
ESSENTIAL PUBLIC HEALTH FUNCTIONS

A three-country study in the
Western Pacific Region



World Health Organization
Regional Office for the Western Pacific
2003

WHO Library Cataloguing in Publication Data

Essential public health functions: a three-country study in the Western Pacific Region

1. Public health

ISBN 92 9061 082 4 (NLM Classification: WA 525)

© World Health Organization 2003

All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22 791 2476; fax: +41 22 791 4857; email: bookorders@who.int). Requests for permission to reproduce WHO publications, in part or in whole, or to translate them – whether for sale or for noncommercial distribution – should be addressed to Publications, at the above address (fax: +41 22 791 4806; email: permissions@who.int). For WHO Western Pacific Regional Publications, request for permission to reproduce should be addressed to Publications Office, World Health Organization, Regional Office for the Western Pacific, P.O. Box 2932, 1000, Manila, Philippines, Fax. No. (632) 521-1036, email: publications@wpro.who.int

CONTENTS

Acknowledgements	v
Foreword	vii
Preface	ix
Chapter 1: Introduction	1
1. The Western Pacific Region	1
2. Essential public health functions	1
3. Public health systems and their context	2
4. Structure and sustainability	7
5. Conceptual model for the project	15
6. Conclusions	16
Chapter 2: Aims, methodology and the EPHF framework	21
1. Aims and case study objectives	21
2. Project process	22
3. Methodology	22
4. Project processes	39
5. Glossary of practices	42
Chapter 3: Fiji case report	45
1. Contextual information	45
2. Methodology	54
3. Stocktake	56
4. Analysis of strengths, weaknesses, opportunities and threats of current organizational and delivery of EPHFs	68
5. Proposal to strengthen EPHF delivery	70
6. Conclusions	74
7. Recommendations	74

Chapter 4: Malaysia case report	79
1. Contextual information	79
2. Methodology	86
3. Stocktake	87
4. Analysis of strengths, weaknesses, opportunities and threats of current organization and delivery of EPHFs	90
5. Proposal to strengthen EPHF delivery	91
6. Conclusions	95
Chapter 5: Viet Nam case report	103
1. Contextual information	103
2. Methodology	110
3. Stocktake	114
4. Analysis of strengths, weaknesses, opportunities and threats of current organization and delivery of EPHFs	133
5. Proposal to strengthen EPHF delivery	135
6. Conclusions	139
Chapter 6: Discussions and conclusions	141
1. Comparisons between the case studies	141
2. Relevance of the three case studies to the Western Pacific Region	141
3. Scope, Methods and Timing	142
4. Extent of EPHFs and their governance and stewardship	144
5. The structure and sustainable delivery of EPHFs	146
6. Lessons learned	149
7. Conclusions	150

ACKNOWLEDGEMENTS

Completion of this project was only possible through the commitment and involvement of a large number of people. These included:

Fiji Advisory Group:

Dr Lepani Waqatakirewa, Director, Primary and Preventive Health Services, Ministry of Health (also a member of the International Project Team)

Dr Setareki Vatucawaqa, Sub-divisional Medical Officer, Rewa Subdivision

Dr Sala Saketa, Divisional Medical Officer, Northern District

Mr Alan Hodgkinson, Training Adviser, Australian Agency for International Development (AusAID) Health Management Reform Project, Ministry of Health, Suva

Ms Karen Denison- Biunaiwai, Lecturer in Health Service Management, Fiji School of Medicine

Mr. Navi Litidamu, Senior Lecturer in Environmental Health, Fiji School of Medicine

Ms Lorraine Kerse, Regional Adviser in Human Resource Development, WHO, Suva

Professor David Phillips, Professor of Public Health and Primary Care, Fiji School of Medicine.

Fiji Research Team (authors of Chapter 3):

Professor David Phillips, Professor of Public Health and Primary Care (Principal Investigator for Fiji and also a member of the International Project Team).

Mr Navi Litidamu, Senior Lecturer in Environmental Health

Dr Berlin Kafoa, Lecturer in Health Service Management

Dr Iris Wainiqolo, Lecturer in Primary Care

Dr Phyllis Hotchin, Lecturer in Primary Care

Mr Madhukar Pande, Lecturer in Social Science

(All Fiji Research Team members were based at the Fiji School of Medicine).

Malaysia Advisory Group:

Datu Dr Mohamad Taha Arif, Director General of Health

Dr Lee Cheow Pheng, Director, Communicable Disease Control Division

Dr Narimah Awin, Director, Family Health Development Division

Datin Dr S Selvaraju, Director, Planning and Development Division

Datin Dr Harrison Aziz, Director, Food Quality Control Division

Dato' Dr Wan Mohamad Nasir Wan Osman, Deputy Director, Oral Health Division

Mr Sarjit Singh, Director, Health Education and Communication Centre

Professor Jason Teoh, Lecturer, Department of Social and Preventive Medicine, University Malaya

Dr Zainol Arifin Pawanchee, Health Director of Kuala Lumpur City Hall

Dr Suleiman Che Rus, Director, Institute of Public Health

Professor Syed Mohamad Al Junid, Lecturer, Community Health Department, National University of Malaysia

Ms Sabariah Hassan, Assistant Secretary, Human Resource Division

Mr Zulkifli A Rahman, Chief Public Health Inspector, Public Health Department

Ms Datin Shamsiah Omar, Principal Matron, Malaysian Nursing Board

Mr Mansor Fenner, Principal Tutor, Institute of Public Health.

(Malaysia Advisory Group members were employees of the Ministry of Health, Malaysia, unless otherwise indicated.)

Malaysia Research Team (authors of Chapter 4):

Dr Narimah Awin (Chairperson), Director, Family Health Development Division

Dr Maimunah A. Hamid, Head, Health Systems Research, Institute of Public Health (Principal Investigator for Malaysia and also a member of the International Project Team)

Dr Safurah Hj Jafaar, Principal Assistant Director, Family Health Development Division (also a member of the International Project Team)

Dr Mohd Safiee Ismail, Assistant Director, Family Health Development Division

Dr Noridah Mohd Saleh, Assistant Director, Family Health Development Division

Ms Low Lee Lan, Research Officer, Health Systems Research Division

Ms Haniza Mohd Anuar, Senior Research Officer, Institute of Public Health

Dr Zailan Dato' Hj Adnan, Principal Assistant Director, Institute of Health Management

Dr Siti Rafiaah Ismail, Senior Medical Officer of Health, Institute of Public Health

Dr Zainal Abidin Abu Bakar, Assistant Director, Family Health Development Division

Ms Dayang Annie Abang Narudin, Chief Public Health Matron, Family Health Development Division

Mr Hj Zainal Abd Ghaffar, Senior Public Health Inspector, Public Health Department

Mr Mohd Radzi Abdullah, Chief Public Health Medical Assistant, Family Health Development Division

(All Malaysia Research Team members were employees of the Ministry of Health, Malaysia.)

Viet Nam Advisory Group:

Professor Do Nguyen Phuon, Minister of Health (chairman)

Professor Nguyen Van Thuong, Vice Minister of Health.

Professor Le Ngoc Trong, Vice Minister of Health.

Professor Pham Manh Hung, Vice Minister of Health.

Professor Nguyen Van Dip, Director, Department of Science and Training, Ministry of Health.

Professor Dao Ngoc Phong, Hanoi Medical School.

Dr Trinh Quan Huan, Director, Department of Preventive Medicine, Ministry of Health.

Dr Duong Huy Lieu, Director, Department of Planning, Ministry of Health.

Dr Ngo Toan Dinh, Director, Department of Personnel, Ministry of Health.

Le Thi Thu Ha, Deputy Director, Department of International Co-operation, Ministry of Health.

Viet Nam Research Team (authors of Chapter 5):

Dr Le Vu Anh, Dean (Principal Investigator for Viet Nam and also a member of the International Project Team)

Dr Vu Xuan Phu, Faculty member (coordinator for this project)

Dr Phan Van Tuong, Deputy Head of Department (coordinator for this project)

Dr Nguyen Van Man, Head, Training and Research Department

Dr Pham Tri Dung, Deputy Head of Department

Nguyen Thanh Huong, Faculty member

Dr Le Nhan Phuong, Development fellow

Pham Viet Cuong, Faculty member.

(All members of the Viet Nam Research Team were based at the Hanoi School of Public Health.)

International Consultant

Associate Professor Gillian Durham (International Project Team member)

Dr Durham provided substantial early work that initially enabled the International Project Team to successfully develop the research methodology, including development of the essential public health functions used in this study, during their initial meeting in June 2000. In addition, she provided substantial ongoing support for the country teams during their development and undertaking of the in-country research, as well as peer review for the draft case study reports. She is the primary author of Chapters 1, 2 and 6.

The International Project Team (IPT) also wishes to acknowledge the important and substantial role played by many hundreds of people who contributed to the research in Fiji, Malaysia and Viet Nam. These include contributors to workshops and focus groups, interviewees, and numerous other people who enabled and assisted the project to proceed successfully. In addition, the IPT wishes to thank Malaysia for generously organizing and hosting the second meeting of the IPT in Kelantan in February 2001.

On behalf of the International Project Team,

Dr Graham Harrison
Regional Adviser in Health Systems Development
Regional Office for the Western Pacific
World Health Organization

FOREWORD

Public health is a core element of governments' attempts to improve and promote the health and welfare of their citizens. For many centuries, public health focused on hygiene, sanitation and communicable disease control, but recently it has expanded to include areas of emerging social concern. The public health infrastructure is also expected to respond to such issues as new technologies, the effects of globalization, migration and the potential use of bioterrorism. Unfortunately, there is evidence that current public health systems and services are not able to cope well with these modern challenges. In addition, recent experiences in containing the SARS (severe acute respiratory syndrome) virus have demonstrated gaps in current resources and public health infrastructure for more traditional public health activities. This is evident in both developed and developing countries.

Every country needs an effective, comprehensive and suitably resourced public health infrastructure. To strengthen public health, however, countries must have a clear understanding of what public health infrastructure they should have in place. Although the core areas of public health are generally understood, in many cases it has proved difficult for countries to define these further in a more detailed and systematic way. It is, therefore, difficult to ensure that public health activities are comprehensive and coordinated.

This project has identified one way of dealing with this problem. By drawing on research in other parts of the world, nine essential public health functions (EPHFs) have been derived that are considered appropriate for the Western Pacific Region. These nine EPHFs define more clearly and systematically the core areas of public health work for which governments are ultimately responsible. Governments need to ensure these essential

functions are provided, but do not necessarily have to implement and finance them themselves; implementation may be achieved through other government agencies, community and nongovernmental organizations, or the private sector, among others.

The EPHFs derived for this study were tested through the use of three country case studies in Fiji, Malaysia and Viet Nam. This document provides background information on the nine EPHFs developed, as well as a concise report on each of the three case studies, including a proposal to strengthen public health in each country.

It is hoped that the EPHF concept will help countries ensure that they develop and sustain a comprehensive approach to public health. The case studies may also provide ideas for other countries on methods that could be used to examine the current functioning of EPHFs, and on different approaches for strengthening these essential functions in different health systems. WHO plans to continue work on EPHFs in the Western Pacific Region, and feedback from readers of this report would be welcomed.



Shigeru Omi, MD, Ph.D.
Regional Director
World Health Organization
Regional Office for the
Western Pacific

PREFACE

This report has been prepared for the World Health Organization Regional Office for the Western Pacific. The project's primary purpose was to identify options for the structure and sustainable delivery of essential public health functions, with a particular focus on those functions necessary at an operational level and not just the policy functions undertaken at central level by ministries of health or equivalent.

To achieve this, three case studies were undertaken with the following objectives:

- (1) To describe the extent of essential public health functions, and their governance and stewardship;
- (2) to identify a proposal(s) for structuring and ensuring the sustainable delivery of essential public health functions in the Western Pacific Region, including the role of primary health care; and
- (3) to identify the impact on the proposal(s) from potential changes in the health sector and beyond.

This report provides justification for focusing on essential public health functions, and sets these functions within both a health service/health system context and the larger framework in which health systems operate. The report then describes the methods and findings of three case studies on essential public health functions, conducted in Fiji, Malaysia and Viet Nam. Proposals for the structure and sustainable delivery of functions were identified in each country. The report draws together common threads from the three case studies that may be

used by the World Health Organization and Member States to consider the structure and sustainable delivery of essential public health functions in the Western Pacific Region.

The project was overseen by an International Project Team who kept in close contact, either through face-to-face meetings or electronically, throughout the conduct of the project. The members of this Team were:

- Dr Le Vu Anh, Dean, Hanoi School of Public Health, Ha Noi, Viet Nam
- Associate Professor Gillian Durham, Combined Universities Centre for Rural Health, Geraldton, Western Australia (now New Zealand Ministry of Health)
- Dr Maimunah A Hamid, Head, Health Systems Research Division, Public Health Institute, Ministry of Health, Kuala Lumpur, Malaysia
- Dr Safurah Jaafar, Principal Assistant Director, Public Health Department, Ministry of Health, Kuala Lumpur, Malaysia
- Professor David Phillips, Professor of Public Health and Primary Care, Fiji School of Medicine, Suva, Fiji
- Dr Lepani Waqatakirewa, Acting Director, Primary and Preventive Health Services, Ministry of Health, Suva, Fiji
- Dr Graham Harrison, Regional Adviser in Health Systems Development, WHO Western Pacific Regional Office, Manila, Philippines.

The International Project Team recognized that, while the primary purpose of the project was to meet the needs of the WHO Western Pacific Regional Office, the project would and should benefit the countries that agreed to be the subjects of the case studies. It was structured, therefore, to maintain a core component that ran throughout the project, while allowing country-specific deviations from the core, provided they did not undermine the project's overall integrity but allowed the project to be of value to both WHO and the case study country.

Readers should note that the case study reports contained in this report are only able to provide the reader with a taste of the work undertaken by the country

research teams. It has not been possible to summarize or incorporate many aspects of the findings into the concise reports contained herein. In addition, undertaking the project stimulated much discussion and thinking among participants/interviewees in the country case studies, enabling a much greater understanding by all who were associated with the project of essential public health functions at different levels within their countries.

This report should be seen as part of a continuing process to achieve the sustainable delivery of essential public health functions.

CHAPTER 1

INTRODUCTION

1. THE WESTERN PACIFIC REGION

The Western Pacific Region is one of the most diverse of the World Health Organization (WHO) regions. The population of about 1.6 billion, nearly one third of the world's population, is distributed over a vast area, from China in the north and west, to New Zealand in the south, and French Polynesia in the east. There are 37 Member States, including some of the world's least developed countries, smallest and largest economies, and most rapidly emerging economies (1).

This project, focusing on the structure and sustainable delivery of essential public health functions in the Western Pacific Region, is challenging in both scope and practice, in a region that is so diverse and on an issue that is so important to the overall effectiveness of health systems.

2. ESSENTIAL PUBLIC HEALTH FUNCTIONS

Public health has been defined by WHO as “the art of applying science in the context of politics so as to reduce inequalities in health while ensuring the best health for the greatest number” (2).

Essential public health functions have been described by Yach as (3):

“...a set of fundamental activities that address the determinants of health, protect a population's health, and treat disease. These public health functions represent public goods, and in this respect governments would need to ensure the provision of these essential functions, but would not necessarily have to implement and finance them. They prevent and manage the major contributors to the burden of disease by using effective technical, legislative, administrative, and behavior-modifying interventions or deterrents, and thereby provide an approach for intersectoral action for health...This approach stresses the importance of numerous different public health partners. Moreover, the need for flexible, competent state institutions to oversee these cost-effective initiatives suggests that the institutional capacity of states must be reinforced.”

The development of methods to define essential public health functions (EPHFs), and to measure the performance of nations (4), states (5) or local health departments (6, 7) in effectively delivering those functions, has been driven by various contextual factors. A number of these factors will be examined in the following sections of this chapter, together with the conceptual model and overall objectives for this project. Chapter 2 will discuss further the EPHFs developed for the project.

3. PUBLIC HEALTH SYSTEMS AND THEIR CONTEXT

Public health systems are operating within a context of ongoing changes, which exert a number of pressures on the public health systems (8). These changes include: shifts in demographic and epidemiological trends in diseases (including the emergence and re-emergence of new diseases) and in the prevalence of risk and protective factors; new technologies for health care, communication and information; existing and emerging environmental hazards, some associated with globalization; and health reform. Some examples of these changes are given below to illustrate the nature of the challenges faced by public health systems.

3.1 Shifts in demographic and epidemiological trends

The major demographic changes challenging health systems are increasing inequalities in health and the ageing of populations in all countries. The United Nations Development Programme has estimated that the assets of the world's 358 billionaires equals the combined annual income of countries with 45% of the world's population – 2.3 billion people (9). Between 1960 and 1991, the ratio of global income of the richest 20% of the world's population to that of the poorest 20% increased from 30:1 to 61:1 (10). Poor socioeconomic circumstances affect health throughout life. In addition to the consequences of material disadvantage due to absolute poverty, there is a continuous gradient in health status, so that those in the lowest socioeconomic groups experience at least twice the risk of serious illness and premature death as those at the top (11).

'Global Burden of Disease' studies have estimated that there will be significant changes in the health status and needs of the world's populations in the next two decades. Noncommunicable diseases, such as depression and cardiovascular disease, are on the rise, and it is anticipated that, by 2020, they will account for 70% of deaths in developing regions, compared with about 50% at the present time. Injuries are also making an increasingly important contribution to the burden of disease worldwide (12). At the same time, 20th century science has resulted in no net gain in tuberculosis control, due to population increases in areas with a high burden of TB, drug-resistance, and the AIDS epidemic (13);

malaria may be worsening (8); and worldwide deaths from tobacco are likely to increase from about 4 million per year in 1998 to about 10 million per year in 2030 (14).

3.2 New technologies

Globalization generates many ethical and practical challenges for public health (15). For example, new treatments for HIV have reduced death rates in many developed countries. These new treatments, however, are very expensive, costing about US\$ 1000 – 1500 per month, which makes them inaccessible for people living in developing countries. Recently, five multinational pharmaceutical companies have promised to reduce prices to about one fifth of the US price in the poorest countries, but price is still a significant barrier to treatment (16). Even in more developed countries, governments may provide too high a share of public funding to sophisticated new technologies, which can reduce funding available for implementing essential public health functions (17).

The large volume of health information resources on the Internet has great potential to improve health (18), but there are anecdotes of patients being harmed as a result of information obtained in this way (19). The reach of the Internet is global and nation states cannot regulate the information published. Other information technology challenges include the development of action-led information systems that focus on health information to support the management decisions necessary to improve services, and programmes that allow threats to public health to be foreseen and forestalled (20, 21).

Malaysia is one of the countries at the forefront of maximizing the potential of telecommunications to transform its health care delivery system by providing opportunities for innovations in the provision and delivery of health care. Technology is being used as an enabler to realize Malaysia's vision for health by harnessing the power of information and multimedia to transform the delivery of health care and improve health outcomes, providing a framework to enable a whole generation to leap from industrial-age medicine to information-age health care. Information and other services will become more virtual, better distributed and more integrated, resulting in better, more timely and more efficient health care delivery. Four projects - the Lifetime Health Plan, Mass Customised Personalised Health Information and

Education (MCPHIE), Continuing Medical Education, and Teleconsultation – will be piloted under the umbrella of the Telehealth Flagship Application. The Lifetime Health Plan integrates information into a lifetime health record to develop personalized lifetime health plans for each individual. MCPHIE involves the sourcing and development of information and educational materials. The Continuing Medical Education project will source relevant training programmes for the development of a content database. Teleconsultation aims to connect health care providers in a multipoint manner to share opinions and for mutual support.

3.3 Environmental hazards

Environmental challenges include both new issues and those that should have been surmounted decades ago. Global climate change and safe water supplies for all are examples of such issues.

The potential impact of global climate change on human health is a priority for research and action in this century. Climate change affects human health in a number of ways including increased thermal stress and air pollutants associated with an increase in the number of heat waves, increased frequency of extreme events and weather disasters, increased incidence of gastrointestinal disease associated with food- and water-related diseases, a change in the distribution of vector species, and rising water levels (22).

It has been suggested that we have the knowledge, technology, delivery skills and infrastructure to provide all children and mothers of the world with clean water, and our failure to do so reflects a failure of will (13). It is estimated that over 286 million people in the Western Pacific Region do not have access to safe water¹.

3.4 Health reforms

In response to a conjunction of demographic, technological, and financial pressures, many governments around the world are reforming their health systems. Reform has been defined by WHO as an intentional, sustained, systematic process of structural change to one

or more major health subsystems (23). The intent of these reforms is to improve efficiency, effectiveness and patient choice. The themes of reform that are particularly relevant to this project are privatization, decentralization, and improvements in health outcomes.

(a) Privatization

Privatization relates to policy initiatives that encourage shifts in control over important economic transactions in any given sector of an economy (for example, the health sector) from predominantly public or governmental agencies to private sector agencies (either for-profit or not-for-profit). Such policy changes are generally initiated to remove or reduce the public sector's monopoly over the production and/or distribution of certain goods and services and to improve equity, effectiveness, efficiency and choice (24).

McPake (25) distinguishes programmed privatization and incremental privatization. She defines incremental privatization as the largely unplanned response to the failure of the public sector; she separately identifies five types of programmed privatization:

- Divestiture (sale of public sector assets, such as hospital laundry facilities)
- Franchising/contracting out (for example, food or catering services in public hospitals)
- Self-management (for example, hospitals being run as separate companies or corporations and usually required to live within their budgets)
- Market liberalization/deregulation (for example, allowing competition between the public and private sector for elective surgery)
- Withdrawal from state provision (for example, some elective surgical procedures).

Privatization can impact on both the financing and the provision of health services. It can, therefore, be used as a control from either the supply side or the demand side. Health systems financing is the composition of health expenditure by sources of funding, the flow of these

¹ Calculated from tabulations supplied by Dr H Ogawa, Regional Adviser in Environmental Health, WHO Regional Office for the Western Pacific, 5 June 2000.

sources through the health system, and their ultimate uses (26). Health financing has a significant influence on the structure of the health service delivery system, the types and quality of services provided, and allocative efficiency (27). Privatization of health financing ranges from prepayment systems to controlling demand through user charges.

Low-income countries have a higher component of private financing and provision in their health systems than high-income countries (28). Within Asia in 1990, none of the 14 countries with data available (including Malaysia) reported less than 20% of total health expenditure from private sources (29).

In Fiji, Malaysia and Viet Nam, and throughout the world, the private health sector is growing in size and complexity (30-32). This growth in the private sector has been associated with rising household incomes; advances in medical technology that drive demand for health services, outstripping public supply; and the emergence of social and private health insurance and health maintenance organizations (27). For example, Malaysia's sustained economic growth has been associated with sustained growth in private health care provision, which increased from 23.5% of total health expenditure in the 1980s to 40% in 2000. Growth in the private health care sector is sensitive to the economic performance of a country. During the recent Asian economic crisis, the incidence of poverty in Malaysia increased from about 12% to 16%, with an associated 15% increase in public sector utilization because fewer people were using the private sector (31, 33).

Social health insurance is taking on a larger role in the financing of health services (34). Private health insurance generally covers less than 1% of the population in most Asian countries (27), whereas in Viet Nam, for example, around 40% of the population are covered by social insurance (35). Prepayment systems, such as health maintenance organizations (HMOs), place greater emphasis on prevention and early detection and treatment. HMOs are relatively new in the Western Pacific Region (27). In reviewing the health reform experiences in OECD countries, Schieber identifies accessibility to comprehensive preventive services without financial barriers (not having to pay user charges or demonstrate insurance status) as the key ingredient of successful reforms in terms of achieving health outcomes (36).

Privatization can affect public health in a number of ways. Contracts for public health, as the means of controlling the use of public funds, may bypass desirable mechanisms of public accountability and oversight (37). Health information systems often fail to ensure the regular collection of data from private providers (38). In addition, private sector organizations may have conflicts of interest in the implementation of some public health functions, such as regulatory functions and the design and development of interventions (39).

Some countries, such as Malaysia, consider that involving the private sector in the provision of health services frees the Government to focus on those most in need and on health promotion and primary health care (33). This justification for privatization is supported by some analysts, with the proviso that political commitment and managerial capacity are required to achieve the redirection of the Government's focus (29, 40). The Ministry of Health in Viet Nam sees encouragement of private practices and fees for services as a means of raising money for preventive work. Unfortunately, there is some evidence that the Vietnamese changes have been associated with greater emphasis on treatment, because treatment services are in greater demand and are able to command a fee due to their perceived 'essential' nature (30).

On the demand side, not surprisingly, user charges have more impact on the demand for health services from the poor than from the rich in such countries as China, Malaysia and the Philippines (41-43). The costs of recovering user charges can be high, and the revenues make a relatively small contribution towards national health expenditure. For local health facilities or individual health projects, such revenues may make a more significant contribution (41, 44). So-called informal user charges can arise from some private practitioners operating on a cash-only basis to escape income taxes, to avoid detection if their services are illegal (45), or to allow some people's health problems to be treated with a higher priority than their need would demand.

China provides an example of the variable impact of privatization on public health. In China, between 1981 and 1993, the Government's share of national health expenditure fell from 28% to 14%. At the same time, the communes ceased to provide funds to the health sector and local health prepayment systems collapsed. The

contribution of these local funds to national health expenditure fell from 20% to 2%. The impact of these changes (and other related changes) was greater inequality in access to health care, with a disproportionate burden of increased costs falling on the poor, rises in the cost of care and weakening of preventive services. Government grants no longer fully funded preventive services, and health service providers, therefore, started to neglect preventive work (46). For example, public financing of the Epidemic Prevention Service (EPS) as a percentage of GDP fell from 0.11% in 1978 to 0.04% in 1993. To fill the shortfall, the EPS was encouraged to use fee income to generate revenue. As a result, the EPS reallocated its resources to services where fees could be most easily charged, such as food and cosmetic products inspections, which may not necessarily be the highest priorities (43). Even although China's average mortality rate and the incidence rate of infectious diseases continue to decline, several outbreaks of infectious diseases have been traced to reduced public health input, particularly amongst the unregistered urban population (43). Similar impacts have been observed in developed countries (37, 47-49). In the United States, concerns have been raised that increased reliance on fee income may result in overutilization of some services associated with financial reward, and neglect of others such as services for the destitute (37).

The impact of privatization of the provision of health services on public health arises from the private sector's focus on operational efficiency rather than allocative efficiency. As a result, inequities can arise (27). The long lead-time before the benefits of many public health activities are realized makes these activities vulnerable when managed by entities that are highly focused on operational efficiency that aims to achieve a return on investment, as has been experienced in New Zealand (50). In addition, private providers lack experience with vulnerable populations. Alliances to promote health across sectors work by tackling the broad determinants of health, and are important to the delivery of essential public health functions (51), but competition in the private sector makes building alliances difficult (52). The extent to which efficiency gains associated with enhanced competition materialize is often doubtful (53). Accountability for geographical coverage of services is more difficult to achieve in a competitive environment, particularly if there are multiple funders.

Preventive services in the private sector tend to be accessed by the most risk-averse, with the money to pay for the service. At-risk individuals need to be encouraged

to attend, an activity rarely carried out by the private sector (54). Private medical care is predominantly curative. Consultations for usually minor ailments are brief, with a throughput of up to 100 patients a day. Excessive drugs may be used, and standard protocols may not be followed. For example, in a study of 100 private doctors, 80 treatment regimes for tuberculosis were used. Only four of them followed WHO guidelines, and the regimens cost three times as much as standard protocols (55). A Malaysian study of 100 consecutive patients with pulmonary tuberculosis treated at the Chest Clinic, Penang Hospital found that patients who had first visited a private practitioner were less likely to be appropriately investigated and diagnosis of tuberculosis was more likely to be delayed for them than for patients who had first visited government medical facilities (56).

Despite such problems, private sector participation in public health can be expected to increase in the future (48). This increase will challenge governments to manage their relationships with the private sector (53). Viet Nam's policies for private sector growth, for example, are cautious in order to minimize the negative effects and maximize the positive. The focus is on the private sector complementing and supplementing the services provided by the public sector, reducing per capita state health expenditure on specialty personal health services, and improving access to health services and drugs (57).

Governments not only have to deal more effectively with existing issues, but new models of privatization are evolving. Global public-private partnerships (GPPPs) are a comparatively recent development, and provide another model whereby privatization may influence Member States' public health activities. A health GPPP is a collaborative relationship that transcends national boundaries and brings together at least three parties, among them a corporation (and/or industry association) and an intergovernmental organization, to achieve a shared health-creating goal on the basis of a mutually agreed division of labour (58). These relationships can be:

- product-based (for example, the Zithromax Donation Programme/1998 to eliminate trachoma in 16 WHO priority countries, including Viet Nam (59))
- product-development-based (for example, malaria vaccine development (59) and Medicines for Malaria Venture (60)); or

- issues/systems-based (for example, the UNAIDS HIV/AIDS Drugs Access Initiative (58)).

Although they can bring significant resources into health development, GPPPs have been criticized for requiring high national inputs and diverting resources to health problems of lower national priority. Product-based partnerships, particularly those relating to pharmaceuticals, have also generated controversy over dumping, dependency-creation, and sustainability (58, 59).

(b) Decentralization

Decentralization refers to four types of process (61):

- deconcentration of functions from higher to lower levels within the same administrative structure;
- delegation of functions from ‘generalist’ central government departments to more autonomous or more specialized types of government agency;
- devolution of functions from central government to lower levels of government administration, such as state, provincial, district or municipal governments or administrations; and
- transfer of functions from government to nongovernmental organizations.

Privatization is regarded as the most radical form of decentralization (53).

Both Fiji and Malaysia are considering deconcentration of health sector functions to lower administrative levels within the Ministry of Health. Malaysia is considering deconcentrating some functions to the state level, while Fiji is aiming for the divisional level.

The Netherlands provides an example of devolution of functions from central to local government. A new Law on Public Health was passed in 1990 that devolved to local councils the authority to determine how they carry out public health policy in their localities. Councils are required, however, to monitor the health of the population; promote hygiene; control infectious diseases; design, execute and coordinate preventive programmes; and carry out public health care of children older than four years. Councils are also required to ensure that the appropriate health professionals and information technology are available (54).

There are both advantages and disadvantages to decentralization. On the one hand, decentralization brings government closer to the people and community participation is encouraged (62). There is, therefore, the potential for more creative, effective and efficient use of resources (54, 63). In addition, solutions to problems can be more readily tailored to local circumstances. On the other hand, it may be better to concentrate scarce talent centrally, such as management skills, or for statistical analyses on large populations or when a health problem affects the whole population, or for services that can be provided efficiently only for a reasonably large population (54, 62). Decentralization is also associated with fragmentation and functions being distributed across a wide range of organizational and management styles, with recurrent tensions and compromises between them (61, 63). Higher levels of government also have to interact with a large number of bodies.

(c) Improvement in health outcomes

Within the context of reform, public health measures are seen as means to reduce aggregate population-based demand for services due to illness and injury (23). In reality, however, health reforms have historically paid little attention to health outcomes. The overall population benefit of personal health services is often low (3, 64), but the perceived individual benefit of personal health services is high and this perception underpins political and community pressure for a focus on personal health services.

Market-driven reforms have provided opportunities to improve personal health services, but detrimental effects on public health services have been reported. Some examples include the demise of the Epidemic Prevention Service in China (43), Britain’s public health infrastructure being reported as at “crisis point” (65), and the United States being “...unable to mount effective public health programs against some of the oldest enemies of public health” (49).

There are signs that this apparent neglect of public health and health outcomes in health reforms is being reversed internationally. In Europe, the Ljubljana Charter on Reforming Health Care 1996, focused on health reforms based on the principle that health care should lead to better health and quality of life for people, with targets for health gain, and oriented towards primary health care. Strengthening management was identified as one of the principles for managing change. The

Charter states that “There is a need to develop a set of managerial functions and public health infrastructures entrusted with the tasks of guiding or influencing the overall system to achieve the desired improvements in the population’s health.” (66).

The health-for-all policy framework for the WHO European Region now includes a target that, by 2010, Member States should ensure that the management of their health sectors, from population-based health programmes to individual patient care at the clinical level, is oriented towards health outcomes (67).

Finally, *The World Health Report for 2000: Health systems: improving performance* has developed a conceptual framework for assessing the performance of health systems in response to three overall goals: good health, responsiveness to the expectations of the population, and fairness of financial contribution (68). As the framework is discussed and considered globally, and the detail and relevance become more readily understood by countries, it will contribute to the impetus for countries to adjust their health systems in the direction of better health for their communities. In doing so, it is anticipated that countries will focus increasingly on the structure and sustainable delivery of essential public health functions.

4. STRUCTURE AND SUSTAINABILITY

The structure and sustainable delivery of essential public health functions (EPHFs) are dependent on the governance and stewardship of that part of the health system concerned with those functions.

4.1 Structure

Structurally, EPHFs have been considered an integral part of primary health care at least since the Alma-Ata International Conference on Primary Health Care, jointly sponsored by the World Health Organization and the United Nations Children’s Fund in 1978 (69). Unfortunately, this structural arrangement does not ensure the sustainability of those functions.

The Asian Development Bank has noted that more than 80% of essential interventions and nearly 70% of desirable interventions focus on primary health care, but countries in the Region spend, on average, less than 10% of their health care resources on primary care (70).

The relationship between EPHFs and primary health care is a good example of a lack of international consensus on the options for structuring public health functions. In the United States, for example, we learn that

“Nationwide, a consensus is apparently building around refocusing public health resources on traditional population-oriented services... California’s approach has included divorcing the local health department from some county clinics. In some cases, this move has involved physically separating the public health nursing staff and facilities from those of the primary care clinic.” (63).

This refocus has arisen out of public health organizations providing necessary indigent medical care at the expense of implementing essential public health functions (48, 49). It is recognized, however, that public health agencies do not work effectively in isolation (71).

At the other extreme, in New Zealand, the increasing integration of some public health services into primary health care is occurring with the implementation of the country’s Primary Health Care Strategy and the establishment of primary health organizations (72).

Risks to the sustainability of EPHFs, when integrated into primary health care, include a narrow view of health promotion and competing priorities (73). In developed countries particularly, primary care professionals tend to equate health promotion with health education, rather than the encompassing social, policy, and skill development focus of health promotion as expressed in the Ottawa Charter for Health Promotion (74). Ashton (73) cites survey evidence to remind us that, no matter how enthusiastic some primary care professionals are about public health, the reality is that the response rate to surveys of primary care professionals on public health in primary care is low, and, of those who do respond, few are undertaking preventive work and usually attribute this to lack of time.

Whether or not EPHFs are integrated structurally into primary health care, links and interacting relationships between personal preventive and treatment services are important for the sustainable delivery of EPHFs. These links and relationships are discussed more broadly on pages 13 to 18.

4.2 Governance

Governance describes conditions in the country as a whole, and has been defined by the World Health Organization as the exercise of political, economic, and administrative authority in the management of a country's affairs at all levels (68). Good governance, in the World Bank's view is:

“...epitomized by predictable, open, and enlightened policy making (that is, transparent processes); a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of the law.” (75).

During the development of the project methodology, the International Project Team² (IPT) considered that, although governance is an overarching concept in the conduct of a country's affairs, there are many aspects of EPHFs that are crucial to good governance. At the same time, there are aspects of good governance that are crucial to the sustainable delivery of EPHFs. In this regard, the IPT developed the following definition of governance necessary to ensure the success of EPHFs:

- a mandate for the core business of public health;
- public health leadership;
- fair and effective regulation and overall responsibility for compliance;
- accountability and transparency;
- effective participation of civil society; and
- access to knowledge, information and education.

Because of their importance, each of these areas is discussed briefly in the following sections.

(a) Mandate

A mandate can be defined as “an official command or instruction by an authority” (76). A mandate is derived from public policy, but can also be entrenched in law. The reason for specifically identifying a mandate for the

core business of public health as part of the project definition of governance for public health is the impact of mandates on health, as illustrated in the following examples.

Public policy mandates for public health are in place in a number of developing countries, such as Costa Rica (79, 80), Cuba (78) and Malaysia (77), as well as in many developed countries (81-84). In Malaysia, the programme objectives of the Ministry of Health for the Seventh Malaysian Plan provide a broad mandate for public health (77).

Cuba's policy on equity in health was implemented after the revolution in 1959 through national, comprehensive services, universally accessible and evaluated, which appeared to be successful in achieving community participation in health programmes (78). The impact of this policy has been dramatic improvements in life expectancy and infant mortality, and a reduction in deaths from infectious diseases (85). For example, between 1960 and 1993, life expectancy at birth increased from 64 to 76 years, and infant mortality fell from 65 per 1000 live births to 14 per 1000 live births (86). Infant mortality was reported to have fallen to 7.2 per 1000 live births in 1998 (87).

Cuba's experience is not unique. Until the reforms of the 1980s, rural China had a highly structured health service, based on health stations in the villages and barefoot doctors, which was associated with similar dramatic improvements in life expectancy (46).

Costa Rica's policy on health has been implemented through a network of small health posts and health auxiliaries who go door to door providing immunizations, carrying out malaria and tuberculosis surveillance, monitoring the growth and nutritional status of children and collecting vital statistics. Dramatic improvements in life expectancy, infant mortality and infectious disease mortality have also been achieved. Gains were not lost through the world recession when poverty in Costa Rica escalated (79). Interestingly, the gains in Costa Rica were achieved with emphasis being placed on community obedience rather than the community involvement that has been a feature of the Cuban health care system (80).

Examples of mandates derived from legislation come from the Netherlands and Canada (54, 88). The legislative mandate in the Netherlands is described on

² The members of the International Project Team are identified in the Preface on page ix

page 6. The Province of Ontario enacted new public health legislation in 1983. A list of mandatory health programmes was adopted, and each public health unit was required to adhere to a set of guidelines promulgated by the Provincial Ministry of Health. A comparison between local public health units in Ontario and the United States shows that more services were provided per unit of population in Ontario than in the US, with a concomitant higher per capita expenditure on public health and higher staffing levels. Schade (88) attributes the relative affluence of Ontario public health units to intensive provincial supervision, assured funding, and mandated programme content.

(b) Leadership

Effective implementation of essential public health functions (4) and practices (6) implies the need for the ability to change in order to respond to emerging issues with innovative public health solutions. For example, the HIV/AIDS epidemic has been identified as the strongest positive impact on local public health departments in the United States: departments have had to work with volunteer committees and support groups, strengthen their policy formulation and decision-making processes, increase their knowledge of various populations in the community, and strengthen community relationships (89).

Leaders innovate, inspire trust, make long-range plans, and motivate people to change (90). As well as having a clear vision of what they want to achieve, leaders are able to communicate their ideas and influence a wide range of people, over whom they may have little, if any, control (91). They communicate by mastering multiple communication styles and vocabularies (92). They build constituencies for public health (92, 93).

Leadership development has been linked to improved performance on implementing public health functions (94-96). The reason for elevating public health leadership to the project definition of governance was recognition that public health leaders can operate so much more effectively in the context of “good governance”, as defined by the World Bank.

(c) Regulation

It is not possible to separate health sector regulation from the overall regulatory frameworks operating within a society, hence fair and effective regulation and overall

responsibility for compliance was included in the project definition of governance by the IPT. The IPT acknowledges, however, that regulation is also regarded as a component of stewardship, which is discussed and defined on pages 10 to 15 (68).

Regulating the health sector to prevent dangerous practices is an important government function (17). Regulation can also be used to control the cost and quantity of services provided by private practitioners (38). Regulation is essential to the effective and efficient functioning of the private health care sector (97). In situations where the private sector practises on a cash-only basis to avoid income taxes, or to avoid detection if some forms of private practice are illegal (45), regulation can be particularly challenging. Nevertheless, regulating health professionals’ qualifications (particularly doctors), their premises, and the care they provide is an important consideration for developing countries (55). Unfortunately, health sector regulation is often a highly contested domain, and governments need to be strong to carry through any necessary reforms. For example, it has been argued that regulation of health services causes increased administrative costs, greater inequality in access, increased risk of unnecessary interventions, and unjustified development of inadequately evaluated, complex technology (42). Governments are also often slow to update regulations (97).

An example from Brazil illustrates the dilemmas posed by regulation. Drug manufacturers are restricted to selling the major tuberculosis chemotherapeutic agents to the public sector. Inappropriate prescribing by the private sector is thus eliminated, but coverage of tuberculosis treatment may be reduced by excluding private practitioners from managing tuberculosis cases (38).

Even where regulations are in place, the ability to enforce them is limited by a lack of information, monitoring systems and resources (38, 42, 97). To deal with a lack of information, governments often delegate regulatory authority to professional organizations. Unfortunately, such organizations are susceptible to regulatory capture and may work in the interests of providers rather than patients (97).

(d) Accountability, participation, education

The last three parts of the project definition of governance are consistent with definitions used and applied by organizations like the World Bank (75).

Accountability means holding governments responsible for their actions. This is achieved through hierarchical administrative structures that ultimately report to the executive arm of government. The World Bank has termed this form of accountability “macrolevel”. It can be reinforced by “microlevel” accountability that involves decentralization, participation and competition, and “financial” accountability (75).

Transparency, accountability and participation, as well as access to knowledge, information and education, are mutually reinforcing in the search for good governance.

4.3 Stewardship

Stewardship has been defined by WHO (68) as “a function of a government responsible for the welfare of the population and concerned with the trust and legitimacy with which its activities are viewed by the citizenry. It requires vision, intelligence and influence, primarily by the health ministry, which must oversee and guide the working and development of the nation’s health on the government’s behalf.” (68:119).

The distinction between governance and stewardship is not clear. Saltman and Ferroussier-Davis have suggested that stewardship can be viewed as “an ethically informed or ‘good’ form of governance” (98). They contrast stewardship as a socially responsible framework for governance that has economic rationalism and public sector management at its heart, and focus on stewardship as an ethically-based and outcome-oriented approach. As they say “[the] capacity of stewardship to subsume and incorporate concerns about efficiency into a more socially responsible, normative framework holds out the promise of taming economic theory in a manner that reinvigorates rather than undercuts the broader social contract on which the state is based.” (98:735).

For the purposes of this project, the IPT interpreted stewardship that is essential for the sustainable and effective delivery of EPHFs as the role of assuring resources and effective functioning of:

- the workforce;
- funding mechanisms;

- support – information, institutions/organizations and their links and relationships (refer Table 1.1 on page 14), laboratories and pharmaceuticals;
- services; and
- programme priorities.

(a) The workforce

There are three important issues in relation to the public health workforce: its multidisciplinary nature, adequate numbers and competencies (99, 100). Occupational backgrounds of people who could occupy public health positions include: public health physicians, public health nurses, public health dentists, public health nutritionists, biostatisticians, epidemiologists, environmental engineers, environmental scientists, occupational safety and health specialists, occupational safety and health technicians, health promoters, health educators, public health lawyers, and public health laboratory scientists and technicians. Comprehensive epidemiology services now require a team composed of staff trained in demography, sociology, survey design, economic evaluation, programme evaluation, and qualitative data collection (101). Unfortunately, the experience in the field is a long way from this ideal situation, even in developed countries. A study of local health departments in Washington State in the United States found that only three of the 32 local health departments employed a full- or part-time epidemiologist or statistician (102).

All disciplines are not available at all levels of the health system, or even in some countries, and different terms may be used in different countries. For example, Yach (3) points out that the lack of expertise in public health law at the country level throughout the world is an impediment to legislative reform in the health sector. It is for these reasons that the country reports in chapters 3, 4 and 5 include, where appropriate, definitions of the public health workforce that are specific for that country.

A second important question in relation to the workforce is whether there is an adequate supply of public health professionals. “How much is enough?” is a very difficult question, and is affected by a number of factors.

Finally the third important question relates to the competencies of the public health workforce. Boelen (103) identifies the need for health professionals to have

both content and linkage expertise. There is, however, no agreement on exactly what the required competencies are. A core curriculum for all currently employed public health professionals in the United States has been identified as needing to include (104):

- public health values, history and methods;
- epidemiology, quality assurance, and economics;
- informatics - the use of technology to communicate effectively;
- communication;
- cultural competence - the critical importance of cultural competence to public health workers dealing with heterogenous communities;
- team building and organizational effectiveness;
- strategic thinking and planning;
- advocacy;
- politics and policy development; and
- external coalition building and mobilization - the skills needed to develop and maintain needed community relationships.

The development of competencies for the functions within the core business of public health may need to be undertaken subsequent to this project. For the purposes of the project, each country research team undertook an assessment as part of the situation analysis as to whether (i) sufficient skills (in terms of breadth and depth), and (ii) adequate numbers of the relevant health professionals are available at the different levels in the system to which functions may be allocated by their government. That assessment contributed to the analysis of strengths, weaknesses, opportunities and threats of the current public health situation in the country case studies.

(b) Funding mechanisms

Some countries have developed methods for identifying the proportion of public expenditure on health that is allocated to public health functions (105, 106). Other countries, such as Costa Rica and the Netherlands, have separate systems of administration, firstly for curative services and hospital administration, and secondly for public health, with different funding streams

(54, 79). These methods and mechanisms allow the amount and the proportion of public funds allocated to public health to be tracked.

In developed countries, the proportion of public expenditure on health that is allocated to public health is a mere 1 – 3% (63, 71, 107, 108). Exposing the level of expenditure, and trends in expenditure, to public and professional scrutiny allows for analysis and debate as to whether the amount allocated is adequate. For example, in the United States it has been suggested that funding for public health should be three times higher than the amount spent in 1992 – 1993 (105).

Analysis and debate can inform the development of an appropriate policy response. In New Zealand, it was found that, under an integrated model of service delivery (area health boards), public health funds were diverted from the delivery of public health functions to curative services (106). The diversion of public health resources was linked to adverse health outcomes, inadequate monitoring of health outcomes, and a lack of central planning and coordination (109). As a result, funding for public health functions was separated out (“unbundled”) from the rest of public funding on health (106). A separate “ring fence” for public health was established, pursuant to the Public Finance Act 1989, in the health appropriation by the New Zealand Parliament. A ring fence is a legal mechanism to protect funding so that it can be used only for specified purposes. Using this mechanism to ensure dedicated public funding for public health functions, New Zealand has ensured that the growth in public health funding has kept pace with the growth in total public expenditure on health (50).

Another important issue in respect of funding mechanisms is distortions in funding that can interfere with the balanced implementation of public health functions (these distortions can come from overseas development aid, or from sources within the country). Both the size of the funding and accountability arrangements may introduce distortions. For example, financing dedicated to specific health problems is highly variable and is not necessarily related to the burden of disease. Internationally, leprosy and sexually transmitted diseases (including HIV/AIDS) are comparatively well funded, while acute respiratory conditions, maternal mortality and noncommunicable diseases are comparatively underfunded. Some private donations are quite substantial but they tend to focus on highly visible

interventions that give quick results. For example, the US\$ 100 million donated by the Bill and Melinda Gates Foundation to the Children's Vaccine Initiative is comparable to the annual budget of WHO's Global Programme on Vaccines (110).

(c) Support

For the purposes of this project, this aspect of stewardship includes information, institutions/organizations and their links and relationships, laboratories and pharmaceuticals.

Information

Essential public health functions are dependent on information for their implementation. Information is needed to recognize situations that have the potential to harm the health of the population and to identify groups in the population that are most at risk. Socioeconomic, cultural, demographic and epidemiological information is essential for the development of policy and planning to support collective efforts in public health. Service information is required to improve quality, coverage and equity, and to evaluate impact (20, 21, 111).

There are a number of issues related to health information, including how it will be used, in what context, at which time, and by whom. The relative value of different types of information (quantitative and qualitative), and the appropriate balance between the different methods of data collection (routine collection, special surveys, research, information from other sectors, etc), has to be considered. The appropriateness of data-led and action-led approaches to information needs to be examined. The former assumes that providing a wide range of information to health planners and managers is useful. The latter assumes that the focus of health information should be to support management decisions that are necessary to improve services and programmes directly. This requires data to be analysed appropriately, and to be accessible at the right time and the right place (20).

There is a growing expectation that, in order to effectively implement public health functions, there should be on-site access to data via electronic information systems and online information systems such as the Internet (101). However, information is expensive, and information technology requires initial capital costs, recurrent and replacement costs, and staff training (20).

Finally, information technology provides for information collected at various levels in the system (nationally, regionally and locally) to be electronically aggregated, and to be accessed by communities, individuals and organizations (101). For example, *Health Facts 1997*, produced by the Information and Documentation System Unit, Planning & Development Division of the Malaysian Ministry of Health, is available on the Internet and provides vital statistics and the principal causes of death and hospitalization for Peninsular Malaysia, Sabah and Sarawak (77). Malaysia's Telehealth project is pioneering the use of information technology to contribute to seamless, continuous care between providers and between the levels of care. Information is being used to empower individuals in self-care, and to empower providers with just-in-time and cutting-edge knowledge, through the Continuing Medical Education and Teleconsultation projects.

Institutions/organizations

A supportive institutional environment, together with the policy environment, have been identified as important factors in achieving good health outcomes, even with low levels of expenditure (28). Factors associated with effective institutions include the ownership arrangements, the leadership and management of the organization, the population size covered, the links the organization develops and the quality of the relationships it maintains. Issues concerning ownership arrangements are considered in the section on health reforms and privatization and will not be further discussed here (see page 3).

Leadership and management

Leadership is distinguished from management as the art of accomplishing more than the art of management says is possible (90). The key features distinguishing management from leadership relate to the visionary, motivational and change management functions of leadership, compared with the management ability to deliver on objectives, through planning, problem solving, and matching human and financial resources to the task in hand.

Population size

In the United States, it has been found that local health departments serving populations of more than

65 800 are more likely to carry out core public health functions. Self-reported adequacy of performance scores in a six-state survey were highest in jurisdictions serving populations between 250 000 and 500 000 (112). Where smaller populations were served, either fewer services were provided, or increased costs were incurred (88). This discussion of population size is not to suggest that any particular figure is appropriate, but merely to indicate that the size of the population for which the public health workforce has a responsibility to undertake public health functions is considered a factor in ensuring the effective functioning of institutions and organizations.

Links and relationships

A link is a connecting part that unites or provides continuity; a relationship describes what the parts have to do with one another (76). Implementation of essential public health functions cannot occur without good quality information-driven relationships that fuel links within and between public health organizations, within and between relevant organizations in the health sector, between sectors, between providers and individuals and communities, and among individuals and communities, as shown in Figure 1.1.

Relationships can be defined in terms of the parties that are linked by the relationship, the purpose of the relationship, and the functionality of the relationship.

Miller and colleagues have classified relationships as (37):

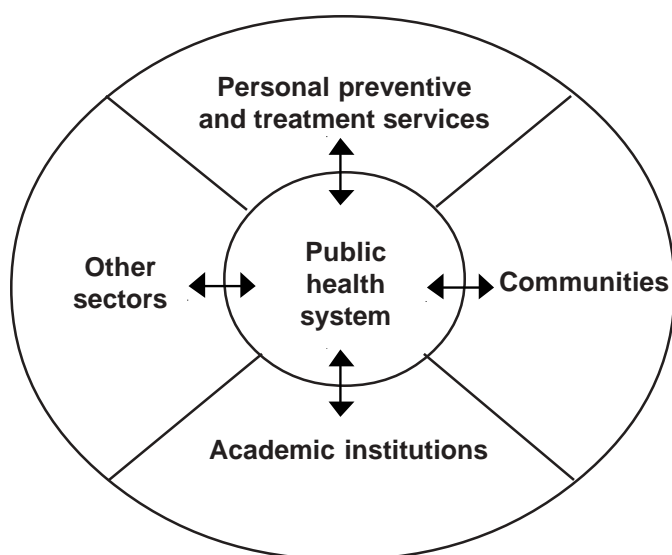
- parallel - little more than mutual awareness;
- accommodating - adjusting by agreement or understanding to each other's programmes and services; or
- interacting - sharing of programmes, staff or facilities.

Parallel relationships result in autonomous organizations. Accommodating relationships lead to coordination, and interacting relationships lead to integration. Integration means that different partners or stakeholders may have to give up some of their authority and prerogatives as they converge their efforts to improve health, but they retain their identity and specificity (103). Barnett and Malcolm suggest some conditions that are necessary for successful integration of public health functions. These include a health-status focus and epidemiological approach, security of public health resources, providers who accept the challenge of integration, and political commitment to health goals (113).

Although poor relationships between organizations delivering personal health care services result in fragmentation, turf protection, duplication of work and waste of resources (103), poor relationships between public health organizations interrupt the continuum of policy, systems and services and can lead to a failure of public health work (8).

Although it is relatively easy to identify the links that are required for effective implementation of essential public health functions, building effective and interacting relationships may be more difficult. Some strategies for building successful relationships and partnerships are recommended by Lasker and the Committee on Medicine and Public Health in the United States (114). These include:

Figure 1.1: Links and relationships for effective delivery of EPHFs



- building on self-interests as well as health interests;
- involving someone in the project who understands both the parts that are connected by the link – a “boundary spanner”;
- seeking out influential backing and endorsements;
- being prepared to build an understanding of the nature of the part of the sector or organization that you are linking with (for example, jargon, ways of working, accountability arrangements, etc);
- being realistic;
- paying attention to process (for example, involving all partners at the planning stages, clarifying roles and responsibilities, etc);
- ensuring adequate infrastructure support; and
- being “up-front” about competition and control issues.

Table 1.1 summarizes the links and their purpose for the effective delivery of essential public health functions.

Links within the health sector, between personal preventive and treatment services and public health, need further comment, given the WHO “Towards Unity for

Table 1.1: Links and relationships for effective delivery of public health functions

Links	Purpose
Between central government (Cabinet) and the Ministry of Health	<ul style="list-style-type: none"> • Strategy and policy direction • Resource allocation
Within the public health system (internal), between health post or station, district and central office of health department or equivalent organizations	<ul style="list-style-type: none"> • Policy development and implementation • Technical support • Information flow • Funding • Human resources development and training
Between personal preventive and treatment services and public health (publicly and privately owned providers) (personal health)	<ul style="list-style-type: none"> • Early identification and treatment (115) • Improve population-based programmes such as immunization, screening • Enlist the influence of medical doctors with policy-makers and the public, to improve public health (114) • Influence the provision of personal health services in relation to equity, effectiveness, priority, safety and quality
Between communities and public health	<ul style="list-style-type: none"> • Change community norms about health-related behaviour to achieve permanent, large-scale behaviour change (116) • Contribute to improving the capacity and capability of communities and decreasing their vulnerability • Provide technical input to community programmes (117) • Participate in planning processes, including needs assessment, evaluation and making changes to the health care system (117) • Cooperate with public health regulation
Between other sectors (public, private, NGOs) that influence the determinants of health and public health (eg, housing, transport, agriculture, tourism, customs, education, social security, etc)	<ul style="list-style-type: none"> • Regulation (if activities generate risks to public health) • Access managerial and marketing expertise (118) • Increase revenue for public health programmes (119) • Provide some public health services (39) • Increase health gain by better cooperation than could be achieved by the health sector working alone (120)
Between academic institutions and public health	<ul style="list-style-type: none"> • Improve relevance of health professional education to public health (104, 121) • Improve relevance and uptake of research in public health policy and practice (122, 123) • Provide expertise to health policy and planning

Health” project (TUFH). The TUFH project has arisen out of concern that fragmentation in health service delivery is threatening to level out health gains and counter efforts towards health system improvements. The TUFH project is focusing on integration of personal health and public health activities (103). This project can be seen within the broader context of providing a mechanism for ensuring the identity and specificity of essential public health functions are defined so that integration can proceed smoothly and effectively. Lack of attention to essential public health functions, and the preconditions that underpin their implementation, has resulted in the need to “reinvent public health” in some jurisdictions (71).

There are a number of barriers to establishing accommodating and interacting relationships between personal preventive and treatment services and public health. The outlook of public health is that the needs of those who are not “patients” are equally important as the needs of those who are patients. In fact, services to the patient may need to be curtailed in order to benefit potential patients (124). The roles of advocate, mediator and enabler in relation to meeting the needs of individuals for personal health services may overlap and conflict with advocacy, mediation and enabling roles in relation to the needs of the population (73). There are also practical difficulties. There may be large numbers of health professionals, medical centres and, in some cases, hospitals, which makes establishing relationships a large and potentially impractical task. In addition, there may be fragmentation of public health into categorical programmes, delivered by different agencies, and so personal health care providers may not know who to contact in the public health sector. There may also be overlapping interests between public health and personal health care providers, leading to tensions when the latter perceive that public health (or government in general) is interfering with clinical freedom and the doctor-patient relationship (114). These tensions occur particularly in relation to resource-allocation decisions.

Despite these difficulties, economic and performance pressures, evidence-based medicine, and public policy initiatives are providing incentives for better relationships between public health and personal care services (103, 114, 115). Other benefits of improving this relationship include capturing the influence that physicians have with policy-makers and the public for the benefit of public health (114). A number of strategies have been proposed, such as:

- developing organizational and funding methods to strengthen the capacity of personal care services to contribute to early identification and intervention (115);
- improving the capacity of clinical and administrative information systems to provide public health intelligence to assist in the identification of emerging public health problems (103, 115);
- providing financial incentives for personal preventive services (114); and
- organizational methods, such as articulation meetings, and shared techniques and records (103).

Laboratories and pharmaceuticals

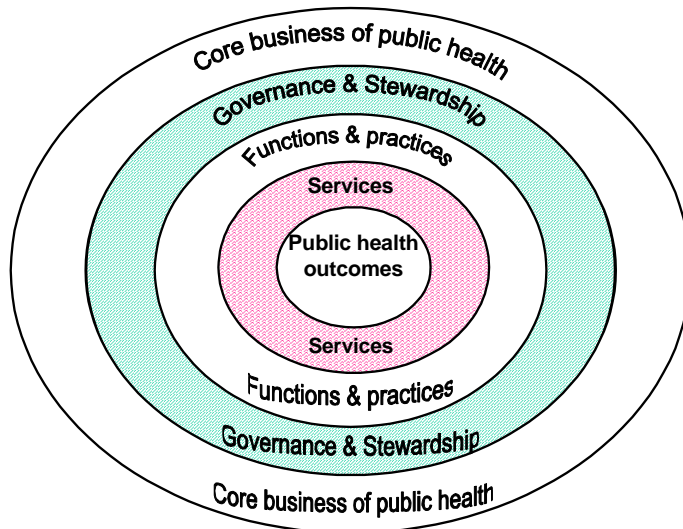
The availability, affordability and quality of population-based laboratory services to ensure timely and appropriate testing are clearly critical for the implementation of essential public health functions, particularly disease prevention and control (101). The same may be said of pharmaceuticals. The WHO Action Programme on Essential Drugs has been operational for nearly two decades. The Programme seeks to ensure that all people are able to obtain the drugs they need at the lowest possible price. WHO recognizes that these drugs need to be safe, effective and of high quality, as well as the need for them to be prescribed and used rationally (68).

5. CONCEPTUAL MODEL FOR THE PROJECT

The model used for the project is shown in Figure 1.2.

The model was used to disaggregate the different components of public health activity. This disaggregation enabled the different parts that make up the capacity of public health in each country to be described in the case studies, and an assessment of their adequacy to be made. This analysis was then used to assess the strengths, weaknesses, opportunities and threats of the current public health situation in each country, as the basis for developing a proposal for strengthening the effective and efficient organization of functions. The impact on the proposal from potential changes in the health sector and beyond, were then identified.

Figure 1.2: Model for the project



The IPT used this model to develop a framework for the project. The framework describes the content of each component of the model. The methods used to do this, and the outcomes, are described in chapter 2. The IPT considered that it was important to define the core business of public health to place boundaries around the part of the health system to which the model would be applied. Acknowledging the outcome orientation of stewardship, the IPT also recognized that achieving public health outcomes is the core aim of work in public health.

The distinctions used by the IPT between functions, practices and services are based on the considerable amount of work undertaken in the United States. Recognizing the fragility of the public health infrastructure in the US, the Public Health Functions Project was established by the Government in the early 1990s. The focus of this project is on reaching consensus on the essential functions of public health; quantifying the investment in those functions at the Federal, State and local levels; assessing the current capacity and the needs for public health workforce in various areas; developing guidelines for sound practices in public health; linking with activities to characterize the information requirements; and raising public and professional awareness of public health activities (121). This US

Public Health Functions Project has stimulated much research and activity that is relevant to this project.

A function is defined as a mode or activity by which a thing fulfills its purpose; a practice is a repeated exercise in an activity requiring the development of skill; and a service is the act of helping or doing work for another or a community, etc. (76). Practices reflect the collective processes through which public health inputs (workforce, information, etc.) are applied to deliver the functions. The practices result in outputs (programmes and services) intended to improve health status (125). Turnock and Handler argue for a conceptual framework that allows services to be distinguished from practices and functions (126).

Their rationale is that measuring the performance of public health functions is essential to improve performance. If functions are considered synonymous with services, and service performance is measured, then the best that can be expected is improvement in services. Things may be being done right, but the right things, in terms of community needs and expectations, may not be being done. The framework used in this project provides for a separation between the EPHFs and their grouping into services.

6. CONCLUSIONS

The focus of the project on the structure and sustainable delivery of essential public health functions in the Western Pacific Region is clearly important and timely. Valid concerns exist regarding the current delivery of essential public health functions and the ability of public health systems to protect, promote and improve the health of communities. The challenges will become even greater in the light of expected demographic and epidemiological trends, new technologies, ongoing and emerging environmental hazards, and the impacts of various aspects of health reform.

WHO proposed this research to assist countries in further developing and strengthening their public health systems. The WHO Regional Office for the Western Pacific was concerned that a number of countries were struggling to identify which public health functions were missing in their systems, and how best to organize the systems and missing components and deal with the impacts of major system changes that are occurring now or are expected in the next few years. These future changes include such complex issues as decentralization, increased competition and privatization of primary health care and other public providers, and the desire to achieve greater integration between vertical public health programmes.

The overall objectives of the project, which are described in chapter 2, recognize the environment of change in which health systems operate as countries adjust their systems in response to outside pressures, and in response to an internal focus on improving performance. Given the major changes happening in health systems in the Asia-Pacific Region, the research was suggested so that some practical proposals and examples could be generated in terms of organizing the essential public health functions in different countries, and identifying the likely impacts of key system changes on the organization of those functions. It is hoped that the proposals and examples will provide ideas for other countries in the organization on delivery of essential public health functions, and also some guidance in the light of major system changes that have the potential to adversely impact on those functions.

7. REFERENCES

1. *About WHO in the Western Pacific Region*. Manila, WHO Regional Office for the Western Pacific, 2002. *The World Health Report 1998: Life in the 21st century, a vision for all*. Geneva, World Health Organization, 1998.
2. Yach D. Redefining the scope of public health beyond the year 2000. *Current Issues in Public Health*, 1996, 2:247-252.
3. Pan American Health Organization/World Health Organization, Centers for Disease Control and Prevention, Centro Latino Americano de Investigaciones en Sistemas de Salud. *Public Health in the Americas Initiative: Instrument for the Performance Measurement of Essential Public Health Functions, Draft document*. September 2000 version. Washington, Pan American Health Organization/World Health Organization, 2000.
4. *State public health system performance assessment instrument*. STATE-7.5 version. Atlanta, Centers for Disease Control and Prevention, Public Health Practice Program Office, 1999.
5. Miller C, et al. A proposed method for assessing the performance of local public health functions and practices. *American Journal of Public Health*, 1994, 84(11):1743-1749.
6. Turnock B, et al. Local health department effectiveness in addressing the core functions of public health. *Public Health Reports*, 1994, 109(5):653-658.
7. Bettcher D, Sapirie S, Goon EHT. Essential public health functions: results of the international Delphi study. *World health statistical quarterly*, 1998, 51:44-55.
8. *Economic growth and human development*. New York, United Nations Development Programme, Human Development Report Office, 1996.
9. Haines A. Working together to reduce poverty's damage. *British Medical Journal*, 1997, 314:529-530.
10. Wilkinson R, Marmot M. *The solid facts: the social determinants of health*. Copenhagen, Centre for Urban Health, World Health Organization, 1998.
11. Murray C, Lopez AD, eds. *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Boston, Harvard School of Public Health on behalf of The World Health Organization and The World Bank, 1996.
12. Foege W. Preventive medicine and public health. *Journal of the American Medical Association*, 1993, 270(2):251-252.
13. *The World Health Report 1999: Making a difference*. Geneva, World Health Organization, 1999.
14. Bettcher D, Yach D. The globalisation of public health ethics? *Journal of International Studies*, 1999, 27(3):471-498.
15. Yamey G. Drug companies cut HIV drug prices in the developing world. *British Medical Journal*, 2000, 320:1362.
16. Bloom G, McIntyre D. Towards equity in health in an unequal society. *Social Science and Medicine*, 1998, 47(10):1529-1538.
17. Kim P, et al. Published criteria for evaluating health related web sites: review. *British Medical Journal*, 1999, 318:647-649.
18. Coiera E. Information epidemics, economics, and immunity on the internet. *British Medical Journal*, 1998, 317:1469-1470.
19. *Information support for new public health action at district level: report of a WHO Expert Committee*. Geneva, World Health Organization, 1994.
20. Ashton J, Lee B. Being prepared to protect the public health. Information for thinking the unthinkable and doing the essential. *Journal of Epidemiology and Community Health*, 1998, 52:702-703.
21. Kovats R, et al. Climate change and human health in Europe. *British Medical Journal*, 1999, 318:1682-1685.
22. Saltman R, Figueras J. Analyzing the evidence on European health care reforms. *Health Affairs*, 1998, 17(2):85-108.
23. Rice J. *Toward a new public-private mix for health gain: basic concepts for the debate over privatizing, decentralizing and liberalizing to improve health sector performance in countries of the former Soviet Union*. Minneapolis, Lakeland Color Press, 1995.
24. McPake B. The role of the private sector in health service provision. In: Bennett S, McPake B, Mills A, eds. *Private health providers in developing countries: serving the public interest?* New Jersey, Zed Books, 1997:21-39.

26. Berman P. The role of the private sector in health financing and provision. In: Janovsky K, ed. *Health policy and systems development: an agenda for research*. Geneva, World Health Organization, 1996.
27. Jeffers J. Influencing private health sector growth through financing options. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons Ltd, 1997:41-59.
28. Feacham R. Health systems: more evidence, more debate. *Bulletin of the World Health Organization*, 2000, 78(6):715.
29. Rosenthal G, Newbrander W. Public policy and private sector provision of health services. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons Ltd, 1997:11-24.
30. Ladinsky J, Nguyen HT, Volk ND. Changes in the health care system of Vietnam in response to the emerging market economy. *Journal of Public Health Policy*, 2000, 21(1):82-98.
31. Ismail Merican. Public-private integration at secondary and tertiary levels. *Persidangan Rancangan Malaysia Ke Lapan*; 17 - 19 February 2000; Equatorial Hotel, Bangi, Ministry of Health Malaysia, 2000.
32. Fiji. In: *Health priorities and options in the World Bank's Pacific member countries*. Washington, The World Bank, Population and Human Services Division, East Asia and Pacific Region, Country Department III, 1994.
33. Abu Bakar Suleiman. Towards greater integration in health and the promotion of smart partnership. *Persidangan Rancangan Malaysia Ke Lapan*; 17 - 19 February 2000; Equatorial Hotel, Bangi, Ministry of Health Malaysia; 2000.
34. Newbrander W, Moser P. The future of health sector reform in Asia. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons Ltd, 1997:221-230.
35. Berman P. Supply-side approaches to optimizing private health sector growth. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons Ltd, 1997:111-134.
36. Schieber G. Preconditions for health reform: experiences from the OECD countries. *Health Policy*, 1995, 32:279-293.
37. Miller C, et al. Longitudinal observations on a selected group of local health departments: a preliminary report. *Journal of Public Health Policy*, 1993, 14(1):34-50.
38. Swan M, Zwi A. *Private practitioners and public health: close the gap or increase the distance?* London, London School of Hygiene and Tropical Medicine, 1997.
39. Catford J. Health promotion in the market place: constraints and opportunities. *Health Promotion International*, 1995, 10(1):41-50.
40. Newbrander W, Moser P. Private health sector growth in Asia: an introduction. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons, 1997:3-10.
41. McPake B. Financing. In: Janovsky K, ed. *Health policy and systems development: an agenda for research*. Geneva, World Health Organization, 1996.
42. Aljunid S. The role of private medical practitioners and their interactions with public health services in Asian countries. *Health Policy and Planning*, 1995, 10(4):333-349.
43. Liu Y, Rao K, Fei J. Economic transition and health policy: comparing China and Russia. *Health Policy*, 1998, 44:103-22.
44. *Evaluation of recent changes in the financing of health services*. Geneva, World Health Organization, 1993.
45. Pickett G, Hanlon JJ. Public health in other countries. In: *Public health: administration and practice*. Ninth ed. Boston, Times Mirror/Mosby College Publishing, 1990.
46. Bloom G, Xingyuan G. Health sector reform: lessons from China. *Social Science and Medicine*, 1997, 45(3):351-60.
47. Committee of Inquiry into the Future Development of the Public Health Function. *Public health in England*. London, HMSO, 1988.
48. Baker E, et al. Health reform and the health of the public. *Journal of the American Medical Association*, 1994, 272(16):1276-1282.
49. Lee P. Reinventing public health. *Journal of the American Medical Association*, 1993, 270(22):2670-2671.
50. Durham G, Kill B. Public health funding mechanisms in New Zealand. *Australian Health Review*, 1999, 22(4): 100-117.
51. Gillies P. Effectiveness of alliances and partnerships for health promotion. *Health Promotion International*, 1998, 13(2):99-120.
52. Chapel T, et al. Private sector health care organizations and essential public health services: potential effects on the practice of local public health. *Journal of Public Health Management*, 1998, 4(1):36-44.
53. Bennett S, McPake B, Mills A. The public/private mix debate in health care. In: Bennett S, McPake B, Mills A, eds. *Private health providers in developing countries: serving the public interest?* New Jersey, Zed Books, 1997: 1-18.
54. Steering Committee on the Future of Public Health. *The future of public health: a scenario study*. Dordrecht, Kluwer Academic Publishers, 1992.
55. Garner P, Thaver I. Urban slums and primary health care: the private doctor's role. *British Medical Journal*, 1993, 306:667-668.
56. Hooi L. Case-finding for pulmonary tuberculosis in Penang. *Medical Journal of Malaysia*, 1994, 49(3):223-230.
57. Dung P. The political process to increase the private health sector's role in Vietnam. In: Newbrander W, ed. *Private health sector growth in Asia: issues and implications*. Chichester, John Wiley & Sons Ltd, 1997:25-38.
58. Buse K, Walt G. Global public-private partnerships: part 1 - a new development in health? *Bulletin of the World Health Organization*, 2000, 78(4):549-561.
59. Buse K, Walt G. Global public-private partnerships: part II - what are the health issues for global governance? *Bulletin of the World Health Organization*, 2000, 78(5):699 - 709.
60. *Public-private partnerships for health: Medicines for malaria*. Geneva, World Health Organization, 6 January 2000 (Report No: EB105/8 Add.1).

61. Moore M. *Public sector reform: downsizing, restructuring, improving performance*. Geneva, World Health Organization, 1996.
62. Mills A. Decentralization concepts and issues: a review. In: Mills A, Vaughan JP, Smith DL, Tabibzadeh I, eds. *Health systems decentralization: concepts, issues and country experience*. Geneva, World Health Organization, 1990.
63. Wall S. Transformations in public health systems. *Health Affairs*, 1998,17(3):64 - 80.
64. Fries J, et al. Beyond health promotion: reducing need and demand for medical care. *Health Affairs*, 1998,17(2):70 - 84.
65. Kisely S, Jones J. Acheson revisited: public health medicine ten years after the Acheson Report. *Public Health*, 1997, 111:361 - 4.
66. *The Ljubljana Charter on reforming health care*. Copenhagen, World Health Organization Regional Office for Europe, 1996.
67. *Health21: the health for all policy framework for the WHO European Region*. Copenhagen, World Health Organization Regional Office for Europe, 1999.
68. *The World Health Report 2000. Health systems: improving performance*. Geneva, World Health Organization, 2000.
69. World Health Organization, United Nations Children's Fund. *Primary health care: report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978*. Geneva, World Health Organization, 1978.
70. *Health sector reform in Asia and the Pacific: options for developing countries*. Manila, Asian Development Bank, 1999.
71. Lee P, Paxman D. Reinventing public health. *Annual Review of Public Health*, 1997, 18:1-35.
72. King A. *The primary health care strategy*. Wellington, Ministry of Health, 2001.
73. Ashton J. Public health and primary care: towards a common agenda. *Public Health*, 1990,104:387-398.
74. *Ottawa Charter for Health Promotion*. World Health Organization, Health and Welfare Canada, Canadian Public Health Association, 1986.
75. *Governance: The World Bank's experience*. Washington, The World Bank, 1994.
76. Allen R, ed. *Concise Oxford dictionary of current English*. Eighth ed. Oxford, Clarendon Press, 1990.
77. *Health facts 1997*. Kuala Lumpur, Ministry of Health, Planning & Development Division, Information and Documentation System Unit, February 1997.
78. Susser M. Health as a human right: an epidemiologist's perspective on the public health. *American Journal of Public Health*, 1993, 83(3):418-426.
79. Morgan L. Health without wealth? Costa Rica's health system under economic crisis. *Journal of Public Health Policy*, 1987, 1987:86-105.
80. Morgan L. International politics and primary health care in Costa Rica. *Social Science and Medicine*, 1990, 30(2):211-219.
81. Chvala C, Bulger RJ, eds. *Leading health indicators for Healthy People 2010*. Washington DC, National Academy Press, 1999.
82. King A. *The New Zealand Health Strategy*. Wellington, Ministry of Health, 2000.
83. McKee M, Fulop N. On target for health? *British Medical Journal*, 2000,320:327-328.
84. Chaulk C. Preventive health care in six countries: models for reform? *Health Care Financing Review*, 1994, 15(4):7-19.
85. Terris M. The health status of Cuba: recommendations for epidemiologic investigation and public health policy. *Journal of Public Health Policy*, 1989,10:78-87.
86. Beaglehole R, Bonita R. *Public health at the crossroads: achievements and prospects*. Cambridge, Cambridge University Press, 1997.
87. Castro Ruz F. Speech by his Excellency Dr Fidel Castro Ruz, President of the Republic of Cuba at the special session in commemoration of the 50th anniversary of the World Health Organization. Geneva, World Health Assembly; May 14, 1998.
88. Schade C. A preliminary comparison between local public health units in the Canadian Province of Ontario and in the United States. *Public Health Reports*, 1995, 110(1):35-41.
89. Miller C, Moore KS, Richards TB. The impact of critical events of the 1980s on core functions for a selected group of local health departments. *Public Health Reports*, 1993, 108(6):695-700.
90. Breckon D. *Managing health promotion programs: leadership skills for the 21st century*. Gaithersburg, Maryland, Aspen Publishers Inc, 1997.
91. Grainger C, Griffiths R. Public health leadership - Do we have it? Do we need it? *Journal of Public Health Medicine*, 1998, 20(4):375-376.
92. Gebbie K. Building a constituency for public health. In: Novick L, Woltring CS, Fox DM, eds. *Public health leaders tell their stories*. Gaithersburg, Maryland, Aspen Publishers Inc and the Milbank Memorial Fund, 1997: 23-34.
93. Wasserman M. Building a statewide coalition for tobacco control, 1993 - present. In: Novick L, Woltring CS, Fox DM, eds. *Public health leaders tell their stories*. Gaithersburg, Maryland, Aspen Publishers Inc and the Milbank Memorial Fund, 1997.
94. Calman K. *An interim report of the Chief Medical Officer's project to strengthen the public health function - report of emerging findings*. London, Department of Health, 1998.
95. Speers M, Lancaster B. Disease prevention and health promotion in urban areas: CDC's perspective. *Health Education and Behavior*, 1998, 25(2):226-233.
96. Turnock B, et al. Capacity-building influences on Illinois local health departments. *Journal of Public Health Management Practice*, 1995,1(3):50-58.
97. Bennett S, McPake B, Mills A. The public/private mix in health care systems. In: Janovsky K, ed. *Health policy and systems development: an agenda for research*. Geneva, World Health Organization, 1996.
98. Saltman R, Ferroussier-Davis O. The concept of stewardship in health policy. *Bulletin of the World Health Organization*, 2000,

- 78(6):732-739.
99. Kennedy V. Who provides the essential public health services? A method and example. *Journal of Public Health Management Practice*, 1999, 5(5):98-101.
100. Smith D, Davies L. Who contributes to the public health function? *Journal of Public Health Medicine*, 1997, 19(4):451-456.
101. Public health infrastructure. In: *Healthy People 2010 objectives: draft for public comment*. Washington DC, Department of Health and Human Services, United States of America, 2000.
102. Pratt M, et al. Local health departments in Washington State use APEX to assess capacity. *Public Health Reports*, 1996, 111:87-91.
103. Boelen C. *Towards unity for health*. Geneva, World Health Organization, 1999.
104. Gebbie K. The public health workforce: key to public health infrastructure. *American Journal of Public Health*, 1999, 89(5):660-661.
105. Addiss S, et al. Estimated expenditures for core public health functions - selected states, October 1992 - September 1993. *Morbidity and Mortality Weekly Report (MMWR)*, 1995,44(22):421, 427-429.
106. *Public Health Resource Identification Project: The overview report*. Wellington, National Interim Provider Board, 1992.
107. Deeble J. *Resource allocation in public health: an economic approach*. Melbourne, National Public Health Partnership Secretariat, 1999.
108. *Health expenditure trends in New Zealand 1980 - 98*. Wellington, New Zealand Ministry of Health, 1999.
109. Skegg D. *Public Health Commission annual report 1993 - 1994*. Wellington, New Zealand Public Health Commission, 1994.
110. Department for International Development. International co-operation in health. In: *World health opportunity: developing health, reducing poverty*. London, World Health Organization and the Department for International Development of the United Kingdom, 1999:39-45.
111. *Promoting the health of Australians: a review of infrastructure support for national health advancement, December 1996*. Canberra, National Health and Medical Research Council, 1997.
112. Gordon R, Gerzoff RB, Richards TB. Determinants of local health department expenditures, 1992 through 1993. *American Journal of Public Health*, 1997, 87(1):91-95.
113. Barnett P, Malcolm LA. To integrate or deintegrate? Fitting public health into New Zealand's reforming health system. *European Journal of Public Health*, 1998, 8(1):79-86.
114. Lasker R, Committee on Medicine and Public Health. *Medicine & public health: the power of collaboration*. Chicago, Health Administration Press, 1997.
115. National Health Priority Committee Secretariat. *Levers for change: levers available at the Commonwealth level for progressing the National Health Priority Area Initiative*. Canberra, Commonwealth Department of Health and Aged Care, 1999.
116. Thompson B, Kinne S. Social change theory, applications to community health. In: Bracht N, ed. *Health promotion at the community level*. Newbury Park, California, Sage Publications Inc, 1990.
117. Luepker R, Rastam L. Involving community health professionals and systems. In: Bracht N, ed. *Health promotion at the community level*. Newbury Park, California, Sage Publications Inc, 1990.
118. Ad hoc private sector group at the Jakarta Conference. Building better partnerships. *Health Promotion International*, 1998,13(3):191-192.
119. Kickbusch I. New players for a new era: responding to global public health challenges. *Journal of Public Health Medicine*, 1997,19(2):171-178.
120. Bettcher D. *Think and act globally and intersectorally to protect national health*. Geneva, World Health Organization, 1997.
121. *The public health workforce: an agenda for the 21st century*. Washington DC, Department of Health and Human Services Public Health Service, United States of America, 1997.
122. Davis P, Howden-Chapman P. Translating research findings into health policy. *Social Science and Medicine*, 1996, 43(5):865-872.
123. Selby Smith C. The nexus between health labour force research and policy. In: Short S, ed. *Annual Review of Health Social Sciences*. Sydney, School of Health Services Management, University of New South Wales, 1995.
124. Bhopal R. Public health medicine and primary health care: convergent, divergent or parallel paths? *Journal of Epidemiology and Community Health*, 1995, 49:113-116.
125. Turnock B, Handler A. The 10 public health practices vs the 10 public health services: a clarification. *American Journal of Public Health*, 1995, 85(9):1295-1296.
126. Turnock B, Handler AS. From measuring to improving public health practice. *Annual Review of Public Health*, 1997, 18:261-282.

CHAPTER 2

AIMS, METHODOLOGY and the EPHF FRAMEWORK

1. AIM AND CASE STUDY OBJECTIVES

The overall aim of the project was to identify options for structuring the sustainable delivery of essential public health functions. In addition, the project aimed to ensure that there was a particular focus on those functions necessary at an operational level, not just on the policy functions undertaken at the central level by ministries of health or their equivalent.

The research was intended to be primarily systematic and qualitative, although quantitative analysis could also be used where appropriate. In broad terms, the methodology for the project was as follows:

- (a) Agreement on the specific objectives for the country case studies and the overall conceptual framework. This was undertaken during an initial planning meeting, and further details are provided in section 3.1 of this chapter.
- (b) Identification of an appropriate framework for essential public health functions (EPHFs) to be included as part of the study. This was also undertaken during the initial planning meeting, and included identifying preconditions/critical links/relationships and other factors that could assist research teams to make sound and systematic evaluations of the current arrangements for public health functions in their countries.

The development of the specific essential public health functions used for the project, including the tasks associated with fulfilling those functions and the associated practices, is described in section 3.1 of this chapter.

- (c) Country case studies, undertaken by the country research teams.

In order to provide some practical and meaningful examples for countries in the Western Pacific Region, a theoretical paper was not considered appropriate; what was needed was practical research which, although drawing on appropriate evidence, was based on real health systems. A case study approach was, therefore, adopted. The objectives for each country case study were:

- (1) to describe the extent of essential public health functions, and their governance and stewardship;
- (2) to identify a proposal(s) for structuring and ensuring the sustainable delivery of essential public health functions in the Western Pacific Region, including the role of primary health care; and
- (3) to identify the impact on the proposal(s) from potential changes in the health sector and beyond.

The case studies included: providing relevant contextual information; undertaking a stocktake of whether the EPHFs were already being undertaken, by whom, and whether the required preconditions, critical links or relationships were in place to ensure that the functions were able to be carried out effectively; analysing the strengths, weaknesses, opportunities and threats of the current situation; and developing one or more proposals for the structure and sustainable

delivery of essential public health functions. The research also included consideration of the desirable and practical role of primary health care with respect to those functions, the role of sectors other than the health sector, and whether or not there was a need to develop a more specialized workforce to deliver some of these essential functions.

The methodology related to the case studies is described in section 3.2; the case studies on Fiji, Malaysia and Viet Nam are described in chapters 3, 4 and 5, respectively.

- (d) A concluding analysis was undertaken by the International Researcher, both in terms of the lessons learned from the three country case studies, and the lessons learned in undertaking research of this nature. This is detailed in chapter 6.

2. PROJECT PROCESS

Three countries were invited by WHO to participate in the research: Fiji, Malaysia and Viet Nam. The criteria for choosing those countries included considerations of: relevance for other countries in the Western Pacific Region; a reasonable public health infrastructure already being in place to test the comprehensiveness and suitability of the EPHF framework; availability of suitable in-country researchers; and agreement from the government of each country to participate. It was anticipated that the studies would be of direct relevance and use to each country participating in the research, as well as providing ideas and options for other countries in the Asia-Pacific region.

In each country, a multidisciplinary research team was involved. Because the research was expected to involve significant time, the research was primarily undertaken by an appropriate research institute, led by a principal investigator who also served as the point of contact for WHO. The research team also included an appropriate senior person from the ministry of health who, while not involved in the day-to-day aspects of the research, was able to ensure that the results of the studies were relevant to the government, and to assist with accessing people in other non-health agencies and ministries. The work of each country was also guided and peer-reviewed by a country reference/advisory group.

WHO also engaged an international researcher to undertake a detailed analysis of available frameworks and relevant literature, to form the basis for guiding the development of the project methodology; to provide support to country researchers; and to undertake a concise cross-country analysis to conclude the research.

At an initial planning meeting, the objectives of the country case studies were agreed and the methodology further developed, including the EPHFs that were to be used for the research, which are further defined in following sections of this chapter. The initial group at this planning meeting, the 'International Project Team' (IPT), comprised the lead researchers from each country, two key ministry personnel, the International Researcher and the WHO staff member responsible for the project. To guide the country research teams and ensure a reasonable degree of consistency, a project operating guideline (POG) was developed by the IPT at its first meeting and adjusted appropriately throughout the course of the research. More details on the process by which the project was undertaken are provided in section 4 of this chapter.

3. METHODOLOGY

3.1 Definitions of the Essential Public Health Functions

Figure 1.2 in chapter 1 (see page 16) provides a summary of the overall conceptual model for the project. Chapter 1 also provides a background discussion of the key elements (further described on page 15-16). The key conceptual components are: the core work of public health; governance and stewardship; functions and practices; services; and public health outcomes. Relevant aspects of governance and stewardship are discussed in chapter 1; the next section in this chapter discusses the specific essential public health functions and practices derived for the project.

Chapter 1 also identifies the need for essential public health functions to be delivered effectively, and for careful consideration to be given to the way those functions are structured, for example, in relation to primary health care, and to numerous important aspects of governance and stewardship, including: ensuring a mandate for public health; leadership; transparency; accountability;

participation; access to knowledge, information and education; appropriate resources; and ensuring effective functioning of the workforce, funding mechanisms, and various system supports, including strong links and relationships. Decisions made by the IPT on these relevant components are identified in chapter 1.

(a) Development of the EPHFs

The IPT adopted the conceptual model for the project discussed in chapter 1 (see Figure 1.2 on page 16), after having also considered the scope of the operational public health functions and of the preconditions and relationships/links to be investigated. The IPT developed the framework for the project after considering various sets of essential public health functions, including those from the WHO Delphi study (1); the United States of America (USA) (2); the Centers for Disease Control and Prevention (CDC), Centro Latino Americano de Investigacion en Sistemas de Salud and the Pan American Health Organization (3)¹; and Australia (5). The IPT excluded the Australian approach at an early stage, because, at the time of its considerations, the outcome of the Australian Delphi study had not been used to develop a statement of core functions and practices, although this work has since been completed (6).

The IPT recognized that the use of the term “services” rather than “functions” in the USA framework was necessary for domestic reasons to make the framework understandable to audiences and constituencies in the USA, external to the public health system. As the national health reform debate strengthened in the USA, and the amount of public funds spent on public health declined, it was considered necessary to “reinvent” public health (7) to make it more understandable in order to secure public resources for public health efforts (8). The use of “services” in the US framework should not be confused with the use of “services” in the project’s framework. In the US framework, “services” are equivalent to “functions” in the other frameworks examined.

The USA (2), CDC *et al* (3) and WHO (1) frameworks were all considered by the IPT, as shown in Table 2.1. The comparison demonstrated the similarity

between the USA essential public health services and the CDC essential public health functions. The new functions added by CDC for their pilot-test version of a national-level instrument for measuring essential public health functions were: Management capacity to organize health systems and services;² and Reducing the impact of emergencies and disasters on health. Taking these two frameworks together and comparing them with the WHO framework, each framework has strengths and weaknesses. These are listed in Table 2.2.

The IPT considered that the overwhelming advantage of the US and CDC frameworks was that they were supported by a series of measurement instruments in various stages of development (3, 9, 10). For those reasons, the WHO framework was excluded from further consideration. From the two remaining frameworks, the CDC one was chosen as the basis for developing the project framework because of the addition of the management and emergencies and disasters functions, both of which are important issues for the Western Pacific Region.

The detailed framework of each EPHF was further developed by defining the outcome of each function, specifying the tasks associated with each function, and listing the practices required to implement each task. To assist with that work, the IPT referred to the various instruments that had already been developed internationally, or were under development, to measure performance of essential public health functions. The instruments considered were the CDC pilot test version of a national-level instrument for measuring essential public health functions, and the CDC draft performance assessment instruments for both state public health systems and local public health organizations (3, 9, 10)³.

Those instruments had built on the work of Professor Arden Miller at the School of Public Health, University of North Carolina, and Professor Bernard Turnock at the Chicago School of Public Health (11-13). Even although the essential public health functions defined by the IPT for the Western Pacific Region vary from those used elsewhere, it is helpful to check the tasks identified by the IPT against other models.

¹ This instrument has since been updated (see ref. 4).

² In the final version, this function has been merged with Essential Function 5: Development of policies and institutional capacity for planning and management in public health 4 (see ref.4).

³ More recent versions of the latter instruments for State and local health services can be found at <http://www.phppo.cdc.gov/nphpsp/index.asp> under the section on “Performance Instruments”.

Table 2.1: Different approaches to essential services/functions

US essential public health services (2)	CDC <i>et al</i> essential public health functions (3) ⁴	WHO essential public health function categories (1)
Monitor health status to identify community health problems	Health situation monitoring and analysis	Monitoring the health situation
Diagnose and investigate health problems and health hazards in the community	Epidemiological surveillance/disease prevention and control	Prevention, surveillance and control of communicable and noncommunicable diseases
Inform, educate and empower people about health issues	Health promotion	Health promotion
Mobilize community partnerships to identify and solve health problems	Social participation and empowerment	Included in “Health promotion” as “Maintenance of linkages with politicians, other sectors and the community in support of health promotion and public health advocacy”
Develop policies and plans that support individual and community health efforts	Development of policies and planning in public health and the steering role of the national health authority	Included in “Public health management” as “Ensuring health policy, planning and management”
Enforce laws and regulations that protect health and ensure safety	Regulation and enforcement in public health	Public health legislation and regulations
Link people to needed personal health services and assure the provision of health care when otherwise unavailable	Evaluation and promotion of equitable access to necessary health services	Personal health care for vulnerable and high risk populations
Assure a competent public health and personal health care workforce	Human resource development and training in public health	
Evaluate effectiveness, accessibility and quality of personal and population-based health services	Ensuring the quality of personal and population-based health services	
Research for new insights and innovative solutions to health problems	Research, development, and implementation of innovative public health solutions	Included in “Public health management” as “Public health and health systems research”
	Management capacity to organize health systems and services in public health	Public health management
	Reducing the impact of emergencies and disasters on health	
		Occupational health
		Protecting the environment
		Specific public health services

⁴ In the final version, the functions are titled: Monitoring, evaluation, and analysis of health status; Public health surveillance, research, and control of risks and threats to public health; Health promotion; Social participation in health; Development of policies and institutional capacity for planning and management in public health; Strengthening of institutional capacity for regulation and enforcement in public health; Evaluation and promotion of equitable access to necessary health services; Human resource development and training in public health; Quality assurance in personal and population-based health services; Research in public health; Reducing the impact of emergencies and disasters on health (see ref. 4).

Table 2.2: Strengths and weaknesses of two frameworks for essential public health functions

	Essential public health functions – CDC <i>et al</i> (3)	Essential public health functions – WHO (1)
Strengths	<ul style="list-style-type: none"> • Evolved from USA approach which has been developed, applied, reviewed, and adjusted over many years • National-level instrument for measuring EPHFs under development, including proposed standards and indicators • Builds on research base which has resulted in instruments for measuring public health activities at state and local levels • Research has demonstrated the utility and validity of instruments for measuring similar activities (14, 15) 	<ul style="list-style-type: none"> • Resulted from Delphi study involving 145 respondents from 67 countries in all WHO regions and from multiple disciplines • Respondents from the Western Pacific Region made up 24.8% of the respondent group • Respondents identified as a result of global consultation • High level of consensus achieved in each of the three rounds of the study • High response rate compared with other Delphi studies
Weaknesses	<ul style="list-style-type: none"> • Could be perceived as having a developed country perspective • Could be perceived as having an American perspective, which may not fit so well with health systems in the Western Pacific Region. • Lacks a clear purpose statement for the core business of public health • Relationship between EPHFs and services unclear 	<ul style="list-style-type: none"> • Lacks an instrument for measuring performance in respect of EPHFs • Framework does not distinguish between functions, services (eg, specific public health services) and domains (eg environmental health)

(b) The nine EPHFs

The resulting EPHFs derived for this study, the associated outcome statements, tasks and practices are:

Function 1: Health situation monitoring and analysis

Outcomes

The outcomes of this function are the measurement, monitoring and analysis of changes in health status, including quality of life and health inequalities, and the acute and chronic disease burden. The function results

in confidence that safeguards exist for the protection of the public's health and provides early warning of problems.

Tasks

1.1 Assess health status of the country, both accurately and ongoing, for larger administrative units within the country, and for specific groups that are at higher risk for health threats than the general population.

Practices: assess; analyse; set priorities; evaluate; communicate; collect and use evidence.

1.2 Analyse, in addition to 1.1, **trends** in sociodemographic variables, mortality, morbidity, risks and hazards (personal and environmental), barriers to access to personal preventive services and *personal treatment services of public health significance*⁵ and coverage of population-based public health services.

Practices: analyse.

1.3 Identify current and potential threats to health.

Practices: assess; investigate; analyse; communicate; collect and use evidence.

1.4 Periodically assess health services needs (and/or targeted assessments).

Practices: assess; analyse; evaluate; collect and use evidence.

1.5 Identify resources and assets (in communities and in other sectors) to support public health.

Practices: investigate; assess.

1.6 Profile health status - produce and distribute a health status profile, including 1.1 -1.5 above.

Practices: analyse; communicate; collect and use evidence.

1.7 Manage information, develop technology, expertise and methods for management, analysis, quality control, and communication of information to all those with responsibilities for improving the public health.

Practices: develop plans; manage; implement; evaluate; collect and use evidence.

1.8 Integrate information systems, by collaborating within the public health system, with other parts of the health sector, and with other sectors, including the private sector.

Practices: negotiate; communicate; advocate; integrate.

Function 2: Epidemiological surveillance/disease prevention and control

Outcomes

The outcomes of this function contribute to improving health status and the quality of life, reducing health inequalities, safeguarding the public's health and reducing the burden of disease.

Tasks

2.1 Conduct surveillance of outbreaks and patterns of communicable and noncommunicable diseases, injuries and exposure to environmental agents harmful to health.

Practices: assess; investigate; analyse; develop plans; manage resources; evaluate; communicate; collect and use evidence; ensure compliance.

2.2 Investigate disease outbreaks and injury patterns and the associated risks and hazards.

Practices: set priorities; negotiate; develop plans; manage resources; implement; communicate.

2.3 Undertake case finding, diagnosis and treatment of diseases of public health significance, such as tuberculosis.

Practices: investigate; negotiate; manage patients; communicate; ensure compliance.

2.4 Access information and support services for better management of health problems of interest.

Practices: assess; negotiate; collect and use evidence; communicate.

2.5 Respond rapidly to control outbreaks and emerging specific health problems or risks.

Practices: assess; analyse; negotiate; set priorities; develop plans; manage; collect and use evidence; ensure compliance.

2.6 Implement mechanisms to improve surveillance systems and disease prevention and control.

Practices: assess; analyse; negotiate; develop plans; implement; evaluate; communicate.

⁵ Country-specific interpretation was permitted for the part of this task specified in italics

Function 3: Development of policies and planning in public health

Outcomes

The outcomes of this function are the development of policies and planning for the improvement of health status and quality of life, reducing health inequalities, safeguarding the public's health and reducing the burden of disease.

Tasks

- 3.1 Develop policy and legislation** to guide the practice of public health
Practices: analyse; advocate; negotiate; set priorities; develop plans; collect and use evidence; communicate.
- 3.2 Develop and evaluate plans** to promote and protect public health.
Practices: assess; analyse; negotiate; integrate; set priorities; develop plans; manage; evaluate; communicate.
- 3.3 Review and update** regulatory frameworks and policy, and their implementation, regularly and systematically in the light of health status and assessments of health needs.
Practices: assess; set priorities; develop plans; evaluate; collect and use evidence.
- 3.4 Advocate for population-based perspectives** in health services policy and the development of health sector regulation.
Practices: advocate; negotiate; communicate; collect and use evidence.
- 3.5 Develop and track measurable indicators** of health.
Practices: assess; investigate; analyse; implement; evaluate.
- 3.6 Evaluate** jointly with relevant health care systems so as to plan and define policies regarding personal preventive and treatment services.
Practices: advocate; negotiate; develop plans; evaluate; collect and use evidence; communicate.

Function 4: Strategic management of health systems and services for population health gain

Outcomes

The outcomes of this function contribute to implementation of strategies to improve health status and the quality of life, reduce health inequalities, safeguard the public's health, and reduce the burden of disease.

Tasks

- 4.1 Promote and evaluate effective access** by all citizens to the health services they need.
Practices: assess; investigate; evaluate.
- 4.2 Resolve and reduce inequities in the use of health services** by multisectoral collaboration that facilitates working with other agencies and institutions.
Practices: advocate; integrate; implement; evaluate.
- 4.3 Overcome barriers to access** to necessary health services by individuals and communities through population-based public health actions.
Practices: investigate; develop plans; integrate; implement; evaluate.
- 4.4 Facilitate the linkage of vulnerable groups to health services**
Practices: advocate; negotiate; integrate; implement; evaluate.
- 4.5 Develop competence** in evidence-based decision-making that incorporates resource management, leadership capacity and effective communication.
Practices: negotiate; set priorities; manage; communicate.
- 4.6 Advise on priorities** of publicly funded health services.
Practices: analyse; set priorities; negotiate; communicate; collect and use evidence.
- 4.7 Use evidence** on safety, effectiveness and cost-effectiveness to assess the utility of health technology and interventions.
Practices: assess; evaluate; collect and use evidence; communicate.

4.8 Manage public health to build, implement and evaluate organized initiatives to address public health problems.

Practices: manage; develop plans; integrate; implement; evaluate; set priorities.

4.9 Prepare for disaster and emergency response by the health system.

Practices: assess; negotiate; integrate; set priorities; develop plans; implement; communicate; ensure compliance.

Function 5: Regulation and enforcement to protect public health

Outcomes

The outcomes of this function contribute to the development and compliance with regulation that improves health status and the quality of life, reduces health inequalities, safeguards and protects the public's health, and reduces the burden of disease.

Tasks

5.1 Promulgate and implement laws and regulations on public health.

Practices: investigate; negotiate; collect and use evidence; communicate; ensure compliance.

5.2 Review, develop and update regulations on public health and develop capacity to regulate.

Practices: assess; set priorities; develop plans; manage; collect and use evidence.

5.3 Ensure enforcement of regulations and develop capacity for enforcement.

Practices: assess; analyse; manage; collect and use evidence; communicate.

5.4 Assess and promote compliance

Practices: assess; investigate; analyse; advocate; negotiate; integrate; communicate; collect and use evidence; ensure compliance.

Function 6: Human resources development and planning in public health

Outcomes

The outcomes of this function provide the workforce to improve health status and the quality of life, reduce health inequalities, safeguard the public's health, and reduce the burden of disease.

Tasks

6.1 Assess, perform and maintain an inventory of the human resource base, including professional attributes and distribution.

Practices: assess; investigate; analyse; evaluate.

6.2 Project workforce requirements in terms of quantity and quality.

Practices: develop plans; set priorities; communicate.

6.3 Ensure an adequate human resource base for public health activities.

Practices: advocate; manage; implement.

6.4 Ensure workers are adequately educated and trained, with demonstrable certification and re-certification.

Practices: evaluate; ensure compliance.

6.5 Coordinate between educational institutions and the workforce, and with employers and employees, in the design and delivery of training programmes.

Practices: negotiate; integrate; communicate; develop plans; implement.

6.6 Promote and encourage **continuing professional education**.

Practices: negotiate; communicate; advocate.

6.7 Monitor and evaluate education and training programmes.

Practices: advocate; manage; implement.

Function 7: Health promotion, social participation and empowerment

Outcomes

The outcomes of this function make communities healthier by advocating for health and empowering citizens through access to relevant, high quality and effective information.

Tasks

- 7.1 Contribute to improving the capacity and capability of communities** and decreasing their vulnerability to risks and damages to health.
Practices: develop plans; set priorities; implement; communicate; evaluate; manage; collect and use evidence; negotiate; advocate.
- 7.2 Create supportive environments** to make healthy choices the easy choices, by building coalitions, promoting relevant laws and policies, working intersectorally to make health promotion programmes more effective, and advocating with government authorities in relation to health priorities.
Practices: advocate; negotiate; integrate; communicate; develop plans; collect and use evidence; implement.
- 7.3 Empower citizens** to change lifestyles and play an active role in changing community norms about particular modes of behaviour to achieve permanent, large-scale behaviour change.
Practices: advocate; negotiate; communicate; set priorities; collect and use evidence.
- 7.4 Facilitate and convene partnerships** among groups and organizations to promote health.
Practices: advocate; communicate; negotiate; integrate; manage.
- 7.5 Communicate** through social marketing and targeted media communications.
Practices: advocate; communicate.
- 7.6 Provide accessible health information** resources at the community level.
Practices: assess; communicate; develop plans; manage; implement; evaluate.

Function 8: Ensuring the quality of *personal*⁶ and population-based health services

Outcomes

The outcomes of this function ensure the quality of *personal*⁶ and population-based health services to improve health status and the quality of life, reduce health inequalities, safeguard the public's health, and reduce the burden of disease.

Tasks

- 8.1 Define appropriate standards** for the quality of both personal and population-based health services.
Practices: assess; investigate; analyse.
- 8.2 Develop models for quality evaluation.**
Practices: set priorities; develop plans.
- 8.3 Identify valid and reliable measurement instruments** to monitor quality.
Practices: investigate; analyse; evaluate.
- 8.4 Monitor and ensure safety** and ongoing improvement in quality.
Practices: develop plans; manage; implement; evaluate.

⁶ Country-specific interpretation was permitted for the part of this function specified in italics.

Function 9: Research, development and implementation of innovative public health solutions

Outcomes

The outcomes of this function contribute to innovative ways to improve health status and the quality of life, reduce health inequalities, safeguard the public's health, and reduce the burden of disease.

Tasks

9.1 Develop a public health research agenda.

Practices: investigate; analyse; set priorities; develop plans; communicate; collect and use evidence.

9.2 Identify adequate sources of research funding.

Practices: communicate; develop plans; manage

9.3 Encourage cooperation and joint approaches between public health agencies and organizations to address funding and the conduct of research for the research agenda.

Practices: communicate; manage; negotiate; integrate

9.4 Ensure appropriate ethical safeguards for public health research.

Practices: develop plans; communicate; implement; ensure compliance

9.5 Develop processes for dissemination of research findings.

Practices: communicate; negotiate; develop plans; implement; manage

9.6 Encourage participation of public health workers in research at all levels.

Practices: communicate; develop plans; set priorities

9.7 Develop innovative programmes to address the identified problem.

Practices: develop plans; manage; implement

(c) Services

The final step in specifying the detailed framework required the IPT to identify, in broad terms, the types of services which have the major responsibility for

implementing essential public health functions. These services have been classified into three main types (16):

- Population-based public health programmes (such as vector control, population-based health promotion activities)
- Personal preventive services (such as immunization)
- Personal treatment services of public health significance (such as treatment of tuberculosis or sexually transmitted infections).

In Fiji for example, personal treatment services of public health significance (such as contact tracing and follow up of tuberculosis) are undertaken by public health staff, and treatment of diseases like tuberculosis are undertaken by hospital-based personnel and resources. Because of variations in different countries, a country-specific interpretation was included in the project operating guideline (POG) for this last category of services (this is reflected in the listing of the functions in section 3.1(b) by the use of italics).

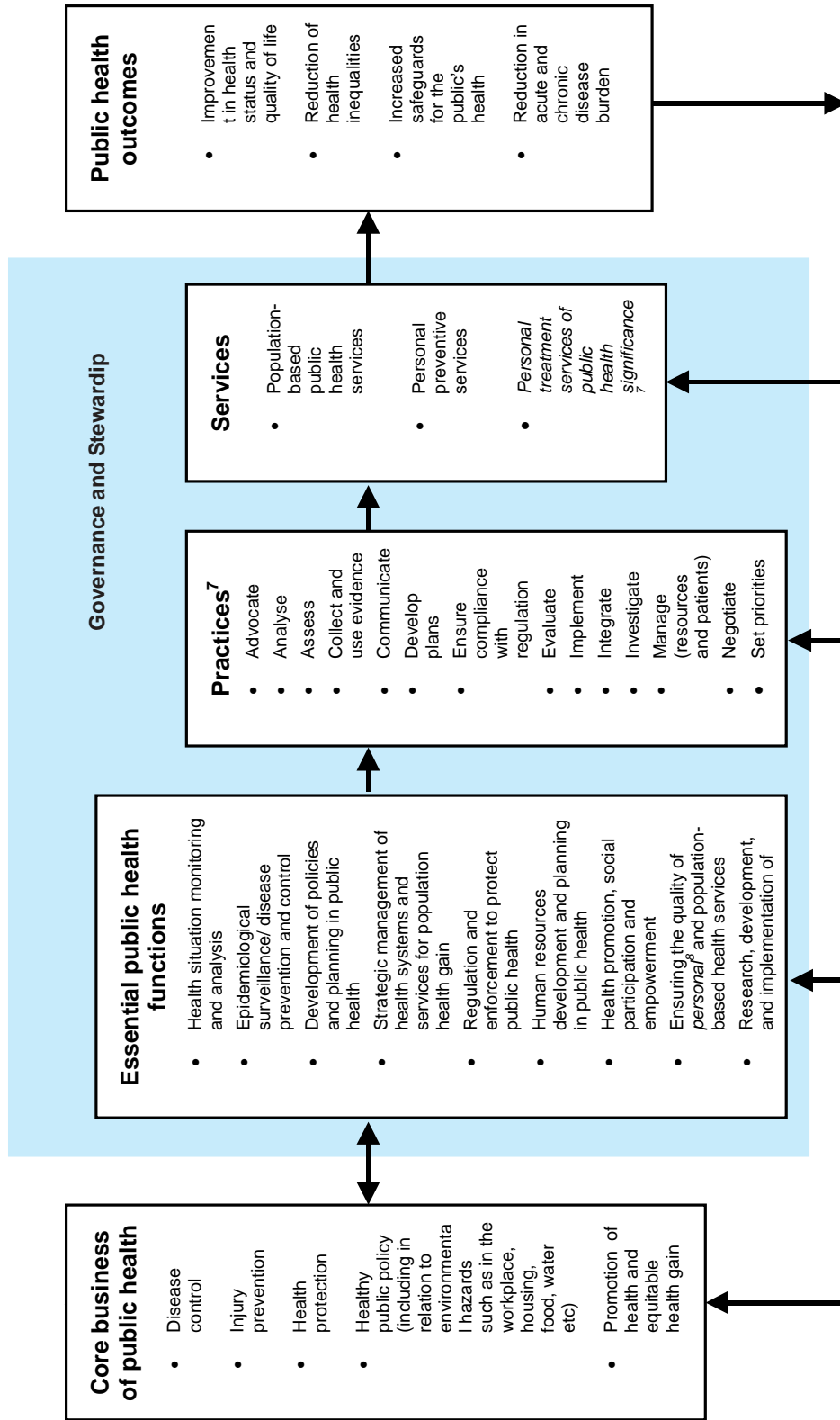
(d) Final framework

The framework was further developed in consultation with key stakeholders in each of the case study countries. The final framework used (and specified in the POG to guide country researchers) represents the outcome of the IPT's work at the planning meeting, two further rounds of consultation within each country, and changes as a result of the second IPT meeting because sections related to the table of contents of the final country report and the development of the proposal(s) to strengthen EPHFs needed clarification.

The final detailed framework for the project, represented by Figure 2.1, demonstrates how the IPT described the content of each of the inner circles of the model shown in Figure 1.2 in chapter 1. The IPT achieved this outcome, and the detailed EPHFs used in this study, by applying the collective expertise of the IPT to the CDC essential public health functions, the purpose of the "Public Health in the Americas" initiative, and the ten public health practices developed in the USA to assess the performance of local public health functions so that the outcome was appropriate for the Western Pacific Region (2, 3, 11).

The IPT decided that, in order to enable a sound and systematic evaluation of the current arrangements for each

Figure 2.1: Project Framework



⁷ Country-specific interpretation was permitted for the part of the function and services specified in italics

⁸ Refer to the glossary (section 5) of this chapter for definitions of different 'practices'

essential public health function, it would be necessary for the research teams to identify and analyse the following aspects for each function:

- (1) preconditions/critical links/relationships that should be in place for each function and that are necessary to ensure that:
 - the function can be effectively carried out, and
 - effective coordination exists with other relevant services and stakeholders (e.g. for the authorization of exercise of legislative powers, or for specialized advice, or to avoid certain conflict-of-interest situations);
- (2) the type of training necessary (in broad terms) to successfully undertake each function; and
- (3) other relevant factors, such as geographical location (in broad terms), and, in a few cases, the need to identify separate sub-components to ensure good delivery of that function.

Tables incorporating these aspects were developed to facilitate the systematic data collection and the situation analysis of each EPHF (see Table 2.3 as an example for Function 9 – tables for all other EPHFs followed the same format, but tasks and practices varied, in line with those detailed on pages 25 to 30).

3.2 Case study methodology

The case studies from Fiji, Malaysia and Viet Nam were set up to provide rich material to achieve the overall objectives of the project (17). The methodology used involved three parts.

- Compilation of **contextual information**, including higher level issues (governance and stewardship). The principal purpose of this information was to facilitate readers not familiar with the country to better understand the country context and report.
- Conducting a **stocktake** of the essential public health functions, and the strengths, weaknesses, opportunities, and threats related to the current situation in each country (to meet case study objective 1).
- Development of a **proposal(s)** for the structure and sustainable delivery of essential public health functions and its(their) appraisal in the light of potential changes in the health sector and beyond (to meet case study objectives 2 and 3).

Details of the specific methods used in each country are included in the following chapters, containing the country case studies. The following sections discuss the methodology issues agreed across the project as a whole by the IPT.

(a) Contextual information

The purpose of the contextual information was to provide an overview of the socioeconomic, demographic and health status indicators and the health sector, including relevant aspects of stewardship and governance. This was particularly relevant for the whole project, when all case studies would be presented together, to enable readers to gain sufficient understanding of the relevant contexts for the country case studies.

Recommendations for material to be included in this part of the country reports, and possible sources of information, were provided by the International Researcher for consideration by the IPT at the initial planning meeting. For consistency across the case studies, the material that was agreed to by the IPT was specified in the POG.

(b) Stocktake

A stocktake was conducted by each country team to identify which of the public health functions were already being undertaken in their country, and by whom (where those people were located), and whether the required preconditions, critical links or relationships were in place to ensure that the functions were able to be carried out effectively. That involved collecting information about current public health functions and interviewing key people. Ideally, the stocktake was to involve both the health sector and other key sectors currently delivering those functions.

The methods for the stocktake, and the development and appraisal of a proposal(s) for the structure and sustainable delivery of essential public health functions, were developed at both the generic and country-specific levels. At the generic level, the core components of the

Table 2.3: Situation analysis of Function 9 (Research, development and implementation of innovative public health situations)

Tasks	System and service responsibilities	Resources:			Workforce		Organizational issues	
		Practices	Adequate numbers?	Competencies	Linkages	Relationships		
1) Develop a public health research agenda		<ul style="list-style-type: none"> Investigate Analyse Set priorities Develop plans Communicate Collect and use evidence 						
2) Identify adequate sources of research funding		<ul style="list-style-type: none"> Communicate Develop plans Manage 						
3) Encourage cooperation and joint approaches		<ul style="list-style-type: none"> Communicate Manage Negotiate Integrate 						
4) Ensure appropriate ethical safeguards		<ul style="list-style-type: none"> Develop plans Communicate Implement Ensure compliance 						
5) Develop processes for dissemination		<ul style="list-style-type: none"> Communicate Negotiate Develop plans Implement Manage 						
6) Encourage participation		<ul style="list-style-type: none"> Communicate Develop plans Set priorities 						
7) Develop innovative programmes		<ul style="list-style-type: none"> Develop plans Manage Implement 						

⁹ Instructions: Insert concise expectation/requirement of the levels and services for each task. Also list organizations and their ownership.

stocktake that were common to all three case studies were specified in the POG. The stocktake of functions involved the completion of a situation analysis for each function (see example of a data collection form for Function 9 – Table 2.3).

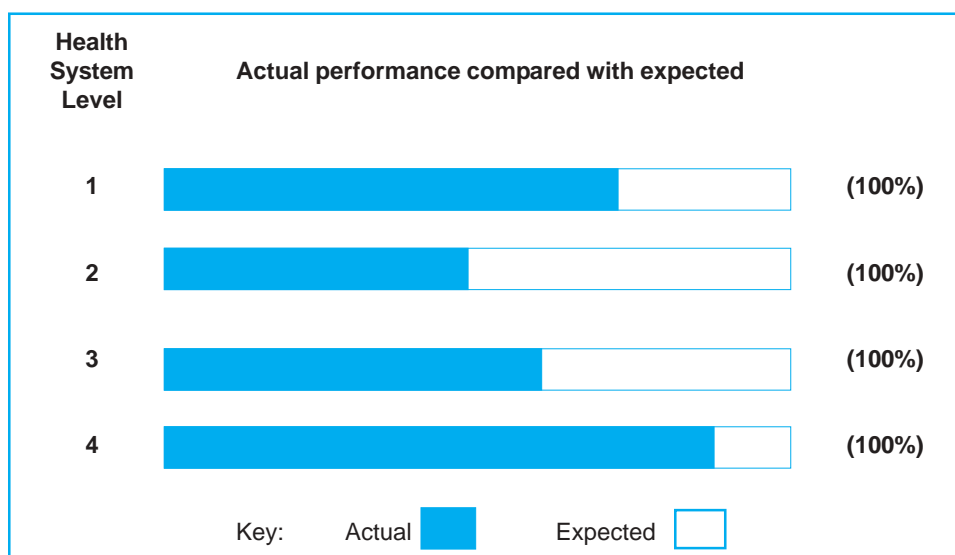
The information to be collected for each EPHF included:

- a description of the mandate(s);
- a description of the levels in the system with responsibility for part or all of the tasks associated with each function;
- a description of the expectation/delegation for each level in respect of the tasks for which it has responsibility;
- a description of the services (i.e. population-based public health services, personal preventive services, and *personal treatment services of public health significance*¹⁰) within which the tasks are delivered;
- a description of the support available (as previously discussed on pages 12 to 15 of chapter 1), and an assessment of its adequacy;

- an assessment of whether there are sufficient skills available for each task; and
- an assessment of the links and relationships relevant to each function.

These latter three assessments were aggregated to provide an assessment of actual overall performance compared to expected overall performance for each of the functions. In undertaking their assessments of the support and relationships available for each function, the overall competencies and numbers of health professionals available for each task, and the actual, compared with the expected, overall performance of each of the functions, the IPT considered the country research teams should take into account the approach illustrated in Figure 2.2. The example used in Figure 2.2 is for the overall performance of Function 1 (Health situation monitoring and analysis) and compares actual with expected. The approach is based on informed judgment, but is subject to quality control (discussed further in section 4). The levels refer to the level in each health system to which responsibilities for functions, in whole or in part, may be allocated. The levels relevant to the three case-study countries are shown in Figure 2.3 and Table 2.4.

Figure 2.2: Assessment of actual, compared with expected, overall performance on Function 1 (four-level country, eg Viet Nam)



¹⁰ Country-specific interpretation was permitted for the services specified in italics.

Figure 2.3: Basic comparison of the public health administrative structures of the three case-study countries

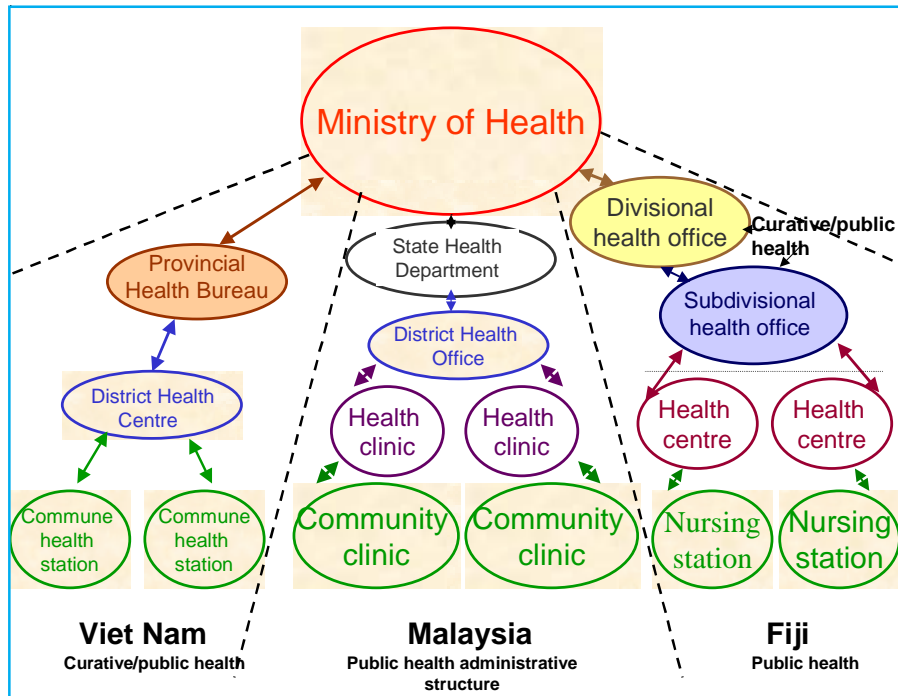
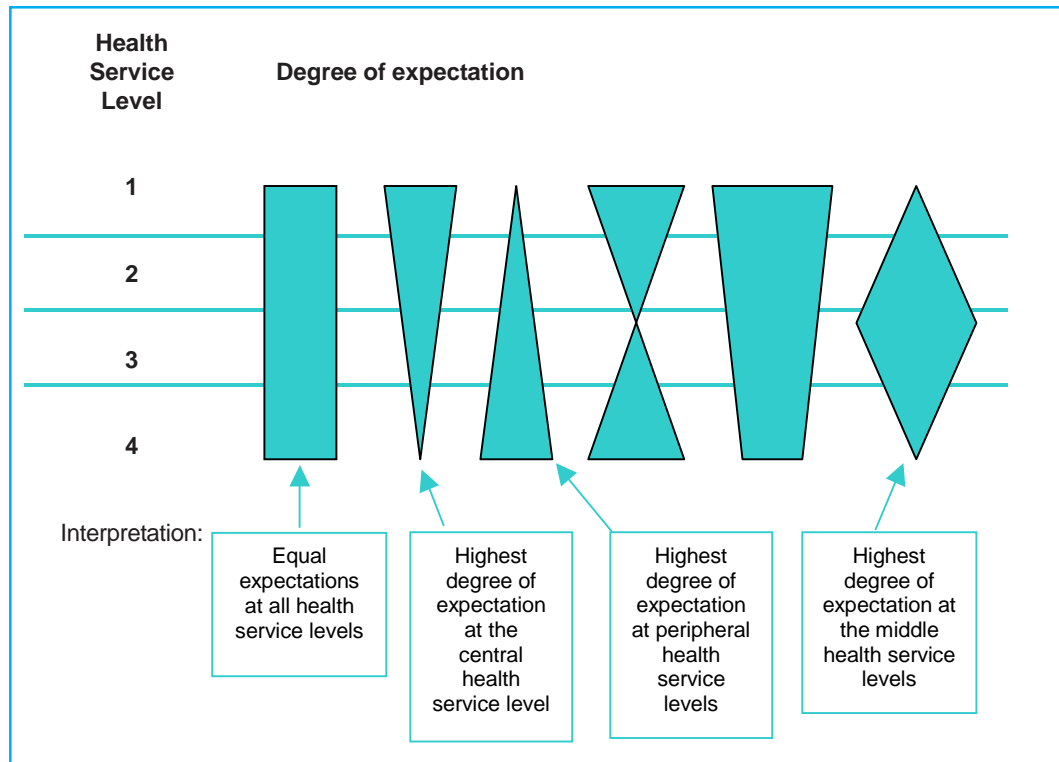


Table 2.4: Classification of public health administrative levels by country

Health System Level Number	Viet Nam	Malaysia	Fiji
1	Ministry of Health		
2	Provincial Health Bureau	State Health Department	Divisional Health Office
3	District Health Centre	District Health Office	Subdivisional Health Office
4	Commune Health Stations	Health Clinics	Health Centres
5	Not applicable	Community clinics	Nursing stations

Figure 2.4: Forms of distribution of expectation between the levels



Depending on the function being considered, the expected performance for different health service levels may take a number of forms, as shown in Figure 2.4. This illustrates that it should not be assumed that the highest degree of expectation for any given function is at level 1 of a health system (the Ministry of Health), nor that there are necessarily equal degrees of expectation of being able to undertake each function at different health service levels.

In terms of developing methods for the different health service levels, each country had flexibility in its choice of data collection methods to meet the requirements of the POG. The country research teams were given some guidance by the International Researcher, based on studies of local health department effectiveness in the United States. They were encouraged to use multiple methods and sources of evidence to establish construct validity (17). The range of methods considered by the IPT included:

- Site visits and personal interviews with those organizations responsible for public health activities (18).
- Document analysis (eg., organizational charts; annual reports; current annual budgets, if accessible to the researchers; a fee schedule, if any; any written programme plans; any reports of surveys or needs-assessment studies conducted by or for the organization).
- Self-completed survey of organization director, manager or other relevant person (13).
- Telephone survey of organization director, manager or other relevant person.
- Development of survey protocols, transmitted to each organization director, manager or other relevant person, to enable gathering of data and consultation with colleagues, followed by a taped telephone interview (19).

The methods chosen by each country are summarized in Table 2.5.

The IPT considered various methods to assess the adequacy of implementation of essential public health functions in the case studies. These methods included the use of screening instruments; force field analysis; Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis; and circles of influence (14, 20, 21). SWOT analysis was selected, as a method that was simple to use, familiar to a wide cross-section of people, and would be adequate for the task.

Country teams also identified any of the functions that would not be appropriate in their country context, or were most appropriately undertaken as part of primary health care in those countries that distinguish between public health and primary health care

In addition, as the stocktake was being undertaken, any key limitations that had to be taken into account in determining the proposal(s) for structuring the essential public health functions were identified (although if the constraint was, for example, a legislative requirement that all types of a particular worker must be government employees, this was noted but not regarded as an absolute constraint).

The specific methods used by each country team are described in the case study reports (see chapters 3 to 5).

(c) Proposal to strengthen EPHFs and protect their implementation in possible future health reforms and other threats

The IPT agreed that each country research team should develop one or more proposals for the effective and efficient organization of all EPHFs in each country. The proposal(s) was designed to strengthen the effective features of the public health system and overcome weaknesses that may relate to gaps, duplication, fragmentation, and maldistribution in any or all of the functions, practices, services, governance and stewardship (as defined in this project).

The development of a proposal(s) proved to be one of the most difficult parts of the project to implement. Implementation was assisted by the second project

meeting, held in February 2001. At that meeting, progress was reviewed, and the process of developing the proposal(s) to strengthen EPHFs and protect their implementation in possible future health reforms and other threats was clarified. It was also possible to reach agreement on the structure of the proposal(s), and to make decisions on the final table of contents for the country reports. Other matters discussed included future work, methods for dissemination of the findings, and key issues that should be included in the final chapter of the report.

In generating the proposal(s), the country research teams considered:

- the SWOT analysis;
- feasibility;
- the resources required (eg, financial and human resources in general terms);
- education/training requirements (core business specific vs competency specific);
- value for money;
- the likelihood of success; and
- sustainability.

The proposal was accompanied by the justification for choosing it, the gains that could be expected as a result of implementing it, any risks associated with implementation, any costs of implementation (in broad terms), and the education and training requirements. Any matters that should be taken into account in the implementation of the proposal were included, such as communication issues, timing, etc.

Country research teams reviewed their proposal in the light of potential changes in the health sector and beyond. Both core and country-specific future scenarios were considered in the impact assessment. The core scenarios included changes in the role of the state, such as corporatization, privatization, and decentralization; competition between primary health care providers; technological innovation; and globalization. The country-specific scenarios related to changing local factors such as demography, the performance of the economy, and inequities.

Table 2.5: Methods used by each country to collect data for the situation analysis

Method	Fiji	Malaysia	Viet Nam
Site	<p>Division: Central & Eastern.</p> <p>Subdivisions: Suva; Rewa and Kadavu.</p> <p>Health Centres: one from each of the three subdivisions.</p> <p>Nursing stations: similar to health centres.</p>	<p>Countrywide within the Ministry of Health system.</p>	<p>Quang Ninh: Northern Mountainous region.</p> <p>Hanoi: Northern City and Delta region.</p> <p>Dac Lac: Southern Mountainous region.</p> <p>Ho Chi Minh City: Southern City and Delta region.</p>
Rationale for selection	<p>In a zone which was "safe"¹¹.</p> <p>Combined a cross-section of demography and locales indicative of the wider Fiji services and population.</p> <p>"Doable" within existing resources without major logistical problems in terms of transport and time.</p>	<p>Ministry of Health is the main public health provider in the country.</p> <p>Logistics difficult because time and resource constraints prevented other sectors that contribute to health being involved in the project.</p> <p>The POG of this project can easily be extended to other parts of the health sector in subsequent phases.</p>	<p>Provinces: Delta, city and mountainous region.</p> <p>Districts: two in each province.</p> <p>Communes: average socioeconomic status, health and health care status.</p>
Sample	<p>Key informants at each level.</p>	<p>Key informants from various categories of personnel, including Ministry of Health programme managers, heads of training institutions, Ministry of Health district managers, key health care providers at health and community clinics.</p> <p>Each level of the system.</p> <p>Capable of contributing to the workshops.</p>	<p>Government staff.</p> <p>Medical staff.</p> <p>Directors at provincial and district levels.</p> <p>Vice-Chairman of the District People's Committee on Social Culture.</p> <p>Chief and staff of village clinic.</p> <p>Vice-Chairman of the Commune People's Committee on Social Culture.</p>
Data collection method	<p>Semi-structured questionnaire.</p> <p>Possible focus groups.</p>	<p>Semi-structured and self-administered questionnaires that were responded to by individuals and later deliberated to come to a group consensus through three workshops.</p>	<p>Pre-tested questions.</p> <p>Key informant interviews.</p> <p>Focus groups.</p>

¹¹ At the time the project was undertaken, Fiji was experiencing a period of significant political and civil unrest.

4. PROJECT PROCESS

4.1 Selection of countries

WHO invited three countries to participate in the project: Fiji, Malaysia and Viet Nam. The criteria for choosing these countries included the following key considerations:

- relevance of the countries for others in the Western Pacific Region (considerations of geography; differing socioeconomic, demographic and epidemiological situations; and the organization of the health systems);
- countries should already have a reasonable public health infrastructure in place, so that the comprehensiveness and suitability of the framework developed as part of the project could be put to a reasonable test (in particular, the definitions of EPHFs), and so that the examples generated for other countries would be derived from comprehensive analysis;
- availability of suitable in-country researchers (further discussed in the following section); and
- agreement from the government of each country to participate.

The involvement of Fiji, Malaysia and Viet Nam was expected to enable a good examination and discussion concerning different ways of effectively organizing essential public health functions in real situations. It was anticipated that the research would be of direct relevance and use to each country participating in the research, as well as providing ideas and options for other countries in the Asia-Pacific region to consider further.

4.2 Research teams

As the research was reasonably comprehensive and complex, WHO recommended that the research in each country should be undertaken by a small multidisciplinary research team, and that that team should include people with a good understanding of both public health and how public health functions were currently organized. It was anticipated that largely qualitative research would be undertaken, and people with good analytical abilities would be required. WHO recommended that it would be

best if the research team could include people who, not only understood public health and the delivery of public health functions or services, but also were good at systems and organizational design.

As this research was expected to involve a reasonable amount of time, WHO anticipated that each ministry would need to request the involvement of a relevant public health research institute or university public health department, where there might be a suitable team of people available to contract to undertake the majority of the work, and some funding was provided to engage such expertise. A principal investigator was identified from a suitable institute/university in each country. The principal investigators were the main liaison persons for the project, and were responsible for organizing appropriate research teams and project steering groups to guide the research in their countries, for all in-country arrangements regarding the details of the project, and for leading the day-to-day research.

In making initial contacts with countries to explain the project and seek their agreement to participate, WHO also suggested that it would be very worthwhile to include, as part of the project team, a person who was part of the central ministry of health, not necessarily full-time or to undertake detailed work, but particularly at stages where different models were being identified and debated by the research team. This was because, not only would it be important to ensure that the results of the research were relevant to the government, but also because access to people in other non-health agencies and ministries would be required, and this would require appropriate contacts or negotiations at ministry level.

In addition, each country research team established a reference/advisory group for the project. Details of each project advisory group are included in the individual country reports. The roles of the reference/advisory groups included:

- advising on the country-specific aspects of the methodology;
- advising on the project plan;
- raising issues for possible consideration by the IPT;
- advising on the quality controls that should be in place and reviewing their implementation; and

- carrying out a peer review of the draft report.

To ensure coordination across the whole project, WHO engaged an international researcher (Associate Professor Gillian Durham), whose role was:

- (1) to undertake a detailed analysis of available frameworks and relevant literature, to form the basis for guiding the development of the project methodology;
- (2) to provide support to country researchers, particularly in ensuring consistency in applying the methodology and in providing ideas for relevant proposals for organizing the operational-level public health functions (This support included email contact and a visit to each country, and commenting on the draft chapters from each country research team); and
- (3) to undertake a concise cross-country analysis to conclude the research.

4.3 Project meetings

An initial planning meeting for the project was held from 26 to 30 June, 2000, at the WHO Regional Office for the Western Pacific in Manila, the Philippines, and the group attending that meeting became the International Project Team (IPT). The members of the IPT were:

- Dr Le Vu Anh, Dean, Ha Noi School of Public Health, Ha Noi, Viet Nam (Principal Investigator for Viet Nam)
- Associate Professor Gillian Durham, Combined Universities Centre for Rural Health, Geraldton, Western Australia (International Researcher)
- Dr Maimunah A Hamid, Head, Health Systems Research Division, Public Health Institute, Ministry of Health, Kuala Lumpur, Malaysia (Principal Investigator for Malaysia)
- Dr Graham Harrison, Acting Regional Adviser in Health Systems Development, WHO Regional Office for the Western Pacific, Manila, Philippines
- Dr Safurah Jaafar, Principal Assistant Director, Public Health Department, Ministry of Health, Kuala Lumpur, Malaysia

- Professor David Phillips, Professor of Public Health and Primary Care, Fiji School of Medicine, Suva, Fiji (Principal Investigator for Fiji)
- Dr Lepani Waqatakirewa, Acting Director, Primary and Preventive Health Services, Ministry of Health, Suva, Fiji.

The initial planning meeting was required to agree on the overall objectives of the country case studies to further develop and clarify all aspects of the methodology to be used for the research, and to agree on timelines and project management, etc. The agenda for the planning meeting was as follows:

- 1 Welcome and introductions
- 2 Introduction to the project
- 3 Scope of the operational public health functions to be investigated
- 4 Scope of the preconditions and relationships/links to be investigated
- 5 Methodology
 - Contextual information
 - Stocktake
 - Evaluative component
- 6 Generation of proposal(s) for structuring essential public health functions
- 7 Future scenarios and their impact on the proposal(s)
- 8 Structure of each country report
- 9 Timeline
- 10 Other business.

Discussion on each agenda item was facilitated by a background paper developed by the International Researcher, which formed the basis of discussions on the methodology between all researchers at the planning meeting. All background papers had the following format: (a) purpose of agenda item; (b) background; (c) questions to be answered by the meeting; (d) conclusions; (e) recommendations; (f) references. The background papers also included a first draft of a glossary

of terms; as the project planning and implementation progressed, the glossary was added to and refined in an attempt to achieve clear understanding of the definition of terms used in the project between WHO, the country research teams and the International Researcher. Copies of the background papers are available from the WHO Regional Office for the Western Pacific on request.

A second project meeting was held from 5 to 8 February, 2001, in Kelantan, Malaysia, after each country research team had completed their data collection and analysis and had prepared an early draft of their country report. The purpose of the second meeting was to review progress, clarify the process of developing the proposal(s) to strengthen EPHFs and protect their implementation in the face of possible future health reforms and other threats, reach agreement on the structure of the proposal(s), and make decisions on the final table of contents for the country reports. Other matters discussed included future work, methods for dissemination of the findings, and key issues to be included in the final chapter of the report.

4.4 Project operating guideline

The IPT recognized that, although the primary reason for initiating the project was to meet the needs of WHO and the desire to assist countries of the Western Pacific Region, the project would and should benefit the countries that agreed to be the subjects of the case studies. The project was structured, therefore, to maintain a core component that ran throughout, while allowing country-specific deviations from the core, providing they did not undermine the project's overall integrity, but allowed the project to be of value to both WHO and the case study country.

The core components of the project, and those parts that could be the subject of country-specific interpretation, were specified in a project operating guideline (POG), the first version being produced during the June 2000 meeting of the IPT. A number of practical and process aspects of the project were also included in the POG:

- a clear timeline with milestones and responsibilities was established and agreed for the country case studies;
- a table of contents for the country case study reports;

- a glossary of key terms, to assist with implementation of the project by each country team, and ensure consistency with WHO and the International Researcher.

After the planning meeting, two rounds of consultation were conducted by the country research teams on the framework, and appropriate changes were reflected in a revised POG. The POG was also updated during the conduct of the research, when sections needed clarification or implementing sections of the guideline proved not to be feasible in the field. A final update of the POG was also undertaken after the second meeting of the IPT in February 2001, because sections relating to the table of contents of the final country report and the development of the proposal(s) to strengthen EPHFs needed clarification. The final version of the POG is available electronically from the WHO Regional Office for the Western Pacific.

4.5 Quality control, timeline

A variety of mechanisms were utilized to ensure the quality of the work in each country and across the whole project.

Consistency of interpretation of the generic aspects of the project covered in the POG was maintained by the following hierarchy of methods:

- Emails between the country research teams and the International Researcher and/or the WHO Regional Office for the Western Pacific to be copied to all members of the IPT unless the subject of the email is deemed to be confidential for some reason.
- Monthly emails (end of month) to the International Researcher and the WHO Regional Office for the Western Pacific, with copies to all, covering:
 - milestones achieved;
 - problems encountered, and solutions adopted;
 - meetings of reference/advisory group; and
 - any other relevant issues.
- Sharing of each country research team's project plans and data collection tools with the other teams.

- Country visits (by the International Researcher).

In addition, facilities for conference calls were available, to be used with the whole IPT to discuss important matters that could not otherwise be clarified, although these proved unnecessary.

At the country level, the project reference/advisory groups were used by the country teams both to guide the country research and for a quality/peer review of the results. Various methods were used by each country, and some aspects of these are further discussed in section 3.2(b) of this chapter. Each country research team also maintained an audit trail so that it was possible to follow the interaction between the data and the explanations of the data (22).

5. GLOSSARY OF PRACTICES

This glossary provides definitions of different ‘practices’.

Advocate To use a combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or programme (23).

Analyze To examine in detail the determinants of identified health needs (12, 24).

Assess To undertake the regular systematic collection, assembly, analysis, and dissemination of information on the health of the community (11).

Collect and use evidence – see **Use evidence**

Communicate The practice of conveying information or evoking understanding in health issues (24).

Develop plans The practice of formulating methods by which priority health needs are to be addressed (12, 24).

Ensure compliance with regulation The practice of making certain acquiescence to regulation (24).

Evaluate The assessment of the effect that health services or programmes have on the population’s health (12, 24).

Implement The practice of putting into effect a health policy or programme (24).

Integrate The practice by which different partners or stakeholders may have to give up some of their authority and prerogatives as they converge their efforts to improve health, while retaining their identity and specificity (25).

Investigate To undertake a systematic inquiry into the occurrence of health effects and health hazards in the community (12, 24).

Manage (resources) The practice of planning, organizing, staffing, and controlling the work and financial resources needed to undertake essential public health functions (26).

Manage (patients) The practice of planning, organizing and controlling the personal preventive care and personal treatment of patients whose illnesses are of public health significance.

Negotiate To confer with others in order to reach a compromise or agreement (24).

Set priorities The practice of choosing which health needs have prior claim to consideration when there is a gap between the availability of resources and the demand for health services (12, 24, 27)

Use evidence The practice of conscientiously, explicitly and judiciously using current best evidence in making decisions related to public health (28).

6. REFERENCES

1. Bettcher D, Sapirie S, Goon EHT. Essential public health functions: results of the international Delphi study. *World Health Statistical Quarterly*, 1998,51:44-55.
2. *The public health workforce: an agenda for the 21st century*. Washington DC, Department of Health and Human Services Public Health Service, United States of America, 1997.
3. Centers for Disease Control and Prevention, Centro Latino Americano de Investigaciones en Sistemas de Salud, Pan American Health Organization/World Health Organization. *Public health in the Americas: national level instrument for measuring essential public health functions*. Washington DC, Pan American Health Organization, 2000. Pilot test version, May 2000.

4. *Public health in the Americas: Conceptual renewal, performance assessment, and bases for action.* Washington DC, Pan American Health Organization, 2002.
5. *National Delphi study on public health functions in Australia.* Victoria, National Public Health Partnership Group, 2000.
6. *Public health practice in Australia today.* Melbourne, National Public Health Partnership Group, 2000.
7. Lee P. Reinventing public health. *Journal of the American Medical Association*, 1993, 270(22):2670-2671.
8. Turnock B, Handler A. The 10 public health practices vs the 10 public health services: a clarification. *American Journal of Public Health*, 1995,85(9):1295-1296.
9. *State public health system performance assessment instrument.* STATE-7.5 version. Atlanta, Centers for Disease Control and Prevention, Public Health Practice Program Office, 1999.
10. *The draft local public health performance assessment tool.* Atlanta, Centers for Disease Control and Prevention, Public Health Practice Program Office, 1999.
11. Miller C, *et al.* A proposed method for assessing the performance of local public health functions and practices. *American Journal of Public Health*, 1994, 84(11):1743-1749.
12. Richards T, *et al.* Evaluating local public health performance at a community level on a statewide basis. *Journal of Public Health Management Practice*, 1995, 1(4):70-83.
13. Turnock B, *et al.* Local health department effectiveness in addressing the core functions of public health. *Public Health Reports*, 1994, 109(5):653-658.
14. Miller C, *et al.* Validation of a screening survey to assess local public health performance. *Journal of Public Health Management Practice*, 1995, 1(1):63-71.
15. Turnock B, *et al.* Capacity-building influences on Illinois local health departments. *Journal of Public Health Management Practice*, 1995,1(3):50-58.
16. Swan M, Zwi A. *Private practitioners and public health: close the gap or increase the distance?* London, London School of Hygiene and Tropical Medicine, 1997.
17. Pope C, Mays N. Using case studies in health services and policy research. In: Pope C, Mays N eds. *Qualitative research in health care.* Second ed. London, British Medical Journal Publishing Group, 1999. Electronic source accessed 8 June 2000.
18. Brooks E, Miller CA. Recent changes in selected local health departments: implications for their capacity to guarantee basic medical services. *American Journal of Preventive Medicine*, 1987, 3(3):134-141.
19. Miller C, *et al.* Longitudinal observations on a selected group of local health departments: a preliminary report. *Journal of Public Health Policy*, 1993, 14(1):34-50.
20. Miller C, *et al.* A screening survey to assess local public health performance. *Public Health Reports*, 1994,109(5):659-664.
21. Smithies J, Webster G. *Community involvement in health: from passive recipients to active participants.* Aldershot, Ashgate Publishing Ltd, 1998.
22. Mays N, Pope C. Quality in qualitative health research. In: Pope C, Mays N eds. *Qualitative research in health care.* Second ed. London, British Medical Journal Publishing Group, 1999. Electronic source accessed 8 June 2000.
23. Nutbeam D. *Health promotion glossary.* Geneva, World Health Organization, 1997.
24. Allen R, ed. *Concise Oxford dictionary of current English.* Eighth ed. Oxford, Clarendon Press, 1990.
25. Boelen C. *Towards unity for health.* Geneva, World Health Organization, 1999.
26. Breckon D. *Managing health promotion programs: leadership skills for the 21st century.* Gaithersburg, Maryland, Aspen Publishers Inc, 1997.
27. Ham C. Priority setting in health. In: Janovsky, K, ed. *Health policy and systems development.* Geneva, World Health Organization, 1996.
28. Sackett D, *et al.* Evidence based medicine: what it is and what it isn't. *British Medical Journal*, 1996, 312(7023):71-72.

CHAPTER 3

FIJI CASE REPORT

1. CONTEXTUAL INFORMATION

The concise contextual information in this section is provided to enable the reader to understand the context in which Fiji's public health services are currently being provided.

1.1 Geography

The Pacific Ocean, although occupying 30% of the surface area of the globe, has only a very small fraction of the global population, approximately six million, scattered over more than 20 countries and countless islands. A useful example is the nation of Kiribati; a country of 80 000 people, where the distance from east to west of the country equates to four time zones and the distance from Los Angeles to Washington DC. Around 85% of the population, however, live in a strip of land five km long by 200 metres wide.

Fiji, another of the Pacific island nations, lies in the central south Pacific ocean, with Australia to the southwest, New Caledonia and Vanuatu to the west; Solomon Islands and Nauru to the northwest; Kiribati to

the north; Samoa to the northeast; Tonga and the Cook Islands to the east and New Zealand to the far south (see Figures 3.1 and 3.2).

Fiji is an archipelago consisting of more than 320 islands, with a land area totaling 18 376 km², located between 15-22° south, 177° west and 174° east. Approximately 150 islands are inhabited, with a similar number uninhabited (1). Viti Levu, the largest island, has an area of 10 429 km² and accounts for more than half of Fiji's land area. Vanua Levu, the second largest island, has an area of 5556 km². Other major islands are Taveuni (470 km²) and Kadavu (411 km²), with a distance of 480 km between the Yasawa group in the far northwest and the Lau group in the far southeast (1, 2).

The major urban centres are: Suva (population 100 000), also the capital of Fiji; Lautoka, the administrative centre of the western division (sugar cane belt area), and Nadi (the tourist centre). Other major centres are Sigatoka, Ba, and Labasa (situated on Vanua Levu and the administrative centre of the Northern Division).

1.2 Demography and socioeconomic situation

Fiji became independent from the United Kingdom in 1970 and a Republic was declared in 1997, with a President and Government elected through universal suffrage every five years. That situation ceased in May 2000 as a result of a coup ending in the formation of an unelected interim administration. The future of Fiji's political framework is uncertain at the time this project was undertaken.

Until May 2000, Fiji had been experiencing significant economic growth, estimated in 1999 at 6% per annum, with a per capita GDP of US\$2416 per annum. Economic conditions and the medium-term prospects for Fiji have deteriorated sharply as a result of the above events. Latest forecasts suggest further stagnation for the period 2000/2001 (3).

The major income earners are sugar and tourism, which together account for more than 50% of total revenue. Other sources of revenue are gold, garment manufacture, commercial fishing, timber, molasses and coconut oil. However, the vast majority of the population exists outside the formal cash economy.

Almost all indigenous Fijians are Christian, mostly Methodist and Roman Catholic. Since the Second World War, indigenous Fijians have been outnumbered by Indians, most of whom are descendants of indentured labourers brought to work in the sugar industry. Most of the Indians are Hindus, though a significant number are Muslims. There are also significant minorities of Europeans, part-Europeans, Chinese, and Pacific islanders from outside Fiji. In the last group are the Polynesian population of Rotuma and the Banabans, who were forced to leave Banaba after destruction during the Second World War made it uninhabitable. Many Banabans settled on Rabi Island in Fiji.

In 1999, the population of Fiji was estimated to be 806 000, comprising 52% indigenous Melanesians, 43% Indians and 5% others. The annual population growth rate is 0.8%. Population density varies markedly between urban and rural areas, with a strongly positive net migration to urban areas (4).

The relevant human development and related demographic indices are summarized in Table 3.1.

1.3 Overview of the health sector

(a) Health status determinants

Individual and societal factors:

(1) Geographical location

Some rural and island communities are many kilometres away from the nearest health facility, often across rugged terrain and inaccessible by motor vehicles, and/or are on island settings where access by sea is difficult.

(2) Socioeconomic status

Approximately 20% of the population live in poverty, increasingly in urban/periurban areas where the cash economy predominates, thus impacting on access to health facilities and care (8). However, it should be noted that the percentage may have increased after recent political upheavals.

(3) Psychosocial factors

Particularly in Fijian societies, the spirit world is a major contributor to belief systems about disease causation, and 'traditional' practitioners are invariably the primary contact for health care. The use of traditional Fijian medicines and Ayurvedic medicines is commonplace.

Environmental factors:

(1) Seasonal and climatic factors

The climate is of the tropical oceanic type, with maximum rainfall between January and March. At that time of year there is an increase in vectorborne disease generally, and leptospirosis and dengue fever in particular; the situation will be exacerbated by global warming.

Between the months of November and April, Fiji is prone to tropical cyclones. There are 10-15 cyclones per decade, with a small number causing severe damage, the last being Cyclone

Table 3.1: Socioeconomic and demographic indicators

Indicator	Value	Source
GDP per capita, 1998	2416 (1995 US\$)	United Nations Development Programme (5)
GNP annual growth rate, %, 1990-98	0.8%	United Nations Development Programme (5)
ODA per capita, 1998	44.1(US\$)	United Nations Development Programme (5)
% population in rural areas - actual 1996	58%	United Nations Development Programme (6)
- projected 1999	54%	United Nations Development Programme (5)
Total population size	806 000	World Health Organization (7)
Total population density	42 persons/km ² (1996)	Bureau of Statistics (4)
Population distribution by: (1) Gender -male: female	393 931 : 381 146	Bureau of Statistics (4)
(2) Age - under 5 years	94 214	
- 10-19years	176 537	
- Women of child-bearing age	188 052	
(3) Ethnicity - Fijians	393 575	
- Indians	338 818	
- Others	33 684	
Average annual growth rate of the population	1.2% (1990-99)	World Health Organization (7)
Population ageing (% of pop aged >= 60 years)	5.3% (1990) 7.1% (1999)	World Health Organization (7)
Adult literacy rate	92.2% age 15 and above	United Nations Development Programme (5)
Primary school enrolment	99.9% of relevant age group	United Nations Development Programme (5)
Secondary school enrolment	84.2% of relevant age group	United Nations Development Programme (5)
Dependency ratio	70/100 (1990) 57/100(1999)	World Health Organization (7)
Human Poverty Index-value	8.4% (1998)	United Nations Development Programme (5)
Human Poverty Index-rank	46 (1998)	United Nations Development Programme (5)
Human Development Index	0.769 (1998)	United Nations Development Programme (5)

Kina in 1993. That resulted in a rise in diarrhoeal diseases and significant destruction of rural homes and infrastructure. The reef system protects most of Fiji from local and distant tsunamis, but global warming and the rising sea level may diminish that protection.

(2) Land and agricultural practices

There are high rates of soil erosion, especially in the sugarcane farming belts, resulting in lowered plant productivity and crop yield. As agriculture accounts for 80% of employment,

there is, therefore, a direct effect on the health of many Fijians. Additionally, commercial logging and subsequent deforestation is leading to soil erosion, water pollution, low biodiversity, landslides and flash flooding, impacting on health (9).

(3) Tourism

Tourism contributes to environmental degradation in several ways. Coastal reclamation and dredging for resort construction has led to the loss of marine life habitats and

mangroves, which Fijian villagers depend on for subsistence. Links have been suggested between increases in ciguatera fish poisoning and disturbances in coral reefs caused by the blasting of boat channels and toxic antifouling paints from resort boats (9).

(4) Urbanization and water/air pollution

The urban population has increased from 36.7% (1975) to 41.6% (1998) and is projected to increase to 50.5% by 2015 (4). This is placing pressure on basic services such as housing, water and sewerage. Levels of poverty are higher in urban settings than elsewhere. The lack of basic amenities, such as piped water, adequate sanitation and garbage disposal, is thought to be a major factor in a number of disease outbreaks, including the dengue outbreak of 1997/1998.

(5) Industrialization

Hazardous wastes are generated in Fiji's industries and have the potential for environmental degradation; for example, Fiji's lone gold mine has the potential for serious environmental damage.

(b) **Health status**

Fiji has, through its commitment to the development of public health and primary care services, very positive health status indices, which are tabulated in Table 3.2.

(c) **Stewardship and governance of the health sector in Fiji**

The Government of Fiji is the principal funder and provider of health services in Fiji and, through the Ministry of Health, provides preventive, promotive, curative and rehabilitative health services to all its citizens. Government health services, including public health services, are funded through general taxation and are free to the public at the point of delivery. Some basic health sector data are shown in Table 3.3.

The Ministry of Health has articulated its vision and direction in a variety of key documents, including the Corporate Plan (14) and the National Health Plan 1998 – 2002, in which it states as a principal objective of the national health service:

“... To develop from national resources a national health service comprising primary, secondary and tertiary health services which is comprehensive, coordinated, integrated, accessible, responsive, balanced and equitable (in relation to services and finance) and in which primary health care, health promotion and prevention of disease are central functions of the system.”

From that objective, the Ministry of Health evolved the following national health priorities:

- Health sector reform
- Health promotion
- Health protection
- Health workforce planning and training
- Prevention and management of emerging or re-emerging communicable and noncommunicable diseases.

The Ministry of Health provides public health services to all citizens, with the majority being operationalized at the subdivisional level and below. All systematic public health functions in Fiji are through central or local government, and reporting mechanisms are through established procedures and processes.

The mandate for the performance of these public health functions comes from the national Parliament through various public health acts and a clear strategy for the promotion of public health, as reflected in all the national development plans and budgets (15). This is further amplified in the Ministry of Health Corporate Plan 1999 - 2001 and the annual Ministry budget mission statement.

(d) **The structure and organization of government health services**

Health services in Fiji are organized at national, divisional, subdivisional and area levels. At divisional level, the nation is divided into three divisions: Central/Eastern, Western, and Northern. The curative services at divisional level are provided by three divisional referral hospitals: Colonial War Memorial Hospital for the Central/Eastern Division, Lautoka Hospital for the Western Division and Labasa Hospital for the Northern

Table 3.2: Health status indicators

Indicator	Value	Reference
Total fertility rate	3.1%(1990) 2.7%(1999)	World Health Organization (7)
Infant mortality rate	19 (per 1000 live births 1998)	United Nations Development Programme (5)
% newborn with low birth weight	12% (1990-1997)	United Nations Development Programme (5)
Probability of dying (per 1000) for:	1999 figures (uncertainty intervals in brackets):	World Health Organization (7)
Males	- under 5 years 6 (14 – 42)	
	- between 15-59 years 247 (194 – 307)	
Females	- under 5 years 19 (11- 31)	
	- between 15-59 years 141 (106- 186)	
Maternal mortality ratio (/10 ⁶ 1990 – 98)	38	United Nations Development Programme (5)
Life expectancy at birth 1999 for:	(Uncertainty level)	World Health Organization (7)
Males	64 (61 –66.4)	
Females	69.2 (66.6 – 71.3)	
Malnutrition stunting among children under 5 years (%) 1995:		World Health Organization (10)
Males	2%	
Females	4%	
% of population served with safe water (1997)	85% Total 90% Urban 80% Rural	World Health Organization (11)
% of population served with adequate excreta disposal facilities (1997)	85% Total 90% Urban 80% Rural	World Health Organization (11)
Five leading causes of hospitalization – 1997 (ICD 9 CM; excl normal delivery)	Diseases of the respiratory system Diseases of the circulatory system Injury and poisoning Diseases of the digestive system Infectious and parasitic diseases	World Health Organization (11)
Five leading causes of mortality (rate per 10 ⁶ pop 1997) (ICD 9 CM)	Diseases of the circulatory system (55.2) Infectious and parasitic diseases (13.7) Diseases of the respiratory system (12.5) Neoplasms (11.9) Diseases of the genitourinary system (9.9)	World Health Organization (11)
% children under one year immunized against measles	75% (1997)	World Health Organization (10)
Notifications of TB (per 10 ⁶)	25 (1995); 21 (1997)	United Nations Development Programme (12) and United Nations Development Programme (5)
Incidence of sputum positive TB per 100 000	9 (1995)	United Nations Development Programme (5)
Cigarette consumption per adult	1,022 annual average (1993-1997)	United Nations Development Programme (5)
Disability-adjusted life expectancy:	(Uncertainty intervals)	World Health Organization (7)
Males	- At birth 57.7 (56.1 – 59.1)	
	- At 60 years 8.3 (8.0 – 9.1)	
Females	- At birth 61.1 (59.8- 62.3)	
	- At 60 years 9.8 (9.5 – 10.8)	

Table 3.3: Basic health sector data

Data	Value		Data source
1. Expenditure on health			
Per capita health expenditure	\$87 (international \$)		World Health Organization (7)
2. Health workforce:			
Total number of health workers	2531		World Health Organization (11)
Population ratio	31 per 10 000		Ministry of Health (13)
% expatriates in workforce	4.3%		
3. Health infrastructure	Number	Number of beds	
General hospitals	3	1002	World Health Organization (11)
Specialized hospitals	3	289	
District hospitals	20	521	
Primary health centres	174	n/a	

Division. A ‘medical superintendent’ heads each divisional hospital. See figures 3.3, 3.4 and 3.5 at the end of this chapter for further illustration.

Divisional medical officers head the primary and preventive services for their respective divisions. The three divisions are subdivided into 19 subdivisions, which are further divided into 64 medical areas. The latter two are headed by subdivisional and area medical officers, respectively. The 64 medical areas are divided into a total of 94 nursing districts. A nursing district is the responsibility of a district nurse-in-charge, usually based at a nursing station.

From an operational perspective, especially in the context of this study, the subdistrict level is the principal focus for the coordination and delivery of public health activities, encompassing, as it does, the public health activities in either a community, hospital or primary care setting; for involving NGOs; and, where there is an integrated system, for planning, reporting and evaluation of public health programmes and functions.

(e) The private sector in health

There is no official record of the numbers of health personnel working in the private sector, but estimates are approximately 110 medical practitioners, 25 dental practitioners, 35 pharmacists and 6 acupuncturists, all of whom operate on a fee-for-service basis, with no government subsidy. The number of nurses and other health personnel currently working in the private sector is not known accurately, but is small.

A 40-bed private hospital has recently been built in the capital, Suva, opening in March 2001. It is the first of its kind in Fiji. In addition, there is one private laboratory, one private imaging centre and two private physiotherapy practices in Fiji.

In summary, approximately one in every four doctors; one in every two dentists and one in every two pharmacists work in the private sector of Fiji’s health care system. Although there is little private sector involvement in the delivery of public health, a significant number of health personnel working in the private sector will perform at least some public health functions, particularly the estimated 110 private medical practitioners, the majority of whom are in primary care.

(f) Workforce training, educational institutions and programmes

Fiji has two major health personnel training institutions, the Fiji School of Medicine (FSM) and the Fiji School of Nursing (FSN). Both institutions are affiliated to government hospitals and institutions. FSM produces undergraduates in the following programmes (per annum output of the workforce group is in brackets after the programme): Medicine (60); Dentistry (20); Environmental Health (20); Nutrition (10); Laboratory Technology (20); Pharmacy (10); Physiotherapy (8); Radiography (15).

Table 3.4: Health workforce by professional group

Health workforce	Number	Number per 10,000 pop.	Year
Doctors	396 total (incl. 78 in public health) (incl. 62 expatriates)	4.76	1997
Dentist	36 total (incl. 3 expatriates)	0.43	1997
Pharmacists	61 total	0.97	1997
Nurses	1622 total (incl. 756 in public health)	19.51	1997
Other Nursing/Auxiliary Staff	70 total	0.84	1997
Other paramedical staff	346 total	4.17	1997
Total	2531		

Data source: see Ref. 11

Postgraduate programmes in both the clinical and public health areas have been introduced progressively since 1997, providing, in the case of public health, certificate, diploma and masters programmes, with multiple entry/exit options. The public health programmes are open to all health workforce groups with appropriate background and qualifications. In its second year of delivery, the programme produced 30 graduates at certificate level and 22 at diploma level.

FSN offers a three-year basic training programme in nursing, with approximately 80 graduates per annum graduating with a diploma. FSN also offers a number of post-basic programmes, including a 6- or 9-month post-basic training programme in public health nursing, with approximately 15 trainees per annum. The Central Queensland University now also offers a Bachelor of Health Nursing Degree based at its Fiji campus in Suva.

Other agencies offering training to health personnel include the University of the South Pacific (USP), the Fiji Institute of Technology (FIT), the Government Training Centre and the Ministry of Health itself. These are predominantly non-formal, either inservice and/or vocational courses. A small number of health personnel also receive training overseas (especially postgraduate), although the number is decreasing with the introduction of more in-country options. The output of these institutions and activities is reflected in the workforce composition, outlined in Table 3.4.

(g) Nongovernmental organizations

There is increasing awareness of the potential role that nongovernmental organizations (NGOs) play in improving the health of the nation. However, to date, the role and contribution of NGOs has not been officially documented by the Ministry of Health and there is little in the way of formal mechanisms for coordination of NGOs and government services in the delivery of health services. That said, NGOs carry out significant activity, especially in the area of reproductive and women's health.

(h) Primary/preventive health care

Divisional health offices manage all government health services within their division, including primary and preventive services, excluding the divisional hospital, which is separate for managerial purposes.

Within the divisions, subdivisional hospitals (10-60 beds) and area hospitals (8-20 beds) provide health care to both inpatients and outpatients and serve as bases for public health activity. In general, subdivisional hospitals cover populations of 20 000–50 000 people and area hospitals up to 20 000 people.

Primary-level outpatient services are provided at some 100 health centres (serving populations ranging from 10 000 to 20 000) and 115 nursing stations (serving

populations of up to 2000) throughout Fiji. Health centres also provide public health outreach services. Some, especially maternal and child health services, are provided by mobile teams and itinerant workers to isolated communities.

In addition to the formal, predominantly government structures mentioned above, a number of the larger territorial local authorities employ their own staff, especially in the health protection area.

There are also a considerable number of ‘volunteer’ health workers – many of whom do not operate in the formal cash economy (e.g., traditional practitioners and village health workers), who have a significant role in the initial and continuing management of personal health problems, some of public health importance.

(i) The Fiji Health Management Reform Project

In the late 1980s, with WHO support, the Government of Fiji agreed on a policy of decentralization of the health service, and draft legislation to decentralize service management to geographical divisions was prepared. However, due to a lack of resources and expertise to implement the change, it did not proceed.

Subsequent reports, from the Auditor General in 1996 and a Senate Select Committee in 1997, highlighted structural problems in the health system, which are summarized well by the following comment from the 1997 Senate Select Committee: “The structure of the Ministry of Health poses a real management problem”, particularly the “unwieldy span of control and a lengthy chain of command”; and that “the Ministry of Health... lacks the autonomy to decide on matters concerning personnel and finance”.

As a result of those concerns, a WHO mission to review divisional hospital management took place in late 1997. Recommendations included: redefinition of the role of headquarters; decentralization of authority to contracted CEOs in the three major hospitals; redrafting of relevant legislation; improving management information systems; and improving capital works and asset management planning.

As a consequence, in February 1999, the Ministry of Health, with the assistance of the Australian Agency for International Development (AusAID), began the Fiji Health Management Reform Project. The overall objective of the project is to improve health service delivery in Fiji

through decentralization and management capacity building within the health sector. The components of the project are:

- (1) Health system structure.
- (2) Role redefinition and institutional strengthening.
- (3) Health service management training.
- (4) Health information systems.
- (5) Intersectoral issues.

(j) Public health leadership

Public health leadership at the central level is vested in the Ministry of Health, while at the local level it falls primarily to representative staff of the Ministry, with territorial authority staff also playing an important role.

Although individual professional bodies and visiting experts occasionally promote the cause of public health, there is currently no focus for individuals within and outside the health sector to form a broad coalition to support public health.

(k) The rule of law and public health functions

Subsequent to the two military coups in 1987/1988, a new constitution, which concentrated power in the hands of indigenous Fijians, was promulgated, which came into effect in 1990 (subsequently revised in 1997). Under this, membership of the House of Representatives was raised from 52 to 70, with 37 of the seats reserved for Fijians, 27 for Indians, five for other races, and one for Rotumans. Membership of the Upper House, the Senate, was increased from 24 to 34, with 24 of the seats reserved for Fijians, nine for Indians and other races, and one for Rotumans. The constitution also stipulated that the Prime Minister must be an indigenous Fijian.

At the local government level, there are elected multiracial councils in the larger towns, a separate Fijian administration incorporating a hierarchy of chiefs and councils for the control of rural Fijian issues, and direct administration elsewhere.

Subsequent to the 1990 constitution, Fiji declared itself a Republic in 1997, with a constitutional democracy, based on the ‘Whitehall’ model, and systematic processes for the development and dissemination of legislation,

coupled with an independent judiciary and a new constitution. This was prorogued as a result of a civilian coup on 19 May 2000. As of April 2001, the future shape and form of government remains uncertain.

As mentioned above, the mandate for the performance of public health functions comes from the national Parliament through various public health acts. The development of this formal authority involves various factions (formal and informal) of Fijian society. At the local level, village councils are formally represented on the provincial councils who, through several mechanisms, have formal and informal input into the process of common law. The landowners and customary tribal chiefs also have a voice through the “Council of Chiefs”, which is additionally represented in the Senate. There is also the facility for referenda in certain situations, plus the opportunity for public representations to be made both in writing and verbally through public hearings in respect of most significant legislative changes. The media also functions as an important channel for people’s views and public health issues are often actively aired in a variety of media outlets.

Territorial local authorities are able to make local bylaws that may include those in the public health area. Laws are introduced into practice through being gazetted in official publications and subsequently promulgated through a variety of information sources, including a vibrant local print and radio media. In the public health area, informing both health workers and the public of new legislation most often falls to the Ministry of Health. The Ministry takes a number of steps to familiarize people with, and implement such legislation, holding workshops in a number of sites and issuing policy statements and manuals to guide practice.

(I) Access to knowledge and effective participation in civil society

Improved access to education has led to increasing literacy levels, thereby enabling many more people to participate in decision-making at all levels. Literacy levels are high, with adult literacy being 92%, reflecting primary school enrolment of 99% and high school enrolment of 84%, with little difference between genders or ethnic groups. However, performance in high school exit examinations is unevenly distributed, with indigenous Fijian performance falling behind that of Indo-

Fijians. This is currently the subject of a major government study. Consequently, participation in tertiary education is similarly skewed.

Telecommunication facilities are widely available, are efficient and enable communication between many of the inhabited 100 or so islands in the group.

Nongovernmental agencies, in particular, have been active in the promotion of human rights and access to information, e.g. Fiji Women’s Crisis Centre.

2. METHODOLOGY

2.1 Background and quality control

A project advisory group was formed at the initiation of project activities. The members of the group are listed in Appendix 3.1. This group and various ad hoc subgroups were instrumental in the development and implementation of the instrument and associated decisions. These were operationalized through a project research team, also detailed in Appendix 3.1.

2.2 Specific methodological issues

(a) Questionnaire development

The questionnaire was developed by a group of researchers, with consultation both within and beyond the project advisory group. The questionnaire was field tested for:

- applicability to the Fiji situation;
- practical implementation issues – e.g., time taken for completion;
- coverage of public health functions; and
- general comprehension.

Alterations were made to reflect the wish for local information, especially on workforce issues, and the inability to differentiate usefully and accurately between performance of practices at a task-specific level. As a consequence, in the final questionnaire, disaggregation of performance at the practice level was not attempted.

In the final questionnaire, delivery competence was self-assessed on a Likert scale of 1-5. Other scales were used in pre-testing, but expansion of the range produced no greater clarity. No objective assessment of competence was possible, although the community in certain sites were consulted as to their perception of the delivery of the public health functions. This information is not incorporated in the body of the text.

Although the measurements were self-reported and, as such, were subject to error and limited the ability to generalize, it should be emphasized that they were primarily purposive and illustrative. Efforts were made to reduce the impact of this in the overall findings. For example, only those issues/themes which were raised by a significant percentage of respondents in a consistent manner were included in the final analysis.

(b) Questionnaire delivery

A member of the research group administered the questionnaire in a standard manner. All efforts were made to ensure that appropriate cultural and language barriers were overcome. The questionnaire was administered in three different subdivisional settings within one division. Within each of the three settings, all levels of the health care system were sampled.

(c) Setting

Figure 3.3 provides a geographical description of the health services in Fiji. For this project, the following were sampled:

- Division: Central and Eastern
- Subdivisions: Suva; Rewa and Kadavu
- Health centres: one each from each of the three subdivisions
- Nursing stations: one from each of the medical areas.

(d) Rationale

The year 2000 saw significant political unrest in Fiji and consequent civil unrest. Travel was, therefore, only possible in certain geographical areas and at certain times. Within these caveats, important criteria for inclusion in the sample were the ability to represent the demography

of (1) the larger Fiji population, and (2) the wider health service structure and function. Additional resource constraints included the WHO time and resource frame.

(e) Sample

Purposive sampling was used in selection of the sample, with appropriate representation of workforce settings and groups, but not seeking statistical significance or particular power *per se*. Within that overall approach, the following features of the sampling approach were applicable to the two principal settings:

- systematic sampling of key personnel across differing professional groupings involved in the delivery of EPHFs at a given level of the system, as described above; and
- comprehensive sampling of all attendees at a subsequent conference of senior officers, representing all geographical and service areas in Fiji.

(f) SWOT analysis and option appraisal methods

The SWOT analysis was performed, at both an individual and group level, in both the settings described above by the use of additional predominantly open-ended questions, with the researchers acting as both scribes and to clarify any issues. With focus groups, a separate scribe was appointed as well as an interviewer. All discussions were recorded, and subsequently agreement on the definition of the coding of themes/ideas was agreed by internal discussion.

The initial data collection activities were followed by a preliminary analysis and presentation of the findings several days later. Further group and individual sessions were held to elicit responses to the findings and ideas generated in order to strengthen the EPHFs. Participants were asked to review each proposal in the light of some key factors impacting on the health sector, and to try to assess the impact of those factors on the effective and efficient performance of the EPHFs.

In addition, several key respondents were asked for comment on issues of governance and stewardship in the sector by way of a further semi-structured questionnaire and person-to-person discussion.

(g) Analysis

Analysis was performed manually for each area by a researcher involved in the data collection, and rechecked by at least one other member of the research team.

3. STOCKTAKE

3.1 Demography

(a) General

Age, ethnicity and gender data for all the participants are displayed in Table 3.5.

(b) Employment

All full-time government employees; average length of service: 19 years.

(c) Training

Formal

- 80% had had some post-basic or postgraduate training (of whom 84% were nurses; 10% paramedics and 6% doctors), of these, the training included:
 - post-basic certificates: 52% (public health, management, midwifery- all nurses);
 - upgrade of initial certificates to diploma or bachelor degrees: 11%;
 - postgraduate certificate or diploma: 11%;
 - postgraduate masters: 7%.

Short courses

- 48% had attended one or more short courses, (of whom 74% were nurses; 13% paramedics; 13% doctors).
- The average number of courses per person: 4
- Most common course attended: reproductive health/sexually transmitted infections: 45%
- Least common: health promotion/outbreak investigation: 7%.

3.2 EPHF performance by function

The findings in this section are presented as detailed in the project operating guideline, and describe analysis of performance of both function and tasks by a number of demographic and similar parameters.

Additionally, and where appropriate, the adequacy of workforce support to the performance of the function is described, as is an assessment of the support from other principal organizations. These are both represented by a numerical value on a scale of 1 –5. The levels of competence these represent, as per the questionnaire administered to participants, are as follows:

- 1 - no competence in area/task
- 2 -
- 3 - some competence in area/task
- 4 -
- 5 - very competent in area/task

Similarly, with regard to both the adequacy of staffing and institutional support, these are on a linear scale from + to +++++ representing:

Table 3.5: Demography of participants

	Medical Officers (n = 23)	Paramedical (n = 18)	Nurses (n = 31)	Overall
Age range	32 –50	22 - 49	23 – 54	22 – 54
Average age	39	39	45	40
Ethnic ratio (Indi : Fij)	1 : 1.5	1: 1.2	1:14	1:4
Gender ratio (M : F)	3:1	1:1	1:7	1: 2.6

- + - no staff to perform task / no institutional support from organization
- ++ -
- +++ - just adequate staff to perform task / just adequate institutional support
- ++++ -
- +++++ - full staff complement to perform task/ optimum institutional support from relevant organization

The extent of institutional support reflects human resources, data and other support, and differs from organization to organization. Whilst there has been a limited attempt to quantify the extent of the support in this section, findings are amplified or qualified. Specific issues arising are discussed more fully in the next section, including, where appropriate, responses to the perceived deficiencies in support both institutionally and in respect of the workforce.

Responsibility for the various levels of the health system referred to in the section in each function on system and service lies as follows:

- Ministry of Health Level 1: National level - Head Office of the Ministry of Health and other central government ministries and institutions
- Ministry of Health Level 2: Divisional level
- Ministry of Health Level 3: Subdivisional level
- Ministry of Health Level 4: Area Medical Centre level

- Ministry of Health Level 5: Nursing Station level.

The other organizations and government departments and sectors contributing to the performance of the public health functions are:

- Ministries of Justice, Finance, Social Welfare, Home Affairs, Education, Women & Culture, Fijian Affairs, Regional Development, National Planning
- Bureau of Statistics
- Local authorities (e.g. Suva City Council, Rural Local Authorities)
- Nongovernmental organizations (e.g. AIDS Task Force)
- Public and private laboratories
- Professional organizations (Fiji Medical Association)
- Academic institutions (e.g. Fiji School of Medicine)
- Provincial councils/ Indian Advisory Councils
- Regional agencies (SOPAC)
- Public Service Commission
- Development partners (WHO, AusAID, etc.)
- National Centre for Health Promotion
- National Health Research Committee.

(a) Function 1: Health situation monitoring and analysis

Function-level analysis

Percentage of workforce performing function: 82%

Competence of performance of function: mean 3.5; range 3-5

Competence of performance of function by workforce group: Medical Officers: 3.6; Nurses: 3.6; Paramedics: 3.6

Competence of performance by geographical location: Urban 3.7; Rural 3.1

Task-level analysis

Tasks	System and service responsibilities	Resources: Practices	Workforce Adequacy of numbers	Competence
1.1. Assess health status	Principal responsibilities: Ministry of Health levels 1-5 % workforce performing task: 67%	Assess Analyse Set priorities Evaluate Communicate Use evidence	+++	Mean: 3.6 Range: 2-5
1.2. Analyse trends	Principal responsibilities: Ministry of Health levels 1,2,3 % workforce performing task: 67%	Analyse	++	Mean: 3.6 Range: 2-5
1.3 Identify threats	Principal responsibilities: Ministry of Health levels 1-5 % workforce performing task: 69%	Assess Investigate Analyse Communicate Use evidence	++	Mean: 3.5 Range: 1-5
1.4. Periodically assess health service needs	Principal responsibilities: Ministry of Health levels 1 – 5 % workforce performing task: 54%	Assess Analyse Evaluate Use evidence	+++	Mean: 3.5 Range: 2-5
1.5. Identify resources and assets	Principal responsibilities: Ministry of Health levels 1 – 3 % workforce performing task: 65%	Investigate Assess	++	Mean: 4.1 Range: 3-5
1.6. Profile health status	Principal responsibilities: Ministry of Health levels 1-5 % workforce performing task: 57%	Analyse Communicate Use evidence	+++	Mean: 3.5 Range: 2-5
1.7. Manage information	Principal responsibilities: Ministry of Health levels 1 – 4 Bureau of Statistics (census data) +++ Ministry of Justice (births & deaths) +++ % workforce performing task: 49%	Develop plans Manage Implement Evaluate Use evidence	+++	Mean: 3.6 Range: 1-5
1.8. Integrate information systems	Principal responsibilities: Ministry of Health levels 1 – 4 Bureau of Statistics +++ % workforce performing task: 58%	Negotiate Communicate Advocate	++	Mean: 4.0 Range: 2-5

(b) Function 2: Epidemiological surveillance/disease prevention and control

Function-level analysis

Percentage of workforce performing function: 61%

Competence of performance of function: mean 3.4; range 2-5

Competence of performance of function by workforce group: Medical Officers: 3.4; Nurses: 3.2; Paramedics: 3.7

Competence of performance by geographical location: Urban 3.8: Rural 3.3

Task-level analysis

Tasks	System and service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
2.1. Conduct surveillance	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 5 % workforce performing task: 67%	Assess Investigate Analyse Develop plans Manage resources Evaluate Communicate Use evidence Ensure compliance	++	Mean: 3.5 Range: 2-5
2.2. Investigate disease outbreaks and injury	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 5 % workforce performing task: 67%	Set priorities Negotiate Develop plans Manage resources Implement Communicate	++	Mean: 3.2 Range: 2-5
2.3. Undertake case finding	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 Local authority +++ % workforce performing task: 16%	Investigate Negotiate Manage patients Communicate Ensure compliance	++	Mean: 3.0 Range: 1-5
2.4. Access information and support	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 Laboratory facilities ++ % workforce performing task: 28%	Assess Negotiate Use evidence Communicate	++	Mean: 3.5 Range: 1-5
2.5. Respond rapidly	Principal responsibilities: Ministry of Health levels 1 – 3 Support of local community ++++ % workforce performing task: 36%	Assess Analyse Negotiate Set priorities Develop plans Manage Use evidence Ensure compliance	++	Mean: 3.8 Range: 2-5

(c) Function 3: Development of policies and planning in public health

Function-level analysis

Percentage of workforce performing function: 50%

Competence of performance of function: mean 3.3; range 2-5

Competence of performance of function by workforce group: Medical Officers: 3.3; Nurses: 3.3; Paramedics: 3.4

Competence of performance by geographical location: n/a (due to low response rates in rural staff for performance of function)

Task-level analysis

Tasks	System & service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
3.1. Develop policy and legislation	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 National Planning Office +++ % workforce performing task: 67%	Analyse Advocate Negotiate Set priorities Develop plans Use evidence Communicate	+	Mean: 3.0 Range: 2-5
3.2. Develop plans	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 National Planning Office +++ Ministry of Finance +++ Provincial Councils +++ % workforce performing task: 67%	Assess Analyse Negotiate Set priorities Develop plans Manage Communicate	+++	Mean: 3.8 Range: 2-5
3.3. Review and update	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 2 Solicitor General's office + % workforce performing task: 16%	Assess Set priorities Develop plans Use evidence	++	Mean: 3.0 Range: 2-5
3.4. Advocate for population-based perspectives	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 4 Community-based NGO's ++++ Provincial Councils ++++ % workforce performing task: 28%	Advocate Negotiate Communicate Use evidence	+	Mean: 3.7 Range: 2-5
3.5. Develop and track indicators	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 % workforce performing task: 36%	Assess Investigate Analyse Implement Evaluate	++	Mean: 3.3 Range: 2-5

(d) Function 4: Strategic management of health systems and services for population health gain**Function-level analysis**

Percentage of workforce performing function: 47%

Competence of performance of function: mean 3.7; range 2-5

Competence of performance of function by workforce group: Medical Officers: 3.7; Nurses: 3.7; Paramedics: 3.8

Competence of performance by geographical location: Urban 3.6; Rural 2.4

Task-level analysis

Tasks	System and service responsibilities	Resources:		
		Practices	Workforce Adequacy of numbers	Competence
4.1. Promote and evaluate effective access	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 NGOs +++ % workforce performing task: 33%	Assess Investigate Evaluate	++	Mean: 3.6 Range: 2-5
4.2. Reduce inequities in use of services	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 NGOs +++ % workforce performing task: 32%	Advocate Implement Evaluate	++	Mean: 3.8 Range: 1-5
4.3. Overcome barriers to access	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 2 NGOs +++ % workforce performing task: 35%	Investigate Develop plans Implement Evaluate	++	Mean: 3.6 Range: 3-5
4.4. Facilitate linkage of vulnerable groups with services	Principal responsibilities (as per tasks): Ministry of Health levels 1- 4 NGOs +++ Other government ministries e.g. Social Welfare ++ % workforce performing task: 26%	Advocate Negotiate Implement Evaluate	++	Mean: 3.6 Range: 3-5
4.5. Develop competence	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 3 NGOs ++ Other government ministries e.g. Social Welfare ++ % workforce performing task: 28%	Negotiate Set priorities Manage Communicate	+	Mean: 4.0 Range: 2-5
4.6. Advise on priorities	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Provincial councils ++ NGOs +++ % workforce performing task: 50%	Analyse Set priorities Negotiate Communicate Use evidence	++	Mean: 3.8 Range: 3-5
4.7. Use evidence to assess technology	Principal responsibilities (as per tasks): Ministry of Health levels 1 -2 Academic institutions ++ % workforce performing task: 21%	Assess Evaluate Use evidence Communicate	+	Mean: 3.6 Range: 3-5
4.8. Manage public health	Principal responsibilities (as per tasks): Ministry of Health levels 1 –5 % workforce performing task: 24%	Manage Develop plans Implement Evaluate Set priorities	+++	Mean: 3.6 Range: 2-5
4.9. Prepare for disaster and emergency response	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 3 Regional agencies e.g. SOPAC, SPREP ++++ Ministry of Home Affairs +++ % workforce performing task: 21%	Assess Negotiate Set priorities Develop plans Implement Communicate Ensure compliance	+++	Mean: 3.7 Range: 3-5

(e) Function 5: Regulation and enforcement to protect public health

Function-level analysis

Percentage of workforce performing function: 37%

Competence of performance of function: mean 3.4; range 2-5

Competence of performance of function by workforce group: Medical Officers: 3.1; Nurses 3.3; Paramedics: 3.8

Competence of performance by geographical location: Urban 3.5; Rural 4.0

Task-level analysