute illness

are the same - buying medicine from a pharmacy followed by going to hospitals. Considering that self-medication was the most common action taken by a third of Lao population included in the 1994 survey², it appears that there has been little or no change at all in the health-seeking behaviour through time.

Although they are the public health facilities that are closest to villages, health centres were availed of only by 5-6% of those who fell ill. The percent of people who sought health services from the health centres were almost the same as those who went to traditional healers and VHV/TBA combined. Those who went to a private clinic or a doctor comprised about 3-5% only.

**Figure 2.1 Health-Seeking Behaviours Related to Acute Illnesses:
Comparison of Two Studies, 1999 and 2000**



Source: ADB: *Household Survey in 11 Provinces of Lao PDR*. 1999.
MOH, 2000, *National Health Survey 2000*.

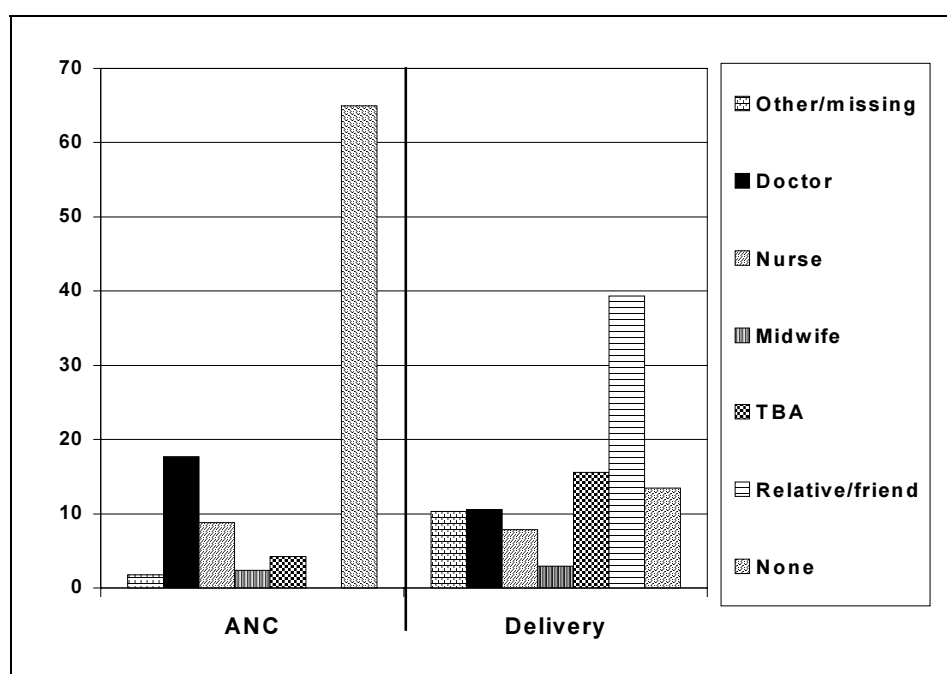
The MOH and the ADB surveys established that only 28% and 19%, respectively, of those of fell ill sought health services from government facilities, and only **37% and 24% consulted skilled personnel** (excludes data on going to pharmacy).

¹ The surveys exclude health-seeking behaviours for road accidents, injuries and non-vehicular accidents.
² Vinard P: *Survey on Use of Services and Health Expenditure in Lao PDR*. 1994.

For pregnancy-related health-seeking behaviours, the pattern seems to parallel the behaviours for acute illnesses. The MOH survey revealed once more that less than a third sought the services of a skilled health worker (Figure 2.2). Specifically, only **29% of pregnant women received antenatal care** from a midwife, nurse or doctor whereas 65% of pregnant women did not receive any antenatal care at all. Surprisingly, TBAs provided antenatal care to only 4% of the pregnant women. It is possible, though, that some responses under “Friends/Relatives” might also refer to TBAs.

During deliveries, relatives or friends assisted in 39% of cases, **skilled health workers in 21%** and TBAs in 16%. Worse, 13.5% of deliveries were not assisted at all.

Figure 2.2 Health-Seeking Behaviours Related to Antenatal Care and Delivery, 2000



Source: MOH, 2000, *National Health Survey 2000*.

The top three actions taken by pregnant women during deliveries in the ADB survey were similar to those in MOH survey - seeking the assistance of friends/relatives (61.93%), seeking assistance of TBAs (10.34%) and not seeking any assistance at all (9.46%). In the 11 provinces included in the study, the number of **deliveries assisted by skilled health worker was a mere 17%**.

The low percentage of women availing of antenatal care or of services of skilled health worker either during pregnancy or delivery may partly explain the high maternal mortality rate in Lao PDR. On the other hand, the equally low percentage of people consulting doctors, nurses or

midwives in government or non-government facilities may be one of the reasons for Lao to have the highest IMR and the second to the highest U5MR in ASEAN.

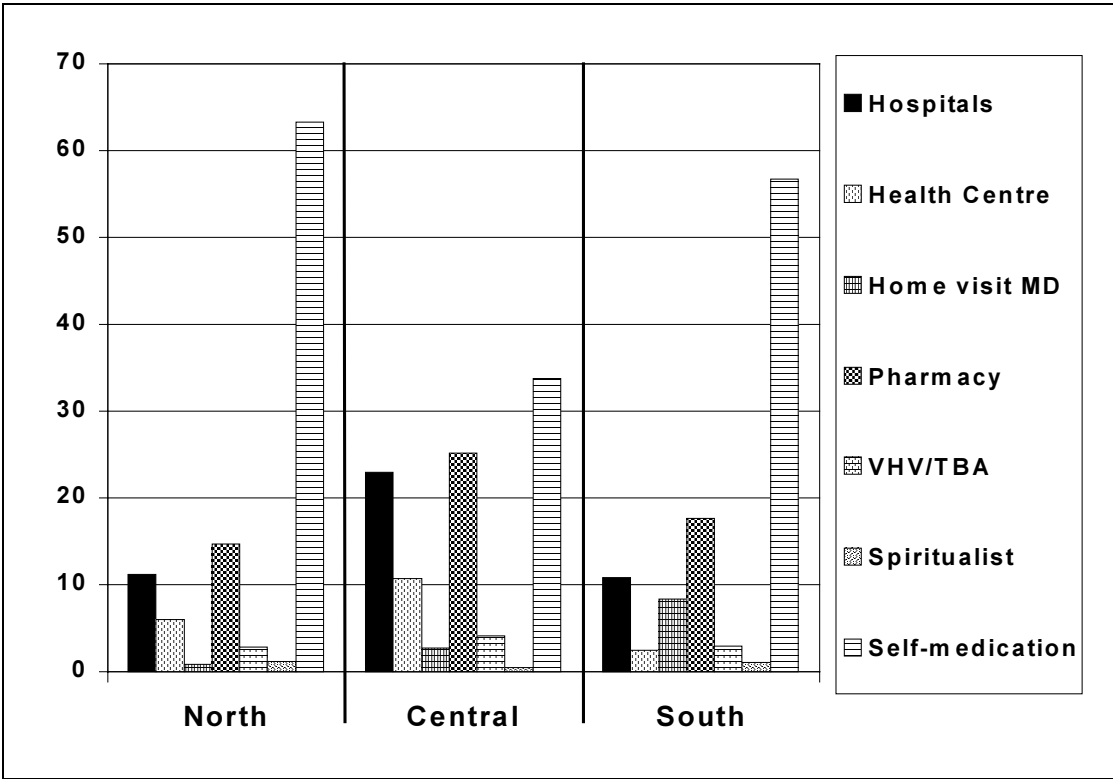
2.3 VARIATIONS

Differences within various types of groups are presented in this section in a descriptive manner.

2.3.1 Across Geo-Political Boundaries

(1) North-Central-South Regions

Figure 2.3 Health-Seeking Behaviours Related to Illnesses by Region, 2000



Source: MOH, 2000, *National Health Survey 2000*.

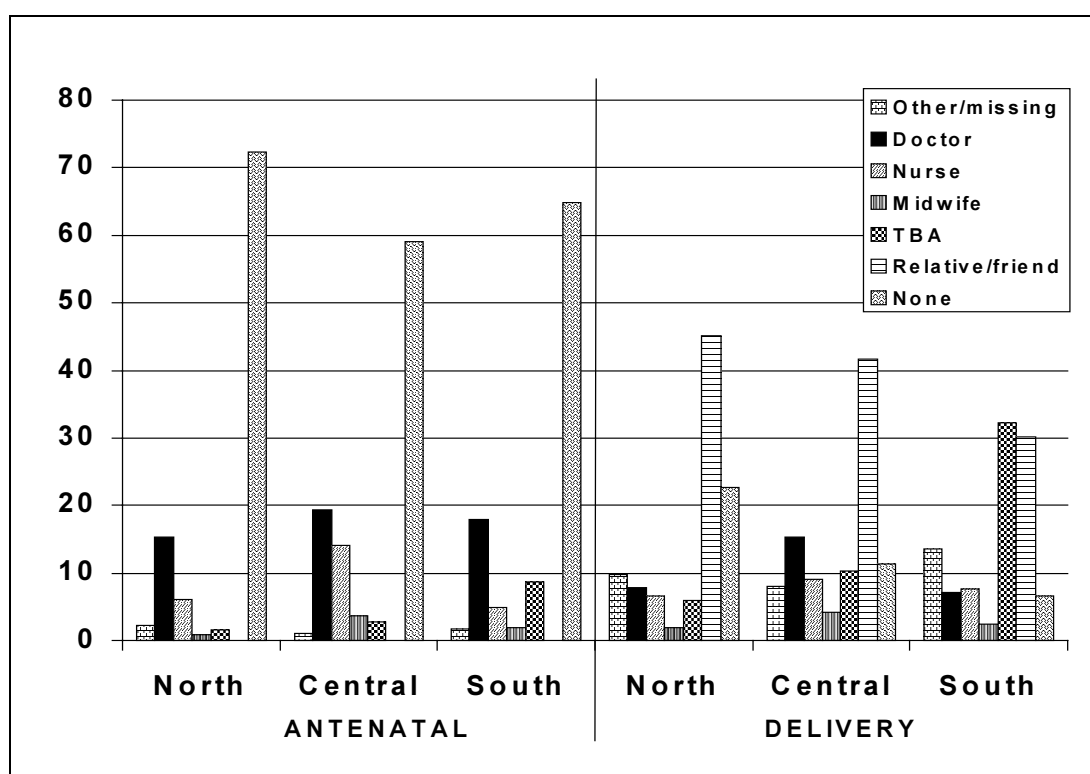
Although the top three health-seeking behaviours for acute illnesses are the same (self-medication, pharmacy and hospitals) across regions, Figure 2.3 illustrates variability in the specific percent distribution for each type. For example, self-medication was practised in a third of the cases in the central region and in more than half in other regions. Relatively more people in the central region went to the hospital, pharmacy, health centre, and VHV/TBA and less to spiritualist.

Regarding antenatal care, all regions have similar top two health-seeking behaviours - having no care at all and consulting a doctor (Figure 2.4). The central region, though, has the least in

terms of percent of pregnant women having no antenatal care at all. In the south, antenatal care provided by TBA is the third most popular while in other regions it was care by nurses.

Regarding health-seeking behaviours for deliveries, variations across regions were observed, too (Figure 2.4). The TBA assisted the most deliveries in the south while it was the relatives/friends who did the most in other regions. In all regions, though, the assistance of the midwives was the least sought.

Figure 2.4 Health-Seeking Behaviours Related to Antenatal Care and Delivery by Region, 2000

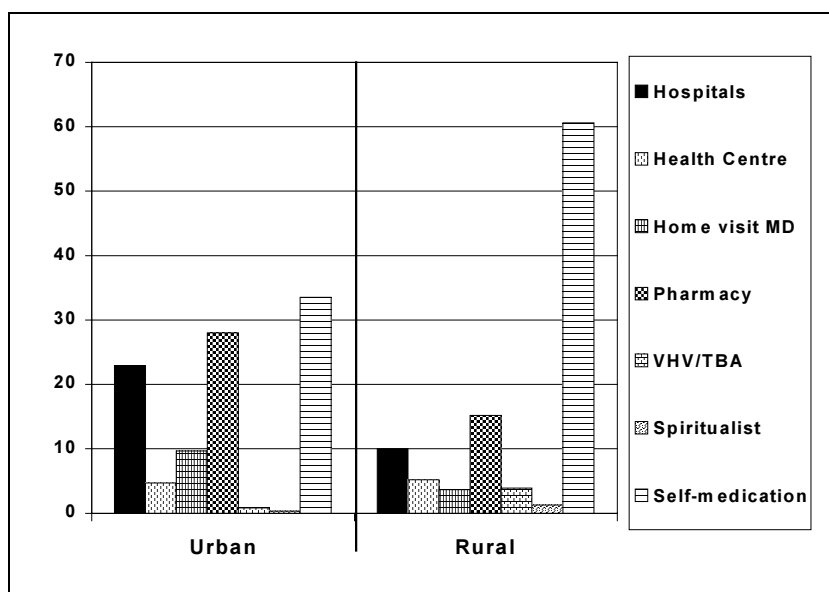


Source: MOH, 2000, *National Health Survey 2000*.

(2) Urban-Rural

The behaviours during acute illnesses among those in rural and urban areas are similar in some ways and different in others. As far as ranking is concerned, the trends are the same – self-medication first, then going to the pharmacy, hospital, doctor, health centre, VHV/TBA, and, lastly, spiritualist (Figure 2.5). The difference lies in the relative proportions such that, among rural residents, there is a greater proportion who self-medicated and lesser proportions among them who went to the pharmacy, hospitals and were attended to by a doctor.

Figure 2.5 Health-Seeking Behaviours Related to Acute Illnesses by Urban-Rural, 2000

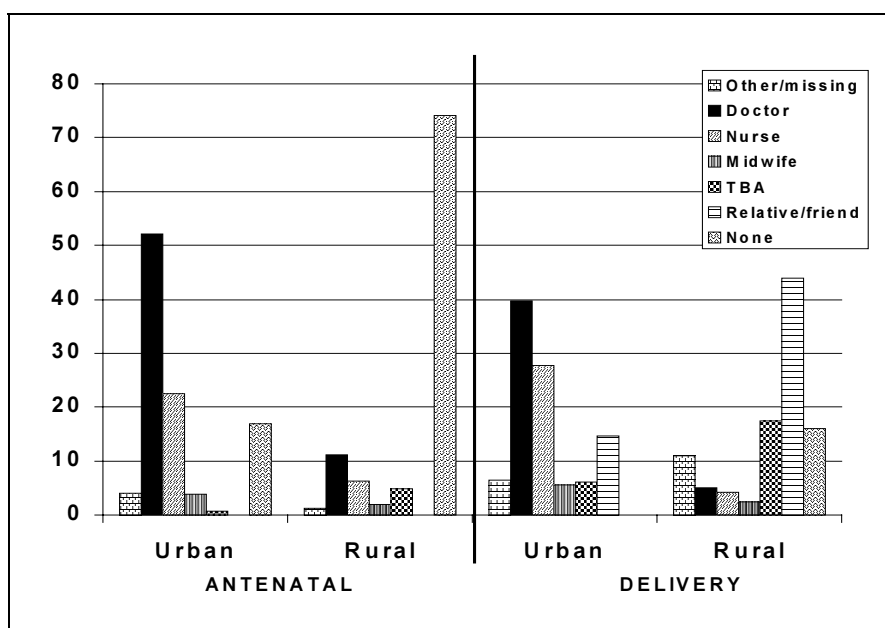


Source: MOH, 2000, *National Health Survey 2000*.

Not having antenatal care appears to be more a characteristic of rural communities in as much as 74% of pregnant women in the rural area did not receive any form of care in contrast to only 17% in urban centres (Figure 2.6). Note that 74.6% of urban pregnant women sought the services of doctors and nurses combined. If we take all antenatal care in urban areas that were provided by skilled personnel, then the total will be 78.4%. This implies that the overall trend of having few pregnant women who sought antenatal care from skilled personnel is applicable primarily to rural residents.

Once more, the urban-rural divide exists in terms of health-seeking behaviours during deliveries (Figure 2.6). All of the deliveries in urban areas were assisted while 16% in rural areas were not. Whereas doctors and nurses were the two most popular among urban women, it was the relatives/friends and TBA who were among rural women to assist deliveries.

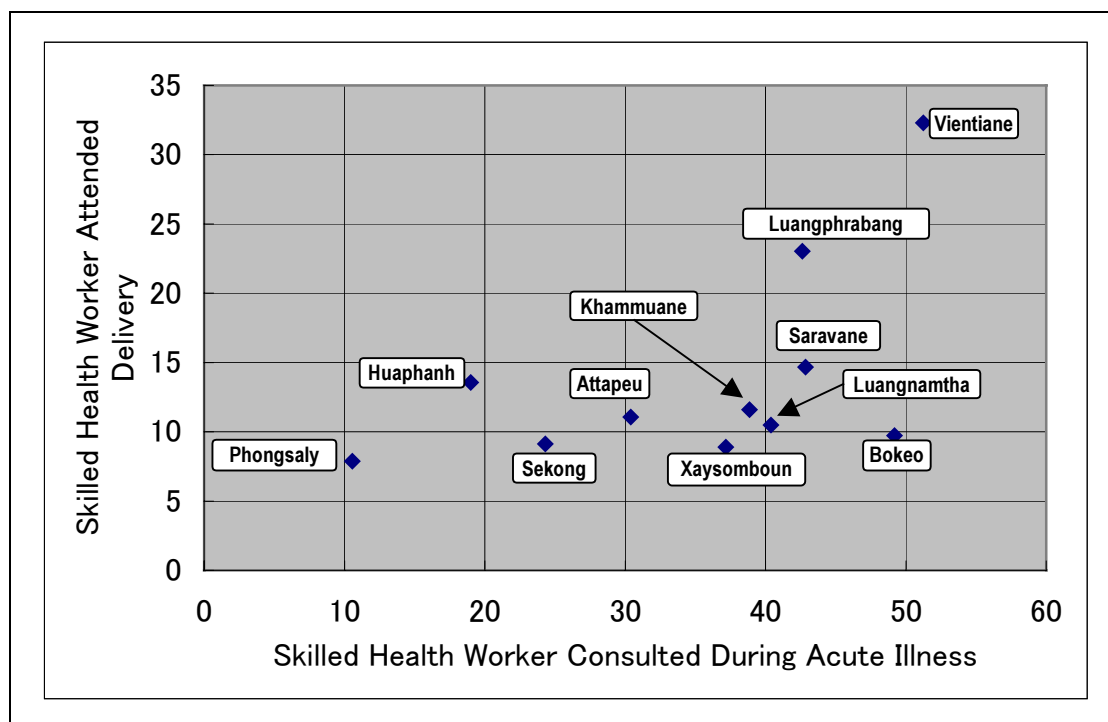
Figure 2.6 Health-Seeking Behaviours Related to Antenatal Care and Delivery by Urban-Rural, 2000



Source: MOH, 2000, *National Health Survey 2000*.

(3) Provinces

Figure 2.7 Health-Seeking Behaviours Related to Acute Illness by Province, 1999



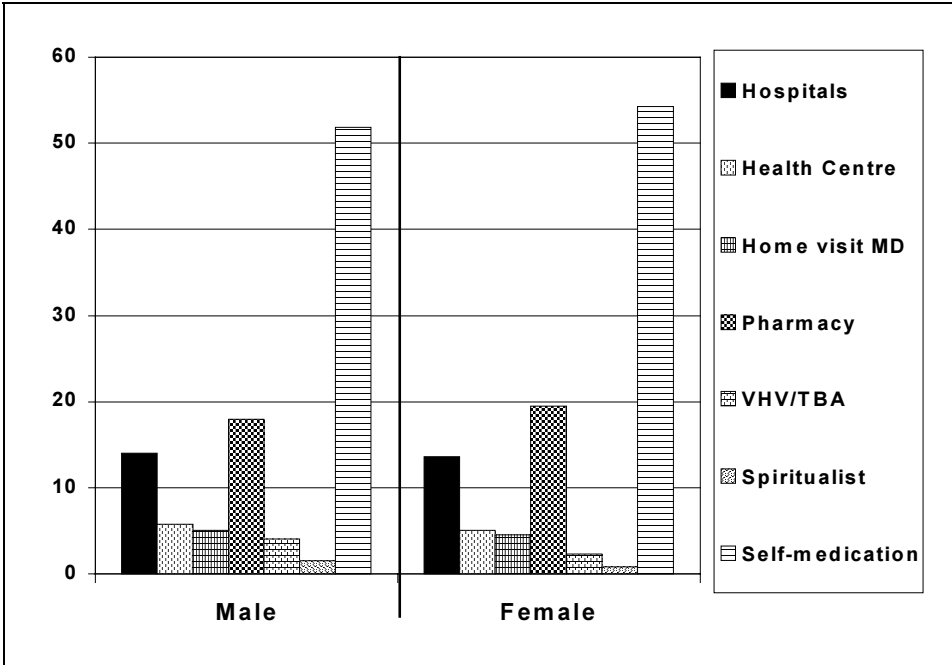
Source: ADB: *Household Survey in 11 Provinces of Lao PDR*. 1999.

Figure 2.7 allows one to compare the provinces in terms of consulting skilled health workers for acute illnesses and having skilled health workers assisting deliveries. Although the data may be a function of many variables such as the availability of specific types of workers, nonetheless, one can surmise that indeed health-seeking behaviour do vary across provinces with Vientiane residents on one extreme and the Phongsaly on the other.

2.3.2 Across Gender

The ranking and percentage distribution of health-seeking behaviours for females appear to follow the same pattern as those of males (Figure 2.8). As such, the type of action first taken when people suffer from acute illness is not dependent on their gender.

Figure 2.8 Health-Seeking Behaviours Related to Acute Illnesses by Gender, 2000

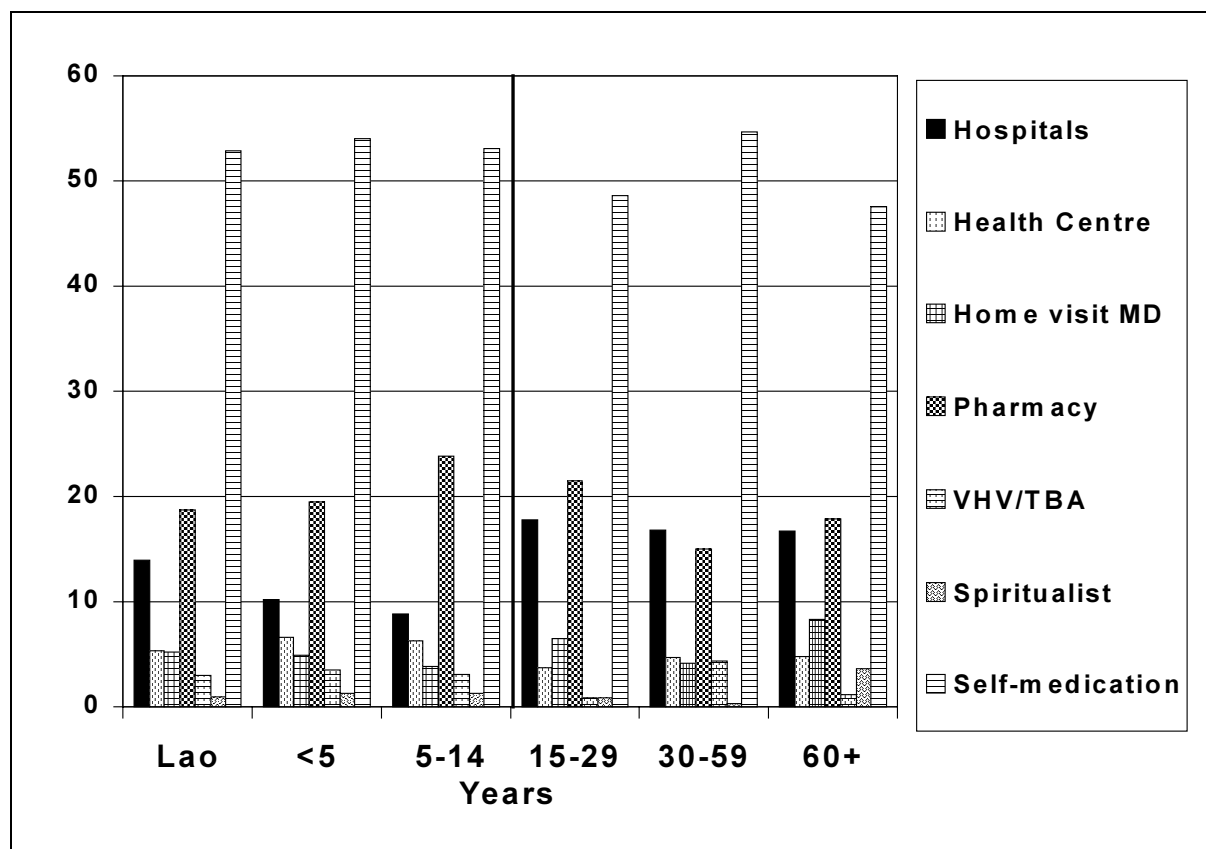


Source: MOH, 2000, *National Health Survey 2000*.

2.3.3 Across Age Groups

The three most common health-seeking behaviours are the same in all age groups (Figure 2.9) – self-medication, going to pharmacy and to hospitals.

Figure 2.9 Health-Seeking Behaviours Related to Acute Illnesses by Age Groups, 2000

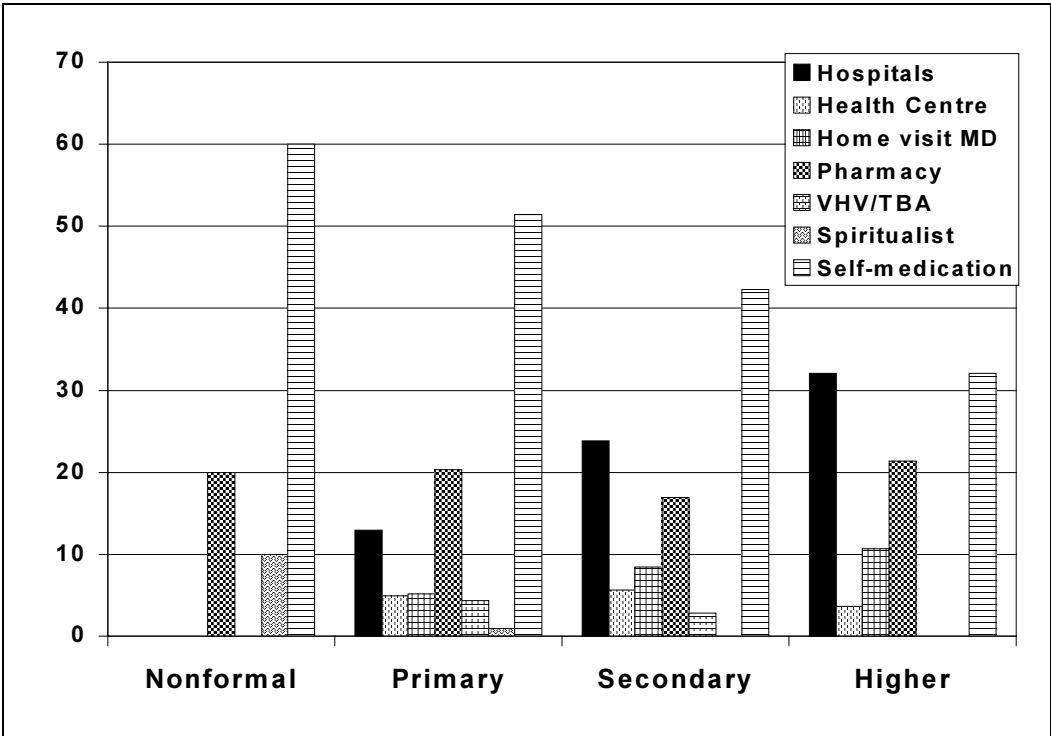


Source: MOH, 2000, *National Health Survey 2000*.

2.3.4 Across Highest Educational Attainment

The proportion of sick people who self-medicated decreased with the number of years spent in school (Figure 2.10). On the other hand, the proportion who went to the hospital as the first action taken when one is sick increased with educational attainment. Among those who were educated beyond high school, there were almost an equal number who first consulted at hospitals and those who self-medicated.

Figure 2.10 Health-Seeking Behaviours Related to Acute Illness by Educational Attainment, 2000



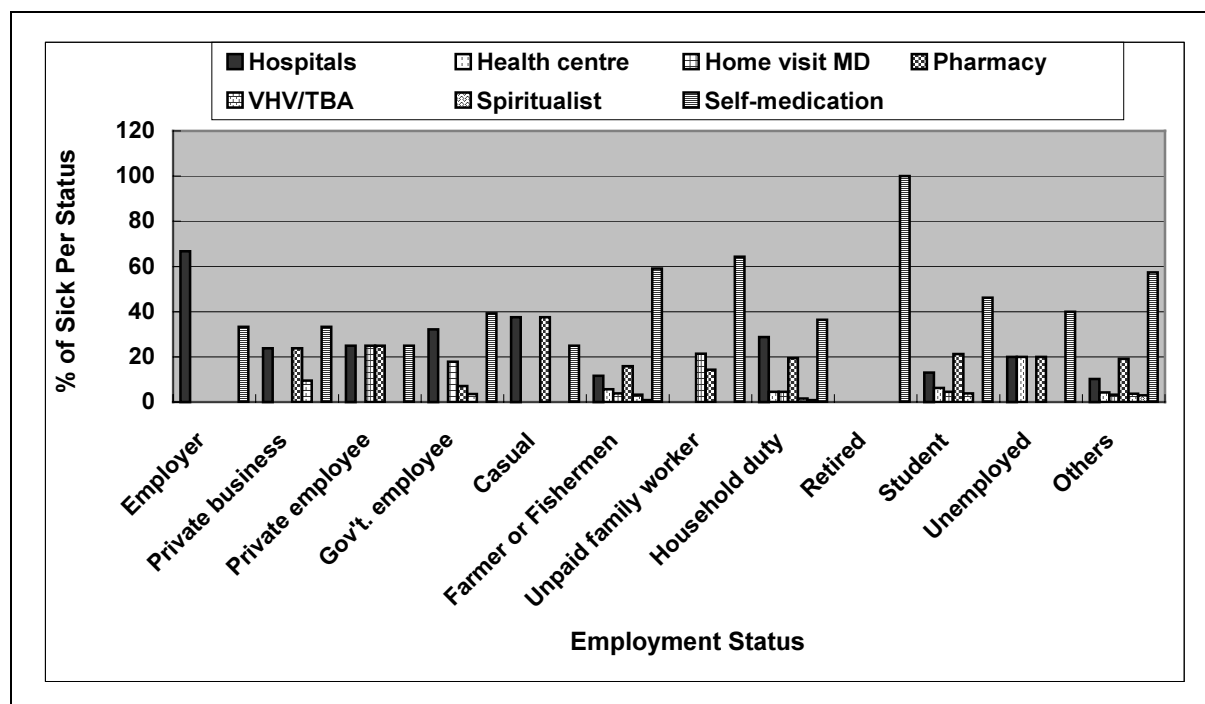
Source: MOH, 2000, *National Health Survey 2000*.

2.3.5 Across Employment

While all the retired people self-medicated, employers exhibited only two types of health-seeking behaviours (Figure 2.11). Two of three employers who fell ill went to the hospitals and the rest self-medicated. Although 40% of the unemployed self-medicated, no one went to VHV/TBA or spiritualist.

There were only three groups who first sought the services of a spiritualist – the farmers or fishermen, those who did household duties, and those categorized under others. Apparently, self-medication is a practice among all employment groups.

Figure 2.11 Health-Seeking Behaviours Related to Acute Illnesses by Employment Status, 2000



Source: MOH, 2000, *National Health Survey 2000*.

2.4 DETERMINANTS

Based on the preliminary descriptive analysis in the previous section, it seems that health-seeking behaviours do differ across certain population groups. In other words, there may be certain traits of the households, heads of households, mothers (or grandmothers), or individuals who are sick or pregnant that may be associated to specific type of behaviours. By knowing such relationships, then strategies to change health-seeking behaviours may be focused to more specific targets.

Why do some people self-medicate and others seek care from skilled personnel? Among those who used health facilities in the MOH survey, the expressed reasons for their choice were as follows: facility being close and easy to access (56.9%); satisfaction with staff (12.7%); severity of illness (11.2%); and others (fees of consultation or medication).³

The ADB survey tried to explain the preference of people for non-government health workers, be they skilled or not, despite the construction and renovation of health facilities throughout the country. It noted that 35% of the people who fell ill during the last month were served by the private sector. “Their (non-government health workers) proximity to the villages probably

³ MOH, 2000. Report on National Health Survey: Health Status of the People in Lao PDR.

accounts for their popularity as villagers' first choice for medical care outside the home.”⁴ If such is the case, then probably the public health facilities are not yet close enough from the perspectives of the users. Aside from physical access, however, there might be other factors.

⁴ ADB, 1999. Household Survey in 11 Provinces of Lao PDR.

CHAPTER 3

LAWS, REGULATIONS AND ORGANISATION OF THE HEALTH SECTOR

3.1 ORGANISATION OF THE HEALTH SECTOR

The Ministry of Health (MOH) and public health facilities (including co-operative health centres) were the sole official provider and regulator of health services until the early 1990s¹. There is now a small private sector but it is still weak - while the number of private pharmacies may have mushroomed the quality of their services is questionable, and there are still very few private clinics. The government activities in the health sector have been heavily assisted by international donors and NGOs since the early 1990s.

This chapter describes the existing structure of the health sector by reviewing the mandates of MOH-related organisations and the regulations for private enterprises in the health sector.

The following organisations operate in the health sector in Lao PDR:

- 1) Party Committee of MOH, which is directly answerable to the Party Central Office, is responsible for the inspection and management of MOH activities, in accordance with the Party Direction on Social-Economic Development.
- 2) Board of Minister of MOH, responsible to the Prime's Minister Office, plays a key role in the formulation of health policies.
- 3) The MOH, consisting of seven departments: 1) Cabinet Office, 2) Department of Hygiene and Prevention, 3) Food and Drug Department, 4) Curative Department, 5) Department of Planning and Finance, 6) Department of Organisation and Personnel and 7) Department of Inspection.
- 3) Centres affiliated to the MOH:
 - National Institute of Public Health
 - Mother and Child Health Centre
 - Centre of Malaria, Parasitology & Entomology

¹ Under the centrally planned economy, the supply of drugs tended to be short most years. When no free drugs were available, hospital doctors wrote prescriptions for patients to buy drugs at informal pharmacies outside government hospitals.

- Laboratory and Epidemiological Centre
 - National Committee for HIV/AIDS Control
 - Centre of Health Information and Education
 - Environmental Sanitation and Water Supply Centre
 - Traditional Medicine Research Centre
 - Medical Equipment Centre
 - Medicine and Food Analysis Centre
- 4) Health Training Institutions
- College of Health Technology
 - Nursing Schools: Luangphrabang, Savannakhet, Champasak, Khammuane, Vangvieng (Vientiane Province), and Oudomxay
 - Kindergarten
- 5) 17 Provincial Health Offices and 1 Special Zone Health Office
- 6) Hospitals²
- 8 Central hospitals: Mahosot, Friendship, Mother and Child, Traditional Medicine, Rehabilitation Centre, Ophthalmology Centre, Dermatology Centre, Tuberculosis Control centre
 - 5 Regional hospitals: Sethathirath, Oudomxay, Luangphrabang, Savannakhet, and Champasak
 - 13 provincial hospitals, and
 - 125 district hospitals
- 7) 308 Private Clinics, mostly in urban areas
- 8) 6 Pharmaceutical Factories (4 in Vientiane Municipality, 1 in Oudomxay Province, and 1 in Luangnamtha Province)
- 9) 2,132 Private Pharmacies
- 10) Traditional or Informal Health Service Providers
- 11) International Donors and NGOs

3.2 MINISTRY OF HEALTH

3.2.1 PRESENT STRUCTURE

There are four administrative levels in Lao PDR: central (ministry), provincial, district and village levels. In the health sector, the central level comprises the MOH headquarters and specialised institutions (institutes, centres, hospitals and colleges). The organisational structure of the Ministry of Health and affiliated institutions is illustrated in Figure 3.1.

² Ministry of Health, Curative Activities Report of 2000-2001

The MOH is headed by a minister and two vice ministers. The functions of its seven departments are basically to help the minister to formulate health policies and development plans, and then to implement them effectively. Figure 3.2 shows the internal organisational structure of the MOH, including divisions of departments.

Figure 3.1 Organizational Structure of the Ministry of Health and Affiliated Institutions

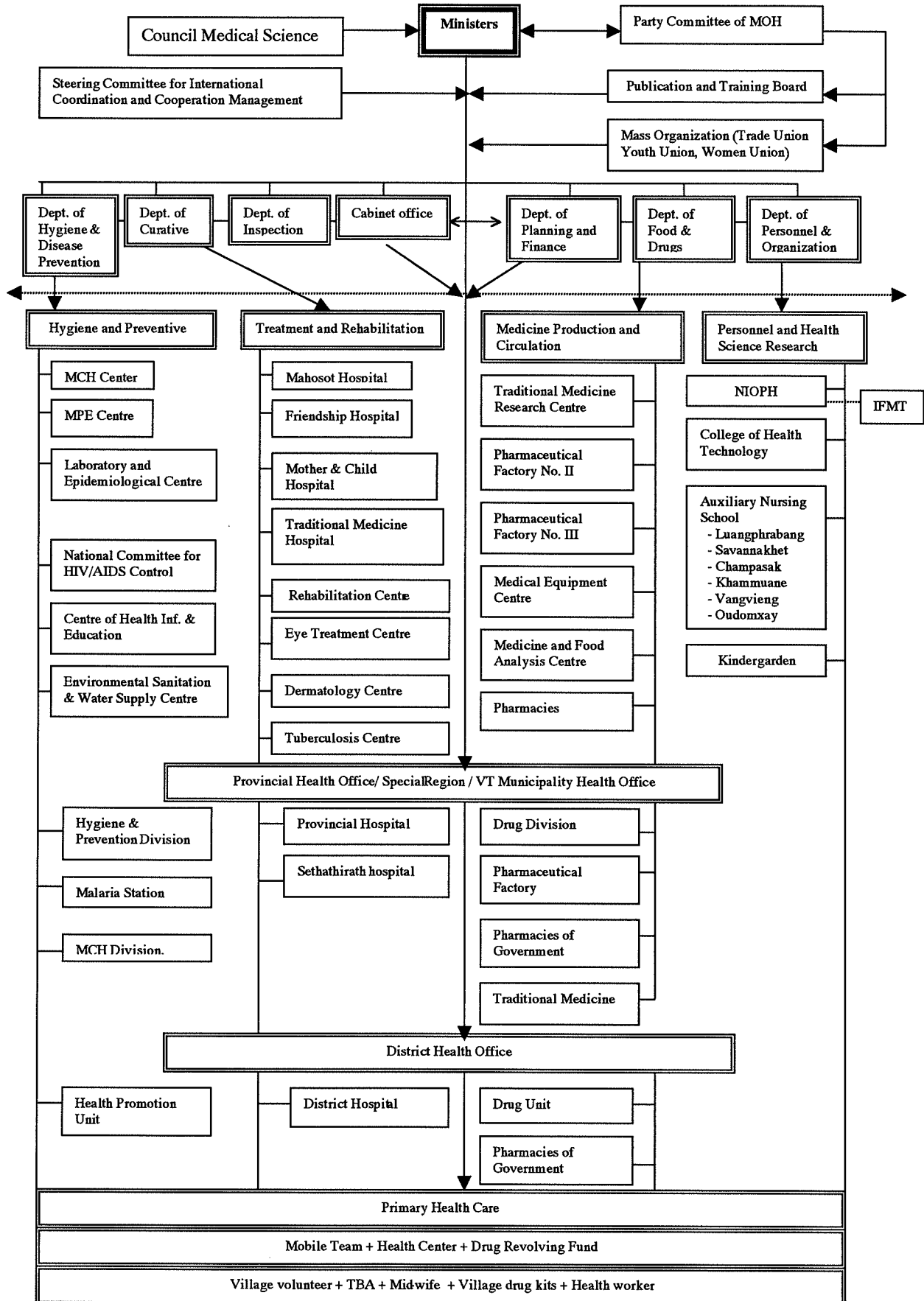
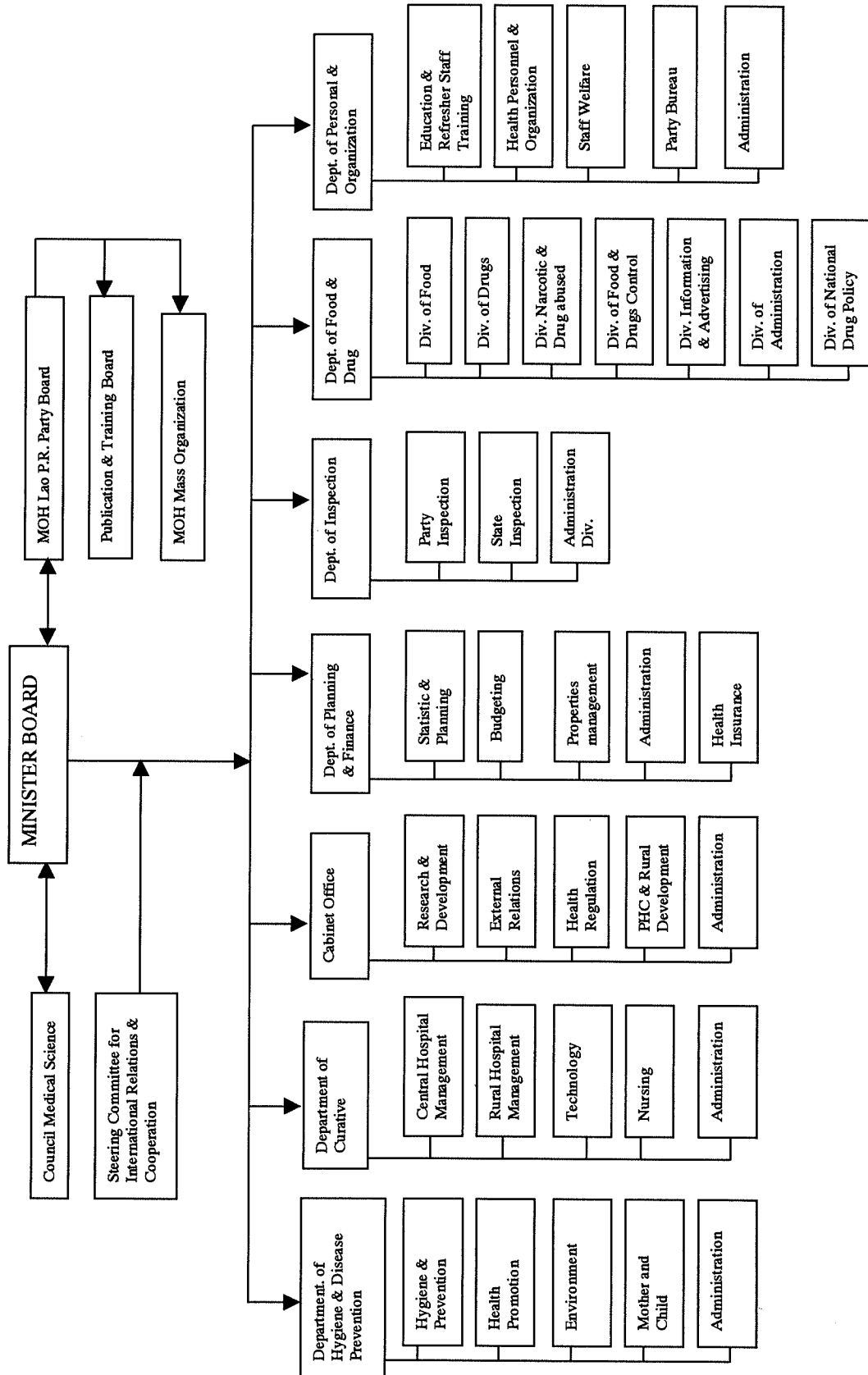


Figure 3.2 Internal Organisational Structure of the Ministry of Health



(1) Departments of the MOH

The Cabinet Office is headed by a Chief of Cabinet and two Deputies. It has 5 divisions: 1) Research & Development, 2) External Relations, 3) Health Regulation, 4) Primary Health Care and 5) Administration. This office is responsible for facilitating and co-ordinating external aid to the health sector, and provides general administrative support to the ministry.

The Department of Hygiene and Disease Prevention consists of 5 divisions: 1) Hygiene and Prevention, 2) Health Promotion, 3) Environment, 4) Mother and Child, and 5) Administration. It has direct responsibility for 6 centres: 1) Mother and Child Health Centre, 2) Centre of Malaria Parasitology and Entomology, 3) Centre of Laboratory and Epidemiology, 4) National Committee for HIV/AIDS Control, 5) Centre of Information and Education for Health, and 6) Centre of Environmental Sanitation and Water Supply. This department is responsible for facilitating all prevention and health promotion programmes at the central and provincial levels. In addition, the department is managing 3 national programmes: Healthy Cities, Vitamin A Promotion, Iodine deficiency disease.

The Curative Department is responsible for general hospitals and private clinics throughout the country. The central hospitals in Vientiane are directly under this department, while the provincial hospitals are managed by provincial health offices, and district hospitals and health centres by district health offices. Major hospitals have their own local management structures and they are relatively autonomous at present, as they can raise a certain amount of revenue independently through cost recovery schemes.

The Department of Planning and Finance is responsible for policy and planning, including the formulation of overall health policies, long-term strategies, annual and five-year development plans, and for liaison with the Committee of Planning and Cooperation. The department is also responsible for the management of national public health budgets, collecting and reporting health statistics, creating health insurance schemes and monitoring the construction of all health facilities.

The Department of Food and Drugs consists of 7 divisions³: 1) Food, 2) Drugs, 3) Narcotic and Drug Abuse, 4) Food and Drug Control, 5) Information and Advertising, 6) National Drug Policy and 7) Administration. The department is responsible for a number of institutions including pharmaceutical factories and the Medical Equipment Supply Centre. The main roles of the department are to formulate decrees, regulations, technical standards and basic management methods, and the inspection and quality control of food and drugs. Based on the MOH policy of integration of modern and traditional medicines in treatment activities, the

³ Food and Drug Regulation Number 1684/MOH dated 01 December 1999.

department also plays a role in promoting the research, production and use of medicinal herbs. On the other hand, the promotion of domestic production of food and drug to international standards in order to reduce imports is also the responsibility of the department.

The Department of Personnel and Organisation comprises 5 divisions: 1) Education and Refresher Staff Training, 2) Health Personnel and Organisation, 3) Staff Welfare, 4) Party Bureau and 5) Administration. The department is responsible for health staff allocation, health staff training institutions including the National Institute of Public Health, Francophone Institute of Tropical Medicine (IFMT), and the College of Health Technology and other low-level training schools.

The Department of Inspection has 3 divisions: 1) Party inspection, 2) State Inspection and 3) Administration. This department is responsible for the inspection of health sector activities in respect both to budget audit and to the quality of work, and it works closely with the MOH Party Committee and the Board of Minister.

(2) Centres Affiliated to the MOH

1) Mother and Child Health Centre

The Mother and Child Health Centre, established in 1989, is responsible for formulating maternal and child health policies and programmes, and co-ordinating the nationwide provision of maternal and child health services. This includes the prioritising of interventions, monitoring of progress towards targets and co-ordination of international donor and NGO activities. The MCH Centre conducts important specialised programmes to deal with the major causes of morbidity and mortality of mothers and children, such as Save Motherhood, Control of Diarrhoeal Disease, Acute Respiratory Infection, Birth Spacing, Immunisation, Breast-feeding Promotion, Reproductive Health, and Integrated Management of Childhood Illness⁴.

2) Centre of Malariology, Parasitology and Entomology (CMPE)

The main duties and responsibilities of CMPE are to ensure the reduction of morbidity and mortality due to malaria both by controlling the vectors through impregnating bed nets or other methods and by offering early diagnosis and treatment. Its other duties are to modify standard treatment protocols, to promote adequate supplies of chemicals at reasonable prices and to supervise, follow-up and evaluate implementing programmes.

⁴ Ministry of Health: Health Strategy up to the Year 2020, Vientiane, 2000.

3) Laboratory and Epidemiological Centre

The centre is responsible for strengthening the epidemiological system, assessing the needs of peripheral laboratories, and making plans for developing and strengthening the capability of central, regional and provincial laboratories. The centre also conducts cross-sectional studies on potential outbreaks of infectious diseases.

4) National Committee for the Control of HIV/AIDS (NCCA)

The NCCA was established in November 1998 to be responsible for planning, co-ordination of resource allocation, management and administration for the national HIV/AIDS plan. It is also responsible for preparing the national strategy for STD prevention and control including preparing a training curriculum on syndrome case management, which is to be included as part of the country's primary health care training⁵.

5) Centre of Information and Education for Health

The centre has a number of duties, in spite of its limited capacity and resources:

- To promote health issues for the MOH,
- To co-ordinate and co-operate with multi-sectoral institutions, both local and international, for health promotion and disease prevention,
- To develop health education materials and support all health programmes of the MOH,
- To improve health education for health staff at health facilities of all levels, and
- To monitor and evaluate health education and information activities.

6) Environmental Sanitation & Water Supply Centre

The Environmental Sanitation & Water Supply Centre was set up in 1982 to administer the National Water Supply and Environmental Health Programme, but also has responsibility for establishing and promoting water supply systems for all rural people and environmental health promotion in urban and rural areas. Other responsibilities are to promote and establish clean and standardised latrine systems for rural and urban people, to promote school hygiene and to manage solid and water waste disposal in rural areas, schools and hospitals, and to promote "the 3 hygies (eat clean, keep the house clean, wear clean clothes)" through community participation⁶.

⁵ MOH, 2000, op. cit.

⁶ Annual report of Environmental Sanitation and Water Supply Centre (Namsaat), Year 2000- 2001.

7) Medical Product Supply Centre (MPSC):

The main duties of MPSC are to develop policies on medical product supply for the MOH and to formulate plans for the procurement of drugs and medical equipment. MPSC is also responsible for repairing medical equipment throughout the country, and for establishing rules and regulations for supervising the operation of health facilities⁷.

8) Food and Drug Analysis Centre (FDAC)

The FDAC is a technical unit affiliated to the Ministry of Health, and under the guidance of the Food and Drug Department. The FDAC is responsible for research and analysis, and to analyse food, drugs, narcotics and chemicals used for producing drugs and cosmetics, in line with standards and regulations. It is also used to inspect forensic evidence, domestic and imported production and promote export of food and drugs. The FDAC is also responsible for training analysis technicians, and for raising consumer awareness regarding food quality and drugs⁸.

9) Traditional Medicine Research Centre

The centre has established a medicinal plant garden in Vientiane, and has also established sub-centres in the north and south. The centre is responsible for traditional medicine research, including compiling an inventory of medicinal plants, partly for preparation of herbariums.

(3) National Institute of Public Health (NIOPH)

The NIOPH is a technical organisation of the Ministry of Health, and is the central focal point for promotion, support, consultation, advertising, co-ordinating and implementing health research activities, health policies and health legislation. It conducts in- country training of health staff in their relevant technical areas at different levels, and also co-operates with foreign organisations. It co-ordinates directly with the Department of Organisation and Personnel and the Francophone Institute of Tropical Medicine. It also plays a co-ordinating role for the Council of Medical Sciences Office⁹.

(4) College of Health Technology and Nursing Schools

The College of Health Technology and auxiliary nursing schools have the following duties:

- To develop and reform their existing curricula in line with the social-economic situation of Lao PDR,

⁷ Ministerial regulation on establishing and operating of the Medical Product Supply Centre No. 011/MOH, dated 07 Jan 1998.

⁸ Answers to the questionnaire from JICA Study Team No.011/MOH, dated 20 Aug 01

⁹ Ministerial regulation on establishing and operating of the NIOPH, dated 22 Feb 2001

- To increase the knowledge, skills and experience of staff in health and other subjects by providing appropriate training to prescribed national standards, and
- To provide teaching equipment of sufficient quality and in sufficient quantities for both classroom and field practice in order to enable effective teaching and learning outcomes for students at all levels.

(5) Central Hospitals

There are 8 central hospitals in Vientiane Municipality, namely Mahosot Hospital, Friendship Hospital, Mother and Child Hospital, Traditional Medicine Research Centre, Rehabilitation Centre, Ophthalmology Centre, Dermatology Centre and Tuberculosis Control Centre. These hospitals have two main duties: treatment and health promotion/prevention. The MOH also plans to upgrade the central hospitals to become teaching hospitals and the third level referral facilities for the whole country.

(6) Pharmaceutical Factory No. 3

Pharmaceutical Factory No. 3 was established in 1985, and was originally called the Pharmaceutical Development Centre. The factory produces medicine both for the MOH and commercially in order to be financially autonomous. The factory's facilities are currently being upgraded under improvement process.

The number of staff allocated to each department, centre, hospital, and school is shown in Table 3.1.

Table 3.1 Staff allocation within the Ministry of Health

Technical/ Professional Categories	Cabinet Office		Department of Personnel & Organization		Department of Curative		Department of Inspection		Department of Planning & Finance		Department of Food and Drugs		Department of Hygiene & Disease Prevention		National Institute of Public Health		Medical Equipment Supply Centre		Centre of Health Information & Education		Mother & Child Health Centre	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
I. Postgraduate-level																						
Category 3	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Category 2	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Category 1	4	2	1	-	1	-	-	-	1	-	-	1	1	-	-	6	4	1	-	3	2	3
Specialists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Total	8	2	1	3	1	3	1	1	1	4	1	4	4	3	6	6	1	4	3	2	3	
II. High-level																						
Medical Doctors	10	2	3	5	5	9	1	-	5	4	20	11	5	7	2	5	-	2	1	6	4	25
Pharmacists	4	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	5	8	-	-	-	-
Dentists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hygienic Nurses	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Nurses	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bio-chemist	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Math-Physicists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lab Technicians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	2	1	3	6	8	9	6	9	1	1	4	4	1	7	3	5	3	8	2	3	7	4
Total	16	3	6	8	8	9	6	9	1	9	8	4	12	7	7	3	5	8	10	3	7	4
III. Middle-level																						
Medical Assistant	2	1	1	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-	1	3	-	2
Assistant Pharmacist	-	2	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	1	1	-	-	1
Assistant Dentist	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Registered Nurse	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laboratory Assistant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hygiene Inspector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physiotherapists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prosthetics Assistant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	1	-	-	-	-	-	-	-	2	3	1	1	1	-	-	-	2	2	-	6	2	1
Total	3	5	1	1	1	2	1	3	3	3	1	1	2	2	2	2	3	1	9	3	3	2
IV. Low-level																						
Auxiliary Nurse	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pharmacy Technician	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Laboratory Technician	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	6	3	-	2	-	1	-	-	1	1	-	1	1	1	-	-	2	-	2	-	1	1
Total	7	4	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	2	1
Non-level																						
	6	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
Contractual staff																						
Total	34	14	10	11	11	10	2	4	14	12	23	15	14	8	11	13	15	12	18	14	9	30

Technical/ Professional Categories	Medicine & Food Analysis Centre		National Rehabilitation Centre		Dermatology Centre		Traditional Medicine Research Centre		Environmental Sanitation & Water Supply Centre		Laboratory & Epidemiological Centre		EPI Division (under MCH Centre)		National Committee for HIV/AIDS Control		Eye Treatment Centre		Tuberculosis Centre		Malaria, Parasitology and Entomology	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
I. Postgraduate-level																						
Category 3	1	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
Category 2	-	-	1	-	1	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
Category 1	-	-	2	-	2	-	-	-	-	3	1	-	1	-	-	-	2	2	-	-	-	4
Specialists	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Total	1	1	2	1	3	3	2	2	4	1	1	2	1	2	1	2	2	1	2	1	2	
II. High-level																						
Medical Doctors	9	18	10	6	4	7	1	-	4	2	4	8	2	4	5	3	-	5	14	11	18	
Pharmacists	-	-	-	-	-	-	6	3	-	2	-	-	-	1	-	-	1	-	-	1	-	
Dentists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hygienic Nurses	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	
Nurses	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bio-chemist	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Math-Physicists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lab Technicians	-	-	1	2	-	1	-	-	8	-	-	-	-	1	-	-	-	-	-	-	-	
Other	1	-	1	2	4	8	10	3	15	1	6	4	9	2	5	5	-	-	-	-	-	
Total	10	18	11	8	4	8	10	3	15	1	6	4	9	2	5	5	5	1	6	4	1	
III. Middle-level																						
Medical Assistant	-	-	2	2	1	1	-	-	1	1	-	-	1	1	-	-	2	3	1	2	4	2
Assistant Pharmacist	-	2	-	3	-	-	-	2	-	-	-	-	-	-	-	-	-	1	2	-	-	
Assistant Dentist	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Registered Nurse	1	1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	3	2	13	-	
Laboratory Assistant	-	-	1	1	1	1	-	-	1	-	6	-	1	1	-	-	-	1	2	1	1	2
Hygiene Inspector	-	-	-	-	-	-	-	-	1	3	1	2	1	2	1	-	-	-	-	-	-	-
Physiotherapists	-	-	15	29	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prosthetics Assistant	-	-	25	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	1	1	1	2	1	2	1	2	2	-	3	-	1	-	4	-	1	-	-	-	-
Total	2	41	38	6	8	8	1	2	5	6	7	5	3	5	1	1	1	1	1	1	1	
IV. Low-level																						
Auxiliary Nurse	-	-	1	1	-	-	-	4	3	-	1	-	-	-	-	-	-	5	1	3	2	2
Pharmacy Technician	-	-	1	1	1	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Laboratory Technician	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Other	-	1	8	4	3	4	4	2	2	-	-	-	-	-	-	-	1	-	1	2	2	1
Total	1	9	7	4	5	8	5	8	5	1	1	1	3	5	1	1	1	1	1	2	1	
Non-level																						
	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractual staff																						
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	11	22	65	54	17	21	19	13	25	7	18	10	14	8	7	8	10	14	14	14	36	29

Technical/ Professional Categories	Mother and Child Hospital		Traditional Medicine Hospital		Friendship Hospital		Mahosot Hospital		Kindergarten		College of Health Technology		Sub-Total		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
I. Postgraduate-level															
Category 3					2	-	3	-					13	2	15
Category 2	2	1			1	-	-	1					11	3	14
Category 1	2	1			6	-	12	5			1	1	52	22	74
Specialists			1	2									11	5	16
Total															
II. High-level															
Medical Doctors	8	13	3	9	46	25	79	73	-	1	2	6	208	270	479
Pharmacists	-	1			-	2	3	1			1	4	44	35	79
Dentists					1	1	8	3					9	4	13
Hygienic Nurses											1	-	5	1	6
Nurses					-	1	-	3			1	1	1	6	7
Bio-chemist											-	2	3	3	6
Math-Physicists											1	1	2	1	3
Lab Technicians							1	1					3	1	4
Other					1	1	1	7	-	1	-	2	39	20	49
Total															
III. Middle-level															
Medical Assistant					5	28	-	30	-	1	2	2	28	46	74
Assistant Pharmacist	1	2	-	1	1	7	5	12			1	1	11	38	49
Assistant Dentist					1	1	1	4	7				6	9	15
Registered Nurse	-	16	-	1	19	76	13	16			1	11	38	287	325
Laboratory Assistant	2	2	-	1	4	9	5	17			3	4	26	40	66
Hygiene Inspector	1	-	-	1	2	2	-	2			1	1	9	14	23
Physiotherapists			1	3	4	2	2	9			3	2	26	46	72
Prosthetics Assistant													26	1	27
Other	1	1	1	-	13	15	16	71	1	21	1	5	53	67	120
Total															
IV. Low-level															
Auxiliary Nurse	1	2	1	2	7	20	12	68	-	1			32	108	140
Pharmacy Technician					2	1	4	4	-	1			7	12	19
Laboratory Technician					-	2	2	3					2	9	11
Other	-	2			5	10	13	27	-	3	OE	4	50	70	120
Total															
Non-level															
Contractual staff					2	17	11	18	-	1			19	32	51
Total	17	41	7	20	122	220	167	429	1	30	19	47			

Source: MOH (2002)

3.2.2 ORGANISATIONAL RESTRUCTURING

According to its Five-Year Plan, the Department of Organisation and Personnel will continue improving the organisational structure of the health sector from ministerial to local levels. In order to achieve cost-effectiveness and efficiency, the following objectives will be stressed:

- To reduce the number of unnecessary staff, especially in administrative positions, by 5% per year,
- To continue to recruit, train and assign staff for necessary positions,
- To train health managers systematically,
- To improve the organisational structure at each level,
- To encourage health staff to work in local areas

For human resource development, the following aims will be pursued:

- To continue training and upgrading staff, and to categorise staff by training level,
- To upgrade and develop technical staff and to form teams of them for central hospitals, regional hospitals and provincial hospitals.
- To train staff to become researchers in the seven MOH departments, 18 health sub-sectors, central and provincial hospitals and six health centres, and
- To select staff for upgrading foreign language skills both in Laos and overseas.

3.3 PROVINCIAL AND DISTRICT LEVEL ORGANISATION

3.3.1 Provincial Level

The provincial health offices have administrative and technical responsibility for health services within their provinces, including provincial hospitals, the network of Primary Health Care facilities, the implementation of vertical programmes, and the regulation and inspection of private sector facilities. The organisation and resources of health services vary significantly among the provinces. The provincial hospital provides second referral services including emergency care and surgery. Because of its size, catchment population and functions, the provincial health system equates to WHO's definition of a "district health system". Due to the basic level of services and training capacity at provincial level, the government plans to strengthen the three regional centres in order to provide advanced training and specialist referral care¹⁰.

The provincial health offices have the following duties¹¹:

¹⁰ Health strategy up to the year 2000, Vientiane, Lao PDR, May 2000.

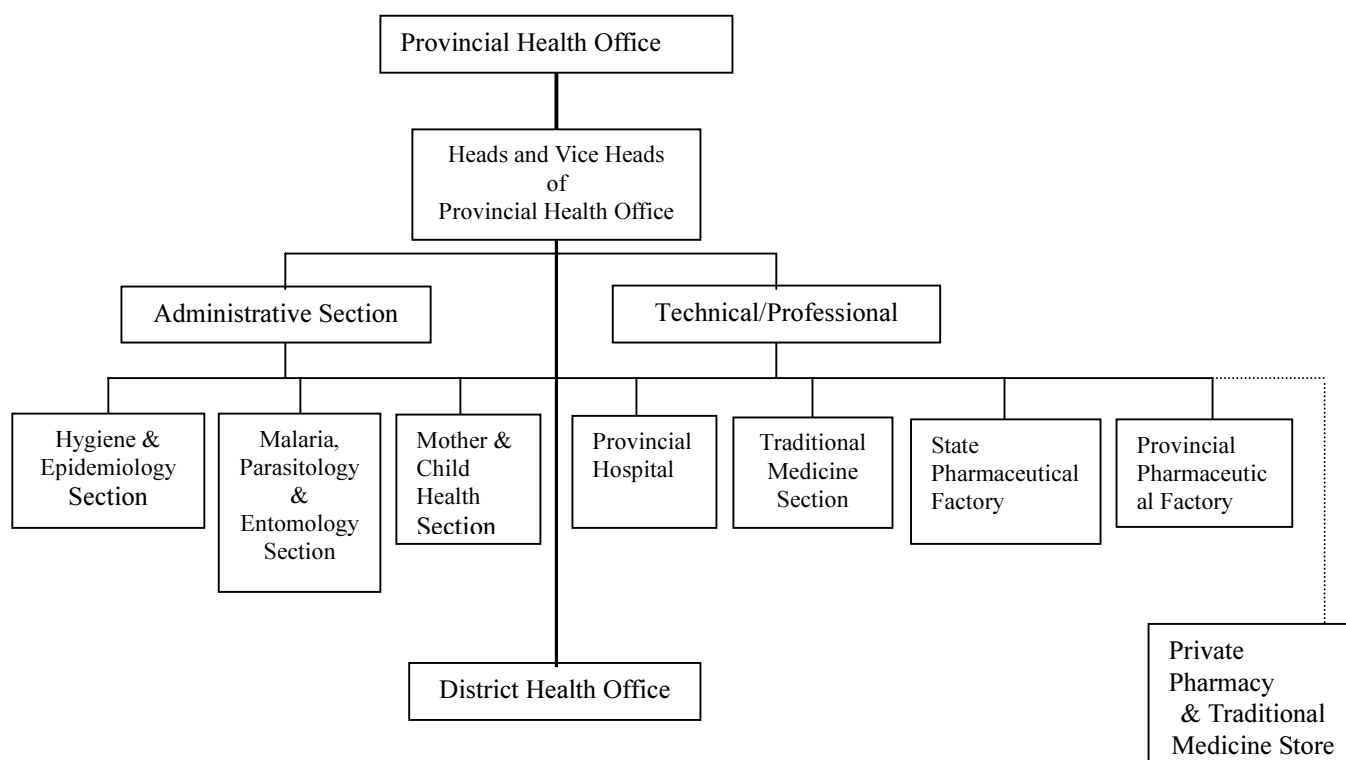
¹¹ Ministerial regulation on the establishment and operations of PHOs/MHO, No.894/MOH

- Translating regulations, laws, agreements, directives and plans from MOH into operational plans appropriate to local conditions, and monitoring their implementation,
- Collecting information on the health status of the population, promoting environmental preservation, collecting comprehensive information and statistics for health development, establishing projects and seeking funding assistance, monitoring and supervising the use of both domestic and foreign-aided funds,
- Keeping records of comprehensive health works for the districts under their responsibility, and making periodic reports to MOH and provincial governors,
- Selecting, assigning and supervising government staff within the province, and implementing governmental staff policies,
- Assisting, monitoring, and inspecting the implementation of health care services provided by both state and private sectors at village/community levels,
- Promoting disease prevention activities, health examination and treatment, and health rehabilitation for ethnic minorities in certain provinces,
- Overseeing and administering the operation of their own provincial health departments, and
- Co-ordination and liaison with both state and private organisations to seek assistance and co-operation for health promotion activities.

The ministerial regulation on the establishment and operations of Provincial Health Offices lays down guidelines for staffing levels. There should be 2 or 3 staff comprising the Provincial Health Office directorate, 12 to 16 administrative staff, and 4 to 6 technical staff, while staffing of the various technical sections will depend on the amount and duration of work assigned. For provincial hospitals, staff are allocated on a ratio of 1-1.2 staff per bed.

The figure below depicts the structure of a Provincial Health Office (Figure 3.3)

Figure 3.3 Organisations Structure of Provincial Health Offices



3.3.2 District Level

District health offices have the following duties¹²:

- To investigate and collect information on the health status of the population, disease and the operational conditions of health care services in the district,
- To report to higher authorities, and prepare plans for each period,
- To improve links between district and village levels to ensure that effective health care can be achieved by focusing on disease prevention,
- To oversee the training and education of governmental staff in accordance with governmental staff regulations,
- To implement and promote health care services for people through projects and activities, and to raise awareness and understanding of health care among governmental staff and the population at large,
- To provide health care service and treatment at the first and second referral levels,
- To expand the provision of traditional herbal treatment,
- To oversee and monitor the use of drugs, medical equipment, finances, and other government property,
- To co-ordinate with both public and private sector health actors to ensure that all service providers are operating in accordance with laws and regulations, and,

¹² MOH, Ministerial regulation on the establishments and operations of District Health Offices, No. 522/MOH

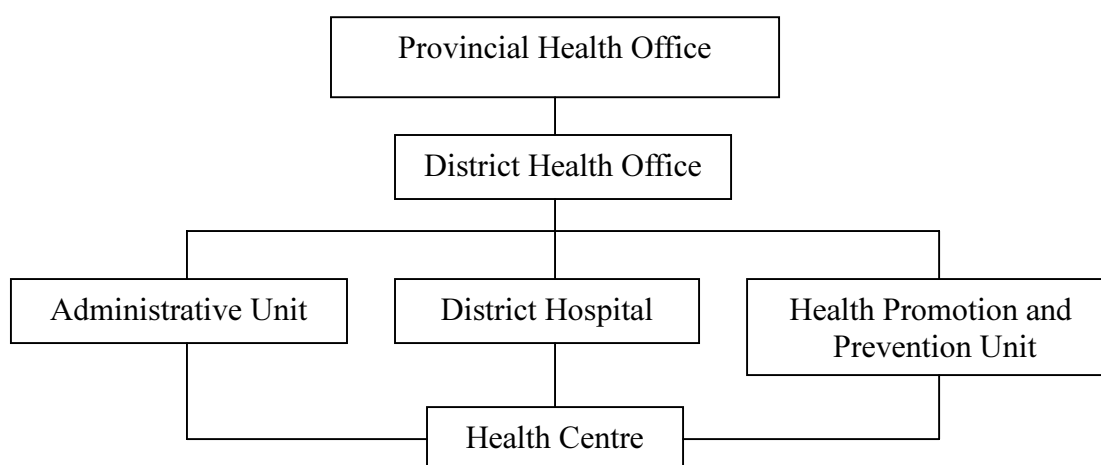
- To establish relationships and co-operate with state, mass, and private organisations.

The district health offices are responsible for the co-ordination of health service within districts. The district hospital in Laos is comparable to a Health Centre in many other countries, providing outpatient and basic inpatient care with 10-15 beds, mother and child services, outreach services, and logistic support and supervision of services in the district.

The ministerial regulation on the establishment and operations of District Health Offices provides for the following staffing levels: 1 director (responsible for the administration section, and for the district hospital), and 1 vice-director (responsible for health promotion, hygiene, and the disease prevention unit), 4 to 6 administrative staff, and 12 to 15 staff for the Health Promotion, Hygiene, and Disease Prevention Unit. Since inpatient services are provided by a provincial hospital, the districts in the vicinity of provincial town only has outpatient unit and there should be 8-12 staff. For District Hospitals in rural areas, a staff ratio of 0.8-1 per bed is envisaged.

The organisational structure of district health offices is shown in Figure 3.4.

Figure 3.4 Organisational Structure of District Health Offices



3.4 THE PRIVATE SECTOR

In the Party Policy Statement on Health in 1992¹³, the government endorsed the opening of private clinics, regulated by MOH, and permitted private hospitals whose management teams had been approved by the government. The Fifth Party Congress stressed that access to better quality health services must be assured, and permitted the establishment of private clinics and

¹³ Edited translation of a 1992 Party Policy Statement on health, Decree number 599/MOH

pharmacies under the strict control of the relevant authorities, a position endorsed in the Health Strategy to the year 2000. The number of private clinics and pharmacies throughout the country increased rapidly after this shift in policy, creating better access to health services for many people.

3.4.1 Private Clinics

In 1990, the government gave permission for state-employed doctors with at least 7 years' practical experience in the public sector to run private clinics either after working hours, or, for doctors who have retired or been properly discharged, on a 24-hour basis. Doctors who have not yet worked for the required number of years may still provide informal consultations in their homes or visit patients in their own homes¹⁴. The majority of private clinics are located in Vientiane: in 2001, there were 141 clinics in Vientiane, and 265 in the provinces¹⁵.

Resolution No. 575/MOH provides for 3 categories of clinic: general clinics (for general consultation and treatment), herbal medicine and acupuncture clinics (traditional medicine clinics), and specialist clinics (such as dental, eye, cardiology clinics.¹⁶

Private clinics may carry out general consultation and treatment. In an emergency situation, a doctor in a private clinic is may administer immediate intensive care but must then refer the patient to the nearest hospital for further treatment. No private clinic of any type is permitted to provide an abortion, IUD or permanent sterilisation services for any patient.

3.4.2 Private pharmacies:

According to the Department of Food and Drugs, there were 2,132 registered private pharmacies in Laos by the year 2000-01 . Private pharmacies are categorised as follows¹⁷.):

Category 1: owned by pharmacists who have retired or resigned, and who hold a diploma and have completed at least five years' work in the public health system; permitted to dispense medicines from the number one essential drug list, which includes all drugs of type A & C and some drug of type B.(In practice, the drug lists have not been formulated by Department of Food and Drugs, and all private pharmacies sell all types of non-narcotic drug).

¹⁴ Stephen Holland, at al.: *Impact of Economic and Institutional Reforms on the Health Sector in Laos: Implementations for Health System Management*, IDS, 1995.

¹⁵ Department of Curative Medicine: List of private clinics classified by province in 2001.

¹⁶ Resolution of the Ministry of health on Private clinics, number 575/MOH, dated 8 Aug 1991. Article 29,30.

¹⁷ MOH: The Regulations and Announcements on medicine, 1992.

Category 2: owned by assistant pharmacists or pharmacy technicians, who have completed at least five years' work in the public health system; they are permitted to dispense from the number two essential drug list, which includes drugs of types A,B and C.

Category 3: owned by pharmacist technicians or other health personnel who have retired or resigned, and have received training in medicine and pharmacy management;

3.5 TRADITIONAL & INFORMAL SECTOR

Village pharmacists do not have official licences but dispense modern medicines in villages. Many used to be modern medical practitioners. Most of them were auxiliary nurses who were trained either in the pre-liberation period or in the post-war co-operative period from 1975-1987. When the New Economic Mechanism was introduced in 1987, most of the auxiliary nurses returned to their villages. In some cases they became village pharmacists, and in other cases they became "village doctors." At present they practise medicine informally, including administering injections and selling antibiotics without a licence.

Traditional healer is defined as people treating people by traditional methods, including herbal medicine, rituals or superstition. Some of them are simply spiritualists, and some of them have knowledge of herbal medicine. In ethnic minority villages in remote areas, they are still very active.

Traditional herbalists are defined as people possessing the skills to make and use Lao traditional herbal medicines for treatment.

Traditional birth attendants (TBAs) are defined as persons having skills (trained or not) to assist with delivery at the village level. Compared with other Southeast Asian countries, TBAs are less visible and less identified in the health sector, partly because health workers or health programmes have not yet paid enough attention to their skills and knowledge.

CHAPTER 4

PRIMARY HEALTH CARE

4.1 PHC SERVICES AND VERTICAL PROGRAMMES

(1) PHC Services implemented through Vertical Programmes

A number of Primary Health Care (PHC) activities are currently carried out in Lao PDR, , including immunisation, control of infectious diseases (diarrhoea diseases, acute respiratory infection and malaria), birth spacing, health education, and rural water supply and sanitation.

One of the major characteristics of PHC in Lao PDR is the dominance of such vertical programmes and the weakness of horizontal co-ordination. To implement those vertical programmes, the following technical centres were established in affiliation to the Ministry of Health:

- Maternal and Child Health Centre (MCHC): Control of Diarrhoea Diseases and ARI, and Birth Spacing
- Centre of Hygiene and Epidemiology (EPI section later moved to the Maternal and Child Health Centre): Vaccination
- Malaria, Parasitology and Entomology Centre: Malaria Control
- Centre for Health Information and Education: Health Education
- Environmental Health and Water Supply (NAMSAAT): Rural Water Supply and Sanitation

(2) Official Support for Primary Health Care since 1978

In 1978, the Government of Lao PDR participated in the Alma Ata Conference, and signed the Declaration on Primary Health Care. Since then, the Lao PDR Government has officially supported the concept of Primary Health Care and the development of a network of primary health care.

(3) International Donor Projects and Vertical Programmes

International donors have supported the expansion of these vertical programmes since the early 1990s. This development was promoted in order to help the supply of public health

services to recover. Before the early 1990s, an extensive network of health centres and health workers had been linked to the co-operative farming system, though drugs and equipment had been in short supply. However, the co-operative farming system collapsed with the introduction of the New Economic Mechanism (NEM), resulting in a drastic reduction of the coverage of basic health services in the early 1990s.

PHC services have mostly been provided through vertical programmes, partly because the first PHC programmes were implemented vertically, and partly because the existing provincial and district institutions (both health offices and hospitals) were too weak, in technical and financial terms, to plan and implement PHC activities with both horizontal and vertical co-ordination.

4.2 AREA-FOCUSED PHC PROJECTS

In parallel with the implementation of such vertical programmes, PHC projects emphasising specific areas and horizontal co-ordination began to be implemented from the early 1990's. Since the late 1990's the Area-Focused Type of PHC projects have expanded their pilot activities to other districts in the same provinces or to other provinces. However, Area-Focused PHC projects still cover a very limited area. Table 4.1 shows the Area-Focused Types of PHC projects which have been implemented since the early 1990's:

Table 4.1 Area-Focused Types of PHC Projects

Name of Project and Donor	Years	Provinces and Districts for Project Activities
SCA Primary Health Care Project in Xayaboury Province	Phase 1: from 1992 to 1994, Phase 2: 1994 to 1998, Phase 3: 1998 to 2001	Xayaboury Province (all districts at present)
GTZ Lao-German Family Health Project	Phase 1: from January 1996 to December 1999, Phase 2: from January 1999 to December 2000	Bolikhamxay Province (all districts at present)
JICA and WHO Joint Technical Co-operation, Primary Health Care Project	From 1992 to 1998 (6 years)	Khammuane Province (Mahaxai, Hinboun and Xebanfai Districts)
World Bank/Belgian Technical Co-operation Health System Reform and Malaria Control Project (Basic Health Services)	1995-2001 (October 2000-the present)	Sekong Province (Thateng District and Lamam District) for Pilot Zones For other components of Basic Health Services, Savannakhet, Sekong, Champasak, Paksong District and Xaysomboun Special Region.
AusAID Lao-Australia Health and Social Development	1997 - 2002	Phongsaly Province (Bounneua, Bountai and Yord-Ou Districts) and Huaphanh Province (Xamneua, Viengxay, Xiengkho, Aad and Sompbao Districts)
Swiss Red Cross Improvement of Health Project		Luangphrabang, Oudomxay and Huaphanh
ADB Primary Health Care Project	February 1995 – August 2000	Oudomxay, Xiengkhuang and Xaysomboun Special Region
ADB Primary Health Care Expansion Project	August 2000 – June 2006	Phongsaly, Luangnamtha, Oudomxay, Bokeo, Luangphrabang, Huaphanh, Xiengkhuang and Xayaboury

Table 4.2 Key Characteristics of Area-Focused PHC Projects

Name of Project and Donor	Key Characteristics of PHC Activities
SCA Primary Health Care Project in Xayaboury Province	<p>Much effort has been made to improve provincial-level management of the health care system.</p> <p>The project made special arrangements for inviting villagers to their nearest health facilities to experience services at the health facilities.</p> <p>Health centres have been developed and improved through community participation.</p> <p>In order to improve the operation of district-level health facilities, well-developed districts help other districts which are short of well-trained health workers.</p>
GTZ Lao-German Family Health Project	<p>The project has emphasised health activities at the village and district levels.</p> <p>The project started with a needs assessment at the village level. The training of health staff for village-level needs assessment was conducted.</p> <p>Village Health Volunteers were trained to deliver various services in an integrated way.</p> <p>In line with government's decentralisation policy, the project has promoted decentralisation and ownership at the village and district levels.</p>
JICA and WHO Joint Technical Co-operation, Primary Health Care Project	<p>Originally, EPI was chosen as an entry point to PHC, but later the emphasis was changed to drug kits and drug revolving funds based on needs surveys at the village level.</p> <p>Due to the short period of project implementation, the project did not do much about the improvement of provincial-level management to sustain and expand such village-level systems.</p> <p>But some of the village-level drug revolving funds are still working at present even after the termination of the project.</p>
World Bank/Belgian Technical Co-operation Health System Reform and Malaria Control Project	<p>In pilot zones, the project has implemented some system reforms at the health centre level.</p> <p>Relatively higher-level health staff (like medical assistants) are stationed at health centres in pilot zones.</p> <p>Health centre staff are given incentives to manage drug revolving funds.</p>
AusAID Lao-Australia Health and Social Development	<p>The project has mostly worked with district health offices and selected villages.</p> <p>The project started with social development activities by introducing village development committees, village planning, rice banks and cattle banks, together with health activities.</p>
Swiss Red Cross Improvement of Health Project	<p>Drug Revolving Funds were introduced to provincial hospitals and selected district hospitals.</p> <p>Human resource development was conducted by training to trainers (TOT).</p> <p>Equipment was provided for provincial and district hospitals based on needs.</p> <p>Health centres were constructed by combining community participation with contractors.</p>
ADB Primary Health Care Project	<p>Locational planning for health centres was conducted by the provincial health offices.</p> <p>Trainers of training (TOT) was conducted for health staff who were to be assigned to new health centres.</p> <p>Health centres were constructed by contractors.</p>
ADB Primary Health Care Expansion Project	<p>Emphasis on strengthening the provincial PHC unit.</p> <p>PHC planning through village-level participation will be tried.</p>

4.3 POLICY ON PRIMARY HEALTH CARE, 2000

The Ministry of Health published the “Policy on Primary Health Care” in January 2000. The policy confirms the importance of the concept, approaches and principles of PHC in the Lao context and to guide actual PHC activities.

The principles of PHC mentioned in the PHC Policy are as follows:

1. Expansion of the coverage of health services to peripheral areas. Health zoning is a key to planning the expansion of health service coverage.
2. Emphasis of women of reproductive age and children under 5 years in health development
3. Community participation for planning, designing, provision and management of health care services, especially for hygiene and prevention
4. Dissemination of health information and data to rural people
5. Utilisation of local resources
6. Collaboration with other sectors
7. Ensuring of sustainability of health care services by creating an enabling environment for community participation and ownership

The PHC Policy adopts the following nine basic components:

1. Improvement in quality and extension of the network of health facilities
2. Health education
3. Clean water and environmental sanitation
4. Immunisation for all target populations
5. Mother and child health
6. Nutrition
7. Prevention of common and widespread diseases
8. Treatment of non-acute symptoms of common and widespread diseases
9. Essential drugs and revolving drug funds

However, the PHC Policy does not go so far as to provide concrete methods, models or systems for promoting PHC activities. The formulation of such models and systems is to be done by learning from the experiences of various projects. While Lao PDR does not necessarily need a single standardised model for PHC activities, PHC in Laos does need to seek an appropriate balance between a rigid national standard and too much local variation.

In addition, it is not certain how well serving health officials at provincial and district levels understand the basic concepts and principles of PHC, especially the importance of self-reliance and community participation.

4.4 PHC ACTIVITIES

The following activities have been included in past and current Area-Focused PHC Projects:

1) Health Centre-Based Activities

- Organising a health committee for a health zone or a health centre in order to encourage community participation
- Construction of health centres
- Training of health centre staff
- Improvement of the logistics (drugs, basic materials and equipment) of health centres
- Introduction of drug revolving funds at the health centre level
- Improvement of district health office supervision of health centres

2) Village-Based Strategies

- Training of village health volunteers
- Introduction of drug kits and drug revolving funds
- Health education

3) Entry Points to PHC

Different PHC projects have tried various entry points to PHC activities at the village level as follows:

- Establishment of a health committee based on a health centre for promoting community participation
- Training of village health volunteers for introducing drug kits and drug revolving fund
- Implementing social development components such as rice banks and cattle banks together with health components
- Implementing health education together with outreach activities

4.5 OTHER ASPECTS OF PHC

(1) PHC Network Expansion

In the Health Strategy 2020 (May, 2000), expansion of the PHC network is seen not only as happening by increasing the number of health centres, but also by improving the quality of referral health facilities.

Other ways of extending the PHC network to areas of very low population density are also considered in the PHC Policy.

(2) Village Health Volunteers

In many PHC projects, village health volunteers (VHVs) have been trained for promoting village-level activities. Other vertically implemented projects such as malaria control and reproductive health have also trained some village health volunteers for their own purposes.

In some cases, one village health volunteers has received training for different kinds of activity while some villages have two or three health volunteers for different purposes.

In the future more village-level activities will be required for promoting PHC activities and other health interventions, in which case the co-ordination role and workload of VHVs will certainly increase. A framework for working with VHVs will be needed soon.

(3) PHC Coordinating Division at the MOH and PHC Coordinating Unit at the PHO

The Division of PHC & Rural Development was established under the Cabinet of MOH was established for the co-ordination of PHC activities.

CHAPTER 5

HOSPITAL SERVICES

5.1 INTRODUCTION

This chapter documents the progress to date of the study regarding hospital services in terms of the following:

1. availability and utilization of hospital services;
2. policies, programmes and plans;
3. regulation, standard and guideline; and
4. referral system.

5.2 AVAILABILITY AND UTILIZATION OF HOSPITAL SERVICES

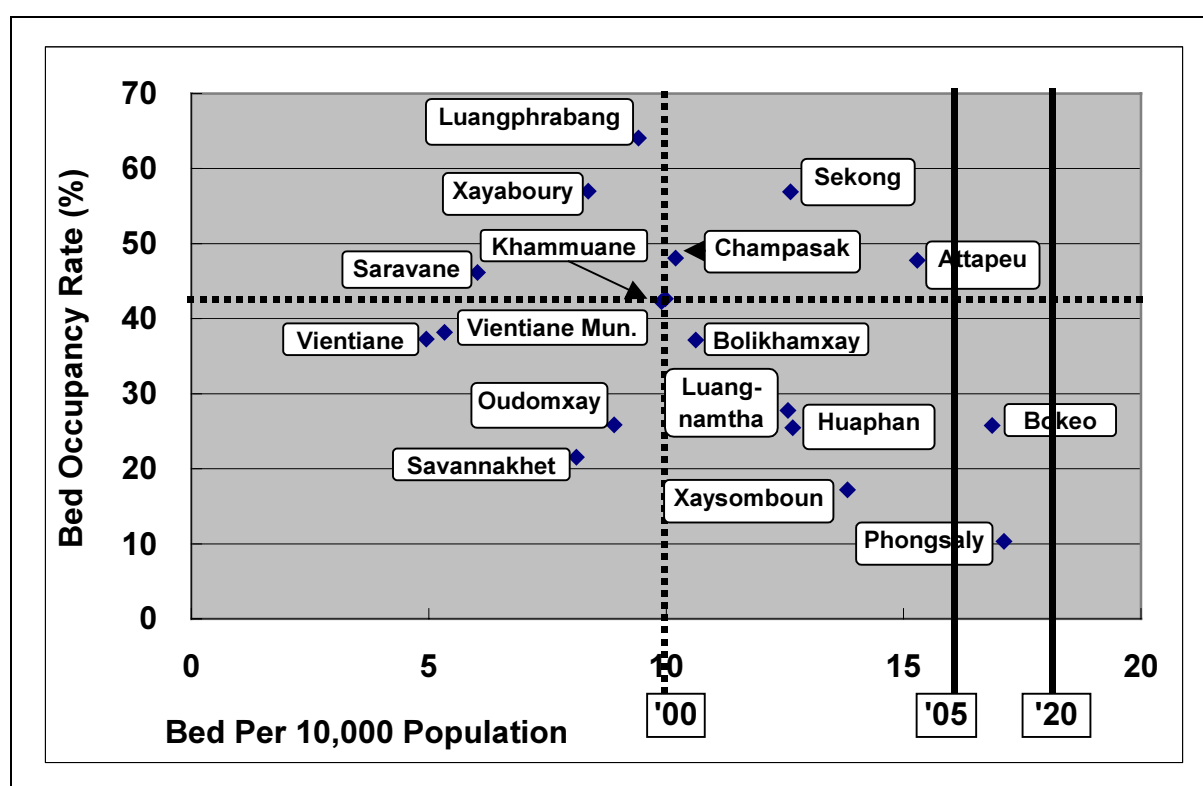
To assess the status of hospital services, the bed-population ratio and bed occupancy rate were adopted for the progress report because these are the indicators with set targets for the year 2020. Data from the MOH Health Statistics Division were used.

Figure 5.1 is a graph of the bed occupancy rates and bed-population ratios of 17 provinces in 2000. Data for Xiengkhuang province were not available. By drawing the broken lines, which represent the rate and ratio for the entire country in 2000, the provinces can be categorized into four.

- The first group, composed of Champasak, Sekong and Attapeu, appears to be in the best of shape. Its ratio and rate are both higher than the Lao data. Its members are all from the south.
- The second group is at the bottom of the first group. Except for Bolikhamxay and Xaysomboun, the other four members are from the north. Although there are relatively more hospital beds in these provinces, their utilization seems to be a lower than the Lao national level.
- The third group of provinces include Oudomxay, Savannakhet, Vientiane province, and Vientiane municipality. These provinces are in the worst shape. They are the exact opposite of those in the first group. They have fewer hospital beds relative to the number of residents and the few beds that they have are not used optimally. Inclusion of Vientiane province and municipality in this group is unexpected.

- The fourth group is composed of Luangphrabang, Xayaboury, Saravane, and Khammuane. Its low bed-population ratio is indicative of limitation in access to hospital services. Its high bed-occupancy rate implies that the hospitals in these provinces are relatively more patronized than those in groups 2 and 3. It may also be explained by the reality that there are fewer beds in these provinces to meet the demands of the community. From the management perspective, group 4 may appear to be the second best group next to group 1. Khammuane is an exception in this group. Its bed-population ratio is the same as that for Lao while its bed-occupancy rate is just 1% lower than the Lao rate. For this reason, it may also be classified under group 1.

Figure 5.1 Bed-Population Ratio and Bed Occupancy Rate by Province (except Xiengkhuang), 2000



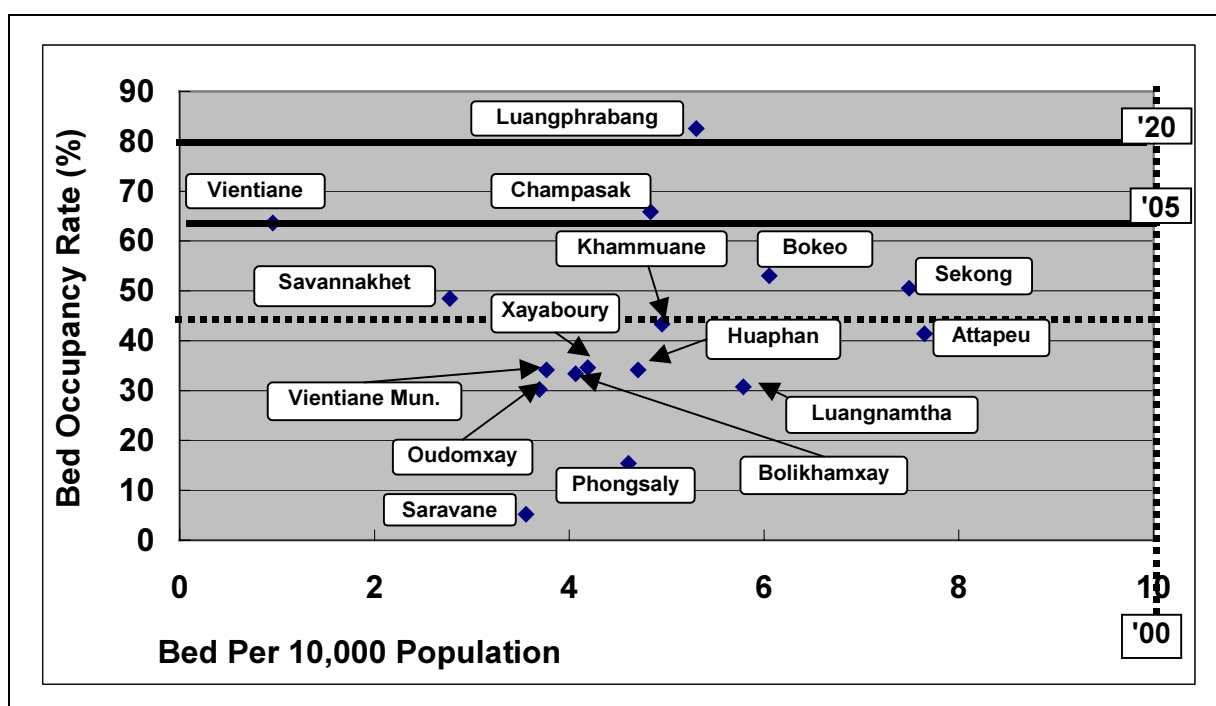
Source: MOH: *Report – Table 01B: Hospital Activities Year 2000*. 2001.

Figure 5.1 also indicates the MOH targets, represented by the bold continuous vertical lines. It appears that as of year 2000 Bokeo and Phongsaly already surpassed the year 2005 MOH target of 16 beds per ten thousand people.¹ Outside of Vientiane municipality and province, Saravane, Savannakhet, Xayaboury, Oudomxay, and Luangphrabang may be considered priorities as their bed-population ratio lag behind.

¹ MOH: *Health Strategy Up to the Year 2020*. 2000. Discussion Paper.

Preliminary analysis of provincial hospitals revealed that the year 2005 target of 64% bed occupancy rate² was already achieved in Vientiane province, Champasak and Luangphrabang (Figure 5.2). At the other end of the spectrum, though both Phongsaly and Saravane provincial hospitals have occupancy rate of less than 20%.

Figure 5.2 Bed-Population Ration and Bed Occupancy Rate by Provincial Hospital (except Xiengkhuang and Xaysomboun), 2000



Source: MOH: Report – Table 01B: Hospital Activities Year 2000. 2001.

In 1995, the Laboratory Division of the MOH Institute of Hygiene and Epidemiology surveyed provincial hospitals in Lao PDR.³ Among the 14 provincial hospitals included in the survey, only the laboratories in Khammuane and Savannakhet met more than 60% of the standard, and only those in Luangphrabang and Champasak between 40 and 60% inclusive. The laboratories that did poorly were those in Phongsaly, Oudomxay, Bokeo, Luangnamtha, Huaphanh, Xayaboury, Xiengkhuang, Saravane, Sekong, and Attapeu.

5.3 POLICIES, PROGRAMMES AND PLANS

The Ministry of Health included “The Curative and Rehabilitation Strategies” as one of its Six Priority Programmes. Its “Master Plan of Improvement Hospitals in Years 2001-2005”⁴ laid out its plans in addressing three problems that it regards with utmost importance:

² MOH, 2000, op. cit.

³ MOH: *Results of Provincial Laboratory Survey Throughout the Country 1995*. 1996. Hand-outs.

⁴ MOH, 2000, op. cit.

1. hospitals can not be referral facilities for Primary Health Care because treatment system in hospitals are not standardized, some hospitals lack building and some are either very small or very old;
2. hospitals lack medical equipment or the ones that they have are very old; and
3. hospitals have insufficient specialists and experienced doctors.

The problems on infrastructure, equipment and human resources are discussed in other chapters of this progress report.

Regarding standardization of treatment, the MOH in 2001 developed the National Treatment Manual on four areas namely, emergency/surgery, internal medicine, paediatrics and obstetric-gynaecology under the support of the SIDA.⁵ It also developed the Detoxification Manual for staff of district and provincial health offices.

The MOH has taken great strides in improving the “quality and quantity” of the treatment network. In the coming months, the JICA Study Team will continue the Facility-based Survey. In the process, the writer intends to determine the number of district, provincial and central hospitals that have master plans and/or operational plans. He will review the content in terms of the problems identified and the strategies/activities prioritised.

5.4 REGULATION, STANDARD AND GUIDELINE

While regulations of hospitals were revised last year, the standard for each level is to be developed this year until the next with financial assistance of \$50,000 from the WHO.⁶ Guideline for private hospitals will also be proposed to the MOH Board. A Treatment Law is to be drafted, too.

⁵ MOH: *Department of Curative Medicine: Report on Activities of 2000-2001 and Plan of 2002 (2nd Work plan)*. 2001.

⁶ MOH, Department of Curative Medicine, 2001, op. cit.

The MOH listed the functions and activities of a medical assistant responsible for curative services in a district hospital as shown in Table 5.1. Although this list was originally intended as a guide for revising the curriculum, it may also serve well the plan to standardize health services. For information, the MOH has developed already the list of medical assistant's responsibilities for preventive services.

Table 5.1 Functions and Activities of a Medical Assistant Responsible for the Curative Services at the District Hospital

Functions	Activities
1. Diagnosis, treatment and organize the care of syndrome, and infectious diseases and parasites priority	<input type="checkbox"/> Conduct complete physical examination <input type="checkbox"/> Register data on patient <input type="checkbox"/> Evaluate the severity of patient <input type="checkbox"/> Execute complete clinical examination <input type="checkbox"/> Elaborate the diagnosis <input type="checkbox"/> Select the necessary supplementary examination <input type="checkbox"/> Interpret the obtained results <input type="checkbox"/> Select and prescribe the essential and appropriate medicines for a given disease <input type="checkbox"/> Ensure the treatment process for the in-patient or give consultation to outpatient and give advices to patient/family <input type="checkbox"/> Elaborate the management procedure given (good practice)
2. Organize the curative services	<input type="checkbox"/> Identify the problem and the service needs <input type="checkbox"/> Establish an action plan <input type="checkbox"/> Implement the action plan
3. Supervise the service activities	<input type="checkbox"/> Supervise patient follow up in and out of hospital <input type="checkbox"/> Evaluate the practice of medical and paramedical staff <input type="checkbox"/> Identify the training needs of nurses and laboratory technicians <input type="checkbox"/> Supervise the utilization and identify the needs for essential drugs and consumables of the hospital, of curative services and of laboratory
4. Manage the resources	<input type="checkbox"/> Manage the financial resources <input type="checkbox"/> Manage the human resources <input type="checkbox"/> Manage the infrastructure, logistics and equipment
5. Emphasize preventive activities and health promotion	<input type="checkbox"/> Interpret socio-economic data to identify priority problems <input type="checkbox"/> Start preventive activities (HIV/AIDS, STD and Reproductive Health) <input type="checkbox"/> Refer to proper services patients needing preventive care <input type="checkbox"/> Supervise staff training <input type="checkbox"/> Get involved in the conception and the dissemination of public education messages
6. Organize the administrative system for recording data and surveillance (noting the cases and epidemic alert)	<input type="checkbox"/> Establish the registration system of patients <input type="checkbox"/> Proceed with elementary analysis of data gathered in the periodic reports <input type="checkbox"/> Notify obligatory cases and start epidemiological alert
7. Plan and coordinate the training and the self-training of staff at the hospital and health centres	<input type="checkbox"/> Identify the needs <input type="checkbox"/> Establish a program <input type="checkbox"/> Coordinate and implement the program <input type="checkbox"/> Evaluate the program

Source: MOH: *La Formation de 3^{eme} Cycle Fonctions et Activites des Medecins de District*. Workshop sponsored by Institut de la Francophonie pour la Medecine Tropicale, Thalath, August 27-31, 2001.

The directors of Mahosot, Friendship and Sethathirath Hospitals agreed to develop the three general hospitals as specialty centres also for certain types of illnesses (Table 5.2).

Table 5.2 Specialties of Three Big Hospitals in Vientiane

Mahosot Hospital	Friendship Hospital	Sethathirath Hospital
Cardiology (CCU) Gastrointestinal diseases Infectious diseases Ear, Nose, Throat Surgery (Kidney and Paediatrics)	Orthopaedic surgery (trauma) Neurosurgery Haemodialysis	Cardiology Gastrointestinal diseases Infectious disease Cancer MCH Blood diseases Endocrine disorders

Source: Otsuki K, Coordinator, Lao-Japan Sethathirath Hospital Improvement Project, 2001.

In the third phase of the study, the writer intends to review existing regulations, standards and guidelines of the MOH that define the scope and set the standards of quality for services in hospitals at all levels of the organization. The review will cover clinical services as well as those provided by other departments as may be appropriate (Table 5.3). It is worthy to note that in the 19th century Florence Nightingale reduced hospital mortality and improved health care quality through cleanliness, sanitation, dietary improvements, and the establishment of discipline and organization in the hospital routine.

Table 5.3 Examples of Some Hospital Departments and Their Customers

Department	Internal Customers	External Customers
Dietary	<input type="checkbox"/> Departments who order food for special events <input type="checkbox"/> Nurse/unit secretaries who communicate about patient food needs	<input type="checkbox"/> Patients <input type="checkbox"/> Coffee shop users
Radiology	<input type="checkbox"/> Nursing <input type="checkbox"/> Medical records <input type="checkbox"/> Transportation	<input type="checkbox"/> Physicians <input type="checkbox"/> Patients <input type="checkbox"/> Peer reviewers
Billing	<input type="checkbox"/> Nursing <input type="checkbox"/> Information services <input type="checkbox"/> Admissions <input type="checkbox"/> Utilization review <input type="checkbox"/> Medical records <input type="checkbox"/> Administration	<input type="checkbox"/> Insurers <input type="checkbox"/> Patients <input type="checkbox"/> Physicians <input type="checkbox"/> Vendors <input type="checkbox"/> Auditors
Unit secretaries	<input type="checkbox"/> Nursing <input type="checkbox"/> Pharmacy <input type="checkbox"/> Laboratory <input type="checkbox"/> Radiology <input type="checkbox"/> Transportation	<input type="checkbox"/> Physicians <input type="checkbox"/> Visitors <input type="checkbox"/> Patients

Source: Leebov W and C J Ersoz: *The Health Care Manager’s Guide to Continuous Quality Improvement*. AHA Publishing, Chicago, Il., 1991.

Furthermore, the study is concerned with those issues listed in Table 5.4. It will attempt to understand the perception and expectations of several types of customers of hospitals – those from within and those from communities.

Table 5.4 Issues on Hospital Quality Improvement

Concerns	Issues	
Patient Satisfaction	<input type="checkbox"/> Reducing ER waiting time <input type="checkbox"/> Improving patient room cleanliness	<input type="checkbox"/> Improving meal delivery service <input type="checkbox"/> Reducing frequency of lost patient property
Employee Satisfaction	<input type="checkbox"/> Improving internal communication vehicles <input type="checkbox"/> Reducing needle sticks	<input type="checkbox"/> Improving orientation process <input type="checkbox"/> Improving disability and sick pay benefit system
Doctor's Satisfaction	<input type="checkbox"/> Speeding radiology report turnaround time <input type="checkbox"/> Improving operating room scheduling service <input type="checkbox"/> Improving access to medical records <input type="checkbox"/> Improving doctor's paging service <input type="checkbox"/> Improving prophylactic antibiotics usage <input type="checkbox"/> Reducing emergency room waiting time <input type="checkbox"/> Reducing infection rates <input type="checkbox"/> Reducing chest x-ray usage <input type="checkbox"/> Increasing same-day admissions <input type="checkbox"/> Reduction C-section rate	<input type="checkbox"/> Improving appropriateness of chest pain admissions <input type="checkbox"/> Improving turnaround of laboratory results <input type="checkbox"/> Reducing incidence of broken equipment and missing supplies in surgical packs <input type="checkbox"/> Improving communication between doctors and nurses, and hospital administration <input type="checkbox"/> Improving quality of care and reducing treatment costs for patients undergoing surgery
Clinical Quality	<input type="checkbox"/> Reducing urinary tract infection rate <input type="checkbox"/> Reducing nosocomial decubiti rate	<input type="checkbox"/> Reducing C-section rate <input type="checkbox"/> Reducing medication errors
Cost Reduction	<input type="checkbox"/> Reducing accounts receivable <input type="checkbox"/> Reducing use of agency nurses	<input type="checkbox"/> Reducing Medicare claims rejection <input type="checkbox"/> Reducing intravenous medication waste

Source: Health Care Advisory Board: *Series on TQM*. The Advisory Board Company, Washington, D.C., 1992.

5.5 REFERRAL SYSTEM

The development of a formal structured mechanism of transferring a patient from one facility to another is incorporated in “The Health Prevention and Promotion Strategies”, one of the Six Priority Programmes of the MOH. Recognizing that “the referral system is not functioning and do not allow referral of patients and case management of referred patients”⁷ as a problem, the MOH declared as one of its policies: “The expansion of health care network aims to develop a complete and comprehensive system providing quality services in adequate quantities with a referral system that reaches all the people in the country and is adapted to the needs and capacities at all levels.” Towards the implementation of this policy, it adopted a five-pronged strategy of upgrading and equipping district and provincial hospitals, enhancing ability of

⁷ MOH, 2000, op. cit.

communities to recognize early and refer diseases with complications, allocating sufficient qualified staff in referral facilities, upgrading their skills through improved pre-service and in-service training, and setting up of clinical mobile teams.

Although a system remains to be established, some of the building blocks of a referral system are being developed already. For one, the blueprint for regional hospitals is already in the pipeline. It envisions the upgrading of provincial hospitals in Luangphrabang and Oudomxay as regional hospitals for the north and Savannakhet and Champasak for the south. Aside from being the provincial hospital of Vientiane Municipality, the Sethathirath Hospital is planned to be regional hospital for central provinces. Second, the MOH is in the process of expanding its communication system. Although it was intended primarily to improve the flow of information among MOH units nationwide by complementing existing telecommunication facilities, the radio transceiver network can also be an important component of the referral system specially in transferring emergency cases.⁸ Third, referral forms were observed in some facilities that were visited by the MOH-JICA Study Team. The forms, introduced by World Bank, Asian Development Bank and by the local health authorities in Champasak, can be compared with the standard of the MOH Curative Department.

Aside from movements of patients, transfer of laboratory specimens can be included in the development of a referral system. At the moment, such transfers already exist. For example, the National Tuberculosis Centre collects sputum smears from provincial hospitals for quality control. In turn, it sends specimens for culture and sensitivity test to the Laboratory and Epidemiological Centre.

Even with the formal system still in a developmental stage, moving in and out of patients are observed in many parts of Lao PDR. In 2000, at least 21,338 patients were moved in to public health facilities all over the country.⁹ This accounts for 11.6% of the total admission. However, Phongsaly, Khammuane and Xaysomboun reported no patients being moved in even if 9, 18 and 2 percent, respectively, of their total discharges were patients who were moved out. Among all the districts, Xiengphone in Xayaboury has the highest rate (56%) of its total admissions being referred.

⁸ Sobue K: *Developing Radio Transceiver Network for EPI (EPISN) in Lao PDR*. 2001. Hand-outs.

⁹ MOH Health Statistics Division: *Report - Table 01B: Hospital Activities Year 2000*. 2001. Hand-outs.

CHAPTER 6 MATERNAL AND CHILD HEALTH

6.1 THE MOTHER AND CHILD HEALTH SITUATION IN LAOS

High quality mother and child health (MCH) is a prerequisite for the prosperity and well-being of the next generation. MCH is one of the Lao government's priority programmes, as stated in Article 20 of the Constitution and the 'Policy on Primary Health Care (PHC)' issued by the Ministry of Health (MOH) in 2000.

A chronological examination of the health status of mothers and children in Laos indicates steady progress during the past three decades. The infant mortality rate (IMR) has declined from 146 to 93, and the under 5 mortality rate (U5MR) from 218 to 143. The maternal mortality rate (MMR) declined from 650 in 1990 to 513 in 2000, while the total fertility rate (TFR) also fell from 6.2 to 5.4.

Table 6.1 Maternal and Child Health Related Indicators from 1970 to 2000 in Laos

Year	1970	1980	1990	1995	2000
IMR	146	127	108	104	93
U5MR	218	200	N.A	170	143
MMR	N.A	N.A	650	660	530
TFR	6.2	6.7	6.3	5.8	5.4
Illiteracy Rate for women (15 year-old more)	95	89	80	74	68

Source: World Bank, 2000, *Health, Nutrition and Population* URL www.devdata.worldbank.org/hnpstats, accessed on 13 September 2001

These figures are still among the highest in the region, however.

Table 6.2 Selected MCH Indicators for Countries in south-east Asia

Country	Laos	Cambodia	Myanmar	Vietnam	Thailand	China	Philippines	Malaysia
IMR 1998	96	104	80	31	30	38	32	9
U5MR 1998	116	163	113	42	37	47	44	10
MMR 1990-98	650	470	230	160	44	65	170	39
TFR	5.6	4.9	2.7	2.5	2.0	1.8	3.5	3.1

Source: TRF, ESCAP Population Data Sheet 1999; IMR, U5MR, MMR, UNDP Human Development Index 2000

The tables below compare estimates of IMR, U5MR and MMR arrived at by two major surveys, the National Health Survey and the Lao Reproductive Health Survey (Table 6.3 and Table 6.4).

Table 6.3 IMR, U5MR and MMR by Lao Reproductive Health Survey 2000

	Whole country	Resident		Region		
		Urban	Rural	North	Central	South
IMR	82	42	87	88	76	87
U5MR	107	49	114	118	99	107
MMR	530	170	580	540	440	700

Source: SPC and NSC, 2001, Lao Reproductive Health Survey 2000

Table 6.4 IMR, U5MR and MMR by National Health Survey 2000

	Whole country	Resident		Region		
		Urban	Rural	North	Central	South
IMR	75	38	79	80	69	79
U5MR	97	44	104	107	89	97
MMR	500	150	550	520	410	660

Source: MOH, 2000, National Health Survey 2000

Both surveys show significant differences between rural and urban areas. The IMR and U5MR in rural areas are twice and 2.3 times the rate for urban areas. Both rates are lower in the central region than in the south and north. MMR statistics also show a significant disparity between the urban and rural areas with the rural rate 3.4 times the urban rate.

These data illustrate the need to pay special attention to the health status of rural populations.

6.2 SAFE MOTHERHOOD: PREGNANCY AND DELIVERY

Although MMR declined steadily from 650 per 100,000 live births in 1990 to 530 live births in 2000, the figure is still one of the highest in South-East Asia.

In principle, to lower MMR and prevent neonatal deaths, it is essential to ensure the following: 1) antenatal care (ANC) and postnatal care; 2) clean and safe delivery; and 3) emergency obstetric care. Below are brief overviews of each issue.

6.2.1 Antenatal and Postnatal Care

Many studies have demonstrated a close correlation between child mortality and high-risk fertility behaviour. High-risk behaviour includes early pregnancies (below the age of 18), late

pregnancies (over the age of 34), short intervals between births (less than 24 months), and too many deliveries (three or more previous deliveries). Medical problems include anaemia, symptoms of toxemia of pregnancy (gestosis) such as high blood pressure and oedema. If a woman with any of these symptoms is not treated properly, there is a grave risk to her life at the time of delivery. Inadequate postnatal care is a major factor in increasing maternal mortality and morbidity. Abnormal postpartum signs include high fever and profuse bleeding. Antenatal care (ANC), birth spacing and postnatal care are effective measures to prevent these antenatal and postnatal risks¹.

(1) Antenatal Care (ANC)

Regular antenatal care visits are effective in identifying risk factors during pregnancy and in giving proper and timely treatment for toxemia of pregnancy.

In Laos, however, only 24 % of births receive antenatal care. The gap between urban and rural areas is stark with 73 % for the urban women and 18 % for the rural women². The proportion of births receiving antenatal care closely correlate with the mother's educational level, with 8 % for mothers with no education and 98 % for mothers with higher secondary education. At the moment, antenatal care is available at provincial MCH clinics, district hospitals, and health centres, or from MCH outreach activities at village level.

In addition to lack of awareness amongst pregnant women and their families, the low proportion of mothers receiving antenatal care is due to the shortage of health personnel to provide such services and lack of availability of antenatal care.

(2) Reproductive Health / Birth Spacing (B/S)

The high maternal mortality rate is closely associated with a high fertility rate. The figures for Laos for both are amongst the highest in the region. With regard to birth intervals, 31 % of births occurs within 24 months of the previous birth³.

The Birth Spacing Programme was launched in Laos in 1994 and the National Birth Spacing Policy was adopted in February 1995. The National Birth Spacing Policy states that "population concerns are related to the health and well-being of the predominantly rural population and perceived in terms of high maternal and infant morbidity and mortality and not primarily in demographic Provincial Hospital terms". It covers a variety of issues such as programme management, contraceptive methods, service delivery, information education communication (IEC), clinic management, fertility, and the import of contraceptives.

¹ SPC and NSC, 2001, Lao Reproductive Health Survey 2000

² SPC and NSC, 2001, op.cit.

³ SPC and NSC, 2001, op.cit.

According to the Lao Reproductive Health Survey 2000, 40% of married women practise birth spacing. Urban women (69%) are more likely to practise birth spacing than rural women (35%). The use of birth spacing methods is also closely linked with the mother’s educational level. Only 17.5% of married women with no education use birth spacing, while 85% of married women with higher secondary education do so.

Since 1994, the Birth Spacing Programme has rapidly expanded its coverage in cooperation with UNFPA and birth spacing services were available at all provincial and district hospitals and at 542 health centres by the year 2000. The services available at these facilities are shown in the Table 6.3. Only specially trained medical doctors, medical assistants, midwives and nurses are allowed to apply intrauterine devices (IUD).

Table 6.3 Available Birth Spacing Methods at Each Health Facility

Provincial Hospital	District Hospital	Health Centre
- Consultation	- Consultation	- Consultation
- Pill	- Pill	- Pill
- Injection	- Injection	- Injection
- Condom	- Condom	- Condom
- IUD	- IUD	- IUD
- Female sterilisation		
- Male sterilisation		

Source: MCHC, MOH, 2001

Information on birth spacing has reached approximately 5,100 villages through village health volunteers (VHV). The plan to achieve full coverage by the year 2005 through VHVs is now being developed.

According to the Lao Reproductive Health Survey 2000, 13% of the population belongs to the 0-4 age group , while less than 15% belong to the 5-9 age group. The figures for the urban population are 13% and 10% respectively, and 16% and 14% for the rural population. These figures suggest that fertility has been declining in urban areas.

(3) Postnatal Care

Postnatal care means care of the mother and newborn child after delivery. The MOH Policy on Maternal and Child Health - Safe Motherhood states that “health check ups should be encouraged for all post-partum women either at home or in health centres or hospitals”. The post-partum check-up for the mother consists of examining “the evolution of the uterus”, “condition of breasts, milk production”, and identifying any “symptoms suggesting complications: infection, anaemia, haemorrhage”, “problems with urination and defecation” and “problems with sleeping and other disturbances”. The check up for the new-born consists

of “weighing”, “checking cord stump”, “immunisation as required”, “monitoring and supervision of breast feeding” and any “health and body growth problems”. 13% of births receive postnatal care in Laos according to the annual report of the Maternal and Child Health Centre (MCHC) in 2000.

6.2.2 Clean and Safe Delivery

Childbearing is part of the woman’s life cycle. However, unsanitary handling, and inappropriate instruction and treatment could put the lives of both the mother and the child at risk.

In Laos, 86% of women give birth at home. Regionally, the figure is 79% for the central region, 92% for the north and south⁴. The Policies on Maternal and Child Health Particularly Safe Motherhood in Lao PDR (the Safe motherhood Policy) promotes “the five cleans”, which ensure cleanliness of attendant’s hands, clean delivery area, clean perineum, clean cutting of the umbilical cord and care of cord. At medical facilities, emphasis is put on clean hands, clean delivery surface, and clean cutting and care of cord, known as “the three cleans”. However, it is unclear to what extent these concepts are known and put into practice.

6.2.3 Emergency obstetric care

(1) Assistance at Delivery by Health Staff

Obstetric emergencies during delivery, such as flooding, require assistance from health professionals who are familiar with the first aid of emergency obstetric care. In Laos, 55% of births are assisted by relatives (usually mother) or friends and 8% of births are done alone without any assistance, while only 17% are assisted by health professionals (doctor, nurse, midwife, health worker). There is an urban-rural disparity in receiving assistance by health professionals, with 64% for urban and 12% for rural areas⁵.

(2) Providers of Emergency Care

The Safe Motherhood Policy designates provincial and district hospitals as the providers of emergency obstetric services. The role of health centres is restricted to assistance to normal delivery and referral in case of complications.

⁴ SPC and NSC, 2001, Lao Reproductive Health Survey 2000

⁵ SPC and NSC, 2001, op.cit.

Table 6.4 Emergency Obstetric Care Services at Provincial and District Hospitals

Provincial Hospital	District Hospital
<ul style="list-style-type: none">- Manual removal of Placenta- Emergency treatment of incomplete abortion- Blood transfusion- Caesarean- Surgical management of ruptured uterus	<ul style="list-style-type: none">- Manual removal of Placenta- Emergency treatment of incomplete abortion

Source: MOH, 1997, Policies on Maternal and Child Health Particularly Safe Motherhood in Lao PDR

Nevertheless, not all provincial hospitals have a stationed obstetrician and, at some hospitals, a surgeon provides obstetric care instead. A protocol on emergency obstetric and gynaecological care is now being developed by the Maternal and Child Health Centre together with the Curative Department of the MOH.

(3) Referral System and Obstacles to Services

When problems and complications are detected early through antenatal care or problems occur during delivery, it is necessary to refer the woman to the provincial hospital so that she can receive essential obstetric services from medical professionals. In Laos, this means referring the woman to the provincial hospital through the health centre or district hospital. However, it is difficult to make a referral as an effective public referral system, in many cases, is not in place. Moreover, it is left to the family to find a means of transport and pay for the fare.

In rural areas, where only 5% of women deliver at hospital compared to 91% who give birth at home, 79% of villages are located over 5 km from the nearest hospital, of which 46% are over 16 km away⁶. As district hospitals are also included in this figure, the physical accessibility of provincial hospitals is clearly much worse. Under these circumstances, a referral is especially difficult in rural areas.

In case of home delivery, as access from the village to the provincial hospital is usually poor, if possibly dangerous conditions are suspected through antenatal care, it would be advisable to choose whether to deliver in the proximity of the provincial hospital or to deliver at the health facility in advance. However, there are numerous socio-economic and cultural deterrents to making such choices. These include economic factors such as fares for transport, hospital charges, medical expenses and food expenses, mental and social factors such as anxiety over being absent from framework, childbearing and household chores as well as cultural factors such as opposition from relatives or the community. At the moment, there is no referral system in place which considers these factors.

⁶ MOH, 2000, National Health Survey 2000

6.3 CHILD HEALTH

The key indicators of child health - MMR and U5MR - demonstrate a gradual decline in Laos. Major causes of child morbidity and mortality are infectious diseases such as malaria, acute respiratory infections (ARI) and diarrhoea diseases. The Expanded Programme on Immunisation (EPI) is one of the major factors in lowering child morbidity and mortality.

Table 6.5 Number of Cases and Deaths from Preventable Diseases

	Cases					Deaths				
	1996*	1997	1998	1999	2000	1996	1997	1998	1999	2000
Diphtheria	174	9	8	6	3	2	4	1	5	1
Pertussis	175	221	252	271	80	0	0	0	1	0
NNT	17	12	17	18	21	8	6	11	9	5
Measles	943	671	4613	2303	332	21	0	31	44	2
Polio	21	0	0	0	0	0	0	0	0	0

Source: WHO, JICA, MOH

Note: * The figures in 1996 are based on clinical confirmation.

** Measures against these infectious diseases will be discussed in Chapter 10.

Child health is also greatly influenced by the environment for children and childcare within the household. Especially in farming societies, while the mother is working, the grandmother or older siblings often take care of the infant. It is unclear as to what extent essential childcare information, such as sanitation, appropriate foods for weaning reaches to not only mothers but also other caretakers.

As a measure against the diseases which are the major causes of child morbidity and mortality, the MCHC combined all the independent programmes (ARI, control of diarrhoea, EPI, nutrition) to form the Integrated Management of Child Illness (IMCI) Programme and has been conducting pilot projects in 3 districts in 3 provinces.

There is a strong correlation between the health of the newborn and the mother's health. To prevent neonatal tetanus, tetanus toxoid immunisation for 15-45 year-old women was introduced. Coverage has been steadily increasing (37% by 2000) but is still amongst the worst in Asia. WHO is planning to carry out a study into the current situation of neonatal tetanus in 2001.

6.4 EXPANDED PROGRAMME ON IMMUNISATION (EPI)

The Expanded Programme on Immunisation (EPI) began in 1979. EPI was targeting on 22 districts in 10 provinces by 1985 and covered 97 districts (80%) by 1991. Full EPI coverage was achieved in 1997⁷.

The rapid development of the EPI Programme can be explained by the joint efforts and commitment of the MOH and donor agencies (WHO, UNICEF, JICA, AUSAID) for the major goal of polio eradication, in taking various measures including vaccine provision, set-up of the cold chain, staff training, promoting outreach activities and strengthened surveillance systems.

Table 6.6 Immunisation Coverage (%)

	Reported EPI coverage				
	1990	1995	1998	1999*	2000
BCG<1 year	31	59	54	59	58
DPT3	21	54	53	52	52
Polio (OPV3)	26	65	64	61	57
Measles (9-23 month)	29	68	67	65	60
TT2+	11	35	32	36	37
TT2+ (15-45)	10	49	46	55	56

Source: WHO, JICA, MOH

Note: * The figures in 1999 are based on clinical confirmation.

Table 6.7 Immunisation Coverage Under the Age of One of Countries in South-East Asia 1995-97

	Laos	Cambodia	Myanmar	China	Vietnam	Thailand	Philippines	Malaysia
BCG	58	82	94	96	96	98	82	100
DPT	60	70	90	96	95	94	70	91
Polio	69	70	90	97	95	94	67	90
Measles	67	68	88	96	96	91	72	89
TT2+	32	31	83	13	84	88	46	81

Source: UNICEF, 1999, The State of the World's Children

In the EPI Programme, outreach teams are formed at the district level. The outreach teams engage in various activities, ranging from a regular visit to the target villages, and health education to advocacy through special events. The National Immunisation Day was reduced to the Sub-National Immunisation Day in 1999 observed only in high-risk districts and ended altogether in 2000.

A declaration on the eradication of polio in the Western Pacific Region was made in 2000. However, there is a danger that Laos risks being struck again by polio given that it shares borders with China and Myanmar, where polio is still endemic. Moreover, there is a legitimate concern that the declaration on polio eradication might result in reduced funds and activities and subsequently declining immunisation coverage, which would not be easily restored.

6.5 NUTRITION

Nutrition issue is intrinsic to maternal and child health. Insufficient nutritious intake causes chronic malnutrition, leading to chronic energy deficit and malfunction of the immune system making the person vulnerable to various diseases including communicable diseases and parasites.

The nutritious problem can be largely divided into two types: protein energy malnutrition and micronutrient deficiencies.

The MOH is currently taking measures against iodine deficiency disorders (IDD), iron deficiency anaemia (IDA) and vitamin A deficiency (VAD).

6.5.1 Protein Energy Malnutrition (PEM)

As the so-called People of the Forest, the Lao have long relied heavily on forests for supplementary foods, but wild foods are becoming increasingly scarce due to deforestation and the resettlement programmes.

Underweight, stunting and wasting due to under-nourishment are pervasive in Laos. According to the 'Multiple Indicator Cluster Survey (MICS II 2000)', 40% of children below the age of 5 are underweight, of whom 12.9% are severely underweight. 20% of children are stunted, and 3% wasted.

Poor growth and development of the child can be attributed to poor nutritious status of the mother during pregnancy and poor breastfeeding and weaning practices. Although the problem of stunting is often dismissed as an ethnic characteristic, this apparent explanation does not account for discrepancies within the same ethnic group.

6.5.2 Micro-nutrient Deficiencies

(1) Iodine Deficiency Disease (IDD)

⁷ Kuroiwa C., 2000, Progress on the Polio Eradication Campaign in Lao PDR (the original is in Japanese)

(1) Iodine Deficiency Disease (IDD)

Iodine exerts a significant effect on the thyroid gland, and insufficient intake of iodine may result in goitre and physical/mental sluggishness. The most debilitating effect of iodine deficiency is a condition known as cretinism. A landlocked country like Laos is liable to be chronically lacking in iodine. Goitre surveys among 6-12 year olds by palpation reveals 9% are suspected of goitre. Girls are more affected by goitre than boys, with figures of 10.1% and 7.9% respectively.

In testing the urinary iodine concentration of children of ages 8-12, it was found that 7.0% were classified as having iodine deficiency disorders. Girls (9.1%) were again more likely to suffer from IDD than boys (5.2%)⁸.

As measures against IDD, the Lao government issued a Prime Ministerial decree requiring that all salt on the market must be iodised, and encouraging adding iodine to home-made salt, as has been introduced in the north as part of a UNICEF initiative. More than 75% of households now use adequately iodised salt (15 ppm or more)⁹.

(2) Iron Deficiency Anaemia (IDA)

Iron deficiency is one of the major causes of anaemia. Anaemia is a common nutrient-related disease and it may be caused by not only want of iron but also of other nutrients such as vitamin B and folic acid. It can also induced by hookworms and malaria.

26 % of the sample population are moderately anaemic (haemoglobin=7-<11g/dl). Women are more anaemic than men with 30 % and 22 % respectively. Regionally, people in the south (31%) suffer more than those in the centre (26%) or the north (21%).

1.2 % are severely anaemic (haemoglobin=4-7g/dl). There is no big gender-disparity with 10.1 % for women and 7.9 % for men. Regionally, severe anaemia is found more in the south (1.7%) than in the centre (1.1%) or the north (0.9%)¹⁰.

In Laos, severe anaemia during pregnancy is still widespread. Currently, iron supplements are supplied to pregnant women during antenatal care visits to help them meet the very high needs of pregnancy and childbirth. However, only 23 % of women have ever received antenatal care. Moreover, although the MCH programme recommends pregnant women to take at least 90 iron pills during pregnancy, no health facilities gives 90 supplements at one time. One survey shows that virtually no woman took 90 pills during her latest pregnancy, while 6 % of women

⁸ SPC and NSC, 2000, National Health Survey 2000

⁹ SPC and NSC, 2000, op.cit.

¹⁰ SPC and NSC, 2000, op.cit.

took fewer than 90 pills and 93 % took none at all.¹¹ As iron pills have side effects (constipation) and do not taste good, it is expected that a certain proportion of women will not take them even if given.

(3) Vitamin A Deficiency (VAD)

Deficiency of vitamin A impairs a person's immune systems making them especially vulnerable to infection. It is also a major cause of nyctalopia (night blindness). Vitamin A deficiency was found in 3.1% of 6-59 month children and 11% of women aged 15-49 who have given birth in the 12 months prior to the survey¹².

The Lao government recommends giving one dose of 100,000IU vitamin A to children aged 6-12 months and one high dose of 200,000IU to older children. Vitamin A supplements are also given to women who seek antenatal care (ANC). Despite these efforts, only 28.8% of children and 4.4% of women take vitamin A supplements¹³. Carotene, a precursor of vitamin A, is found in green leafy vegetables, orange and yellow fruits and so eating a variety of foods rich in carotene can also reduce vitamin A deficiency.

6.5.3 Breastfeeding

Breastfeeding has many positive effects on infant growth and development. Colostrum contains essential antibodies and has the effect of preventing certain bacteria and infectious diseases. In Laos, 70% of mothers breastfeed their infants within 1 hour of delivery, and 32% give colostrums.

95% of children have been breastfed, but the majority ceased to be breastfed before reaching the age of 2. Main reasons for ceasing breastfeeding are the mother's subsequent pregnancy (34%), and the mother working outside (22%)¹⁴. In some cases, the mother starts going out for agricultural work only a few weeks after delivery and the infant cannot be breastfed while she is away. In such a case, elder siblings or grandmothers usually take care of the infant. Instead of breast-milk, chewed glutinous rice or water-diluted condensed milk are often given to the infants within a few weeks of birth. This practice is a cause of diarrhoea.

¹¹ UNFPA, 2001, Report of the Lao Reproductive Health Survey 2000.

¹² SPC and NSC, 2001, Multiple Indicator Cluster Survey MICII 2000

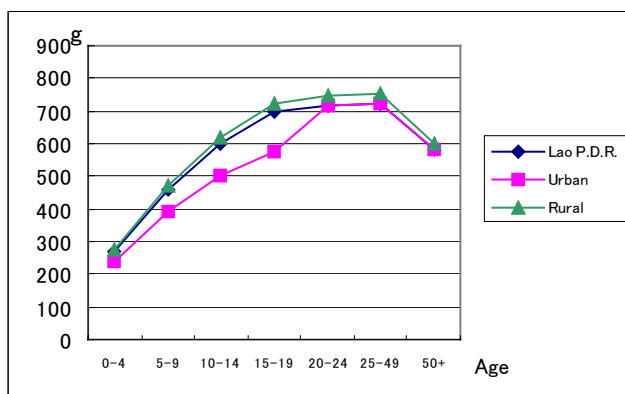
¹³ SPC and NSC, 2001, op.cit.

¹⁴ SPC and NSC, 2000, National Health Survey 2000

6.5.4 Food Habits

99 % of the Lao population consumes rice as their daily staple food. The average daily intake of rice is 582 grams and rural populations consume twice as much as their urban counterparts¹⁵.

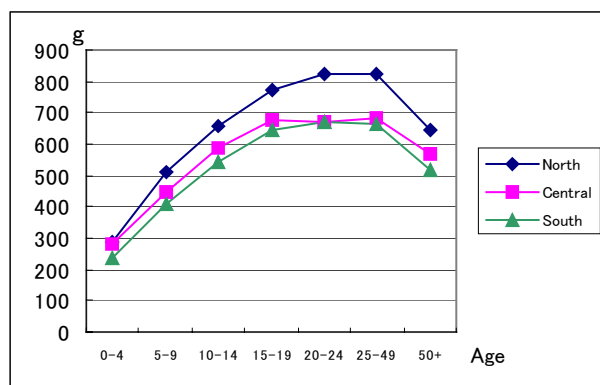
Figure 6.1 Daily Rice Intake in Grams per Person by Age and Area



Source: SPC and NSC, 1999, Lao Expenditure and Consumption Survey 1997/98

Regionally, the rice intake for the north (644g) is higher than in the centre (564g) and the south (526g).

Figure 6.2 Daily Rice Intake in Grams per Person by Age and Region

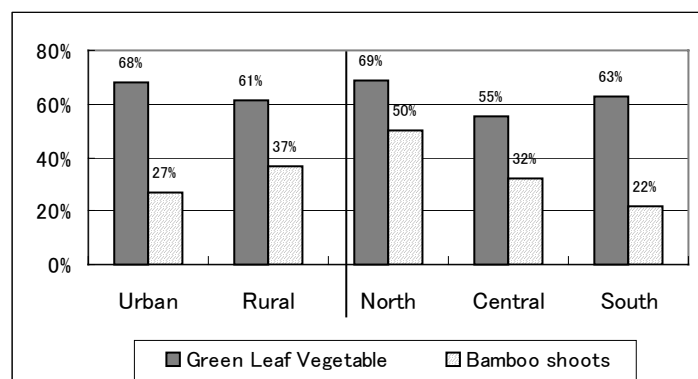


Source: SPC and NSC, 1999, Lao Expenditure and Consumption Survey 1997/98

Green vegetables are consumed more in the urban than in rural areas and bamboo shoots are consumed 2.2 times more in the north than in the south.

¹⁵ SPC and NSC, 1999, Lao Expenditure and Consumption Survey 1997/98

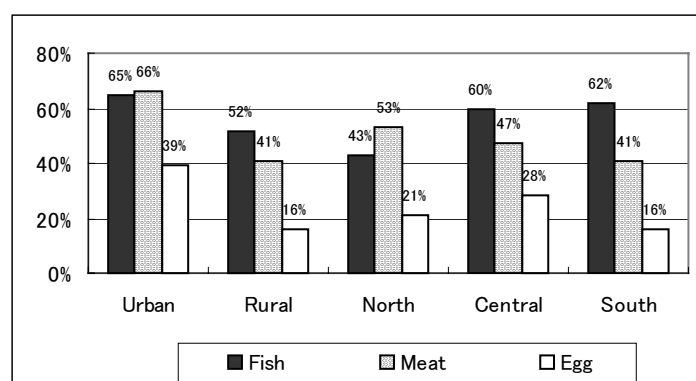
Figure 6.3 Food Frequency for Green Vegetables and Bamboo Shoots



Source: MOH, 2000, National Health Survey 2000

There is an urban-rural disparity in the intake of foods rich in protein, such as fish (1.2 times more in urban areas), meat (1.5 times) and eggs (2.4 times). Regionally, fish is consumed more than other foods in the centre and south, while meat is consumed most in the north.

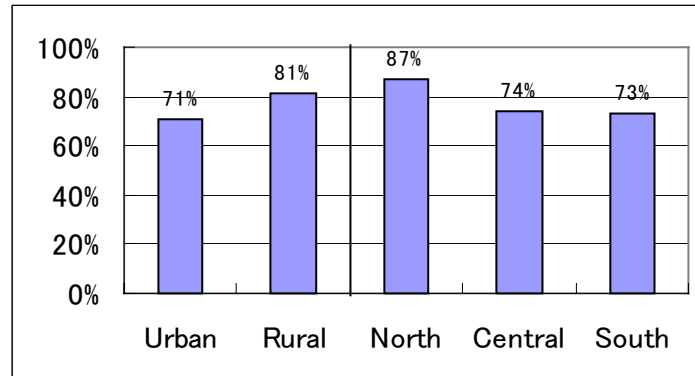
Figure 6.4 Food Frequency of Fish, Meat and Eggs



Source: MOH, 2000, National Health Survey 2000

It is customary among many groups for women to restrict the kind of foods they eat before and after delivery. According to the National Health survey 2000, 78% of women practiced food restriction during the post-partum period. Rural women (81%) are more likely to follow this custom than urban women (71%), although the gap is slim. Regionally, this is practised more in the north (88%) than the other regions.

Figure 6.5 Food Restriction after Delivery



Source: MOH, 2000, National Health Survey 2000

There are regional, and urban-rural disparities in food intake. Differences can be seen by province, ethnic group, income level and season.

Likewise, regional and urban-rural disparities are seen in food restriction after delivery. In a multi-ethnic country like Laos, this gap can vary according to the tradition and customs of each ethnic group, though the details of food restriction are yet to be catalogued.

In terms of nutrition, unbalanced diet and restrictions on food intake are seen in some regions. These problems can be easily prevented if appropriate nutritional education reaches the grassroots. For example, IDA and VAD can be avoided by improving the diet. However, in addition to the absence of dietitians and training in dietetics, few comprehensive studies have ever been conducted which also encompass social and cultural factors.

ever, conducted which encompass social, cultural factors.

6.6 ORGANISATION

Within the MOH, the Maternal and Child Health Centre (MCHC) and the MCH Division of the Department of Hygiene and Preventive are responsible for maternal and child health affairs.

6.6.1 Central Level

The provision of MCH services is in the overall charge of the MCHC at central level. The MCHC is composed of the MCH Hospital and the Promotion Section. Although EPI is a division of the MCHC Promotion Section, it has its own premises as well as personnel. The Promotion Section consists of 6 divisions (administration, training, IEC, technical supervision, planning/statistics and research).

The MCH Hospital has a paediatrics and an obstetrics and gynaecology department and caters for both in-patients and outpatients. It has 30 beds. The MCHC as a whole places more emphasis on research than treatment.

Table 6.8 Personnel Composition of the MCHC

Category	Promotion	Hospital	EPI	Total
Total	45	73	20	138
Female	32	49	6	87
Male	13	24	14	51
Postgraduate	4	3	1	2
Physician	32	29	11	72
Medical Assistant	3	30	3	35
Nurse	0	3	0	3
Contractor	6	8	5	19

Source: MCHC, MOH, 2001

6.6.2 Provincial and District Levels

At the provincial level, the MCH Unit (administration) is responsible for planning, disbursing funds for and supervising the district MCH Unit.

Provincial hospitals provide MCH care services. The MCH Clinic provides preventive services including antenatal care, birth spacing, EPI and child growth monitoring. An MCH Clinic is located in each province - in most cases, in the compound of the provincial hospital. In Oudomxay and Xiengkhuang, the MCH Clinic is on separate premises for it's the sake of convenience. Curative services are provided by the Paediatric Department or the Obstetrics and Gynaecology Department of the Provincial Hospital.

At district level, the MCH Unit of the District Health Office is responsible for general administration. The District Health Office also conducts outreach activities for EPI and birth spacing, training village health volunteers (VHV) and monitoring.

Although the District Hospital provides both preventive and curative services, more emphasis is placed on preventive services and the level of curative services is limited. In the EPI Programme, staff of the District Health Office visit every target village. Target villages are classified into Zones according to distance from the nearest health facility. The EPI Programme has begun the Zone 0 strategy, in which people within Zone 0 (all villages within a 3 km radius of a health facility) are encouraged to attend the MCH clinic for EPI services as well as other MCH services rather than waiting for an outreach team to come to them.

In some districts, when visiting villages for vaccination for EPI-PLUS, the team also conducts other activities such as health education and child growth monitoring.

At the peripheral level, health centres conduct mainly preventive activities such as antenatal care, birth spacing, EPI and child growth monitoring. MCH activities are one of its major activities and some centres also handle delivery depending on the skills of health staff and the availability of equipment.

Medical services which are allowed to be practised at the provincial hospitals, district hospitals and health centres under the Safe Motherhood Policy are shown in Table 6.9.

Table 6.9 Medical Services Allowed to be Practised at each level as per the Safe Motherhood Policy

Health Centre	District Hospital	Provincial Hospital
ANC	ANC	ANC
Normal Delivery	Normal Delivery	Normal Delivery
Refer in case of complication	Refer in case of complication	Health education
Health education	Health education	Manual removal of the Placenta
	Manual removal of the Placenta	Emergency treatment of incomplete abortion
	Refer gravidic-toxic cases to Provincial Hospital	Perform neonatal resuscitation
	Emergency treatment of incomplete abortion	Blood transfusion
	Perform neonatal resuscitation	Anaesthesia
		Caesarean
		Surgical management of ruptures uterus
		Voluntary surgical contraception

Source: MOH,1997, Policies on Maternal and Child Health Particularly Safe motherhood in Lao PDR

At the village level, trained village health volunteers and traditional birth attendants (TBA) gives health information and health education to the villagers. Village health volunteers and traditional birth attendants serve as the focal point for the outreach team from the district health office and health centre.

A brief overview of the main activities at all levels has been given above, but obviously both the quality and quantity of each activity are greatly influenced by the level of skills and knowledge of the health staff. Within the MCHC, there is a plan to set standards for activities at each level but this is still awaiting approval.

It is desirable that MCH activities at the health centre and village levels (e.g. health education and VHV training) should be included in PHC activities. However, at the moment, there is little integration going on.

6.7 DONOR ACTIVITIES

WHO has given technical support to various programmes, such as the Safe Motherhood Programme, and Integrated Management of Child Illness (IMCI).

UNICEF has been working with a special focus on child health. In addition to nutrition-related programmes and the EPI programme, UNICEF has been actively involved in maternal health.

UNFPA has been working on reproductive health, closely collaborating with the MCH mainly on the birth spacing programme. As reproductive health covers not only birth spacing and Safe Motherhood but also various aspects of life such as sex education for youth, UNFPA has also been conducting information education communication (IEC) activities in close collaboration with not only the MOH but also other ministries.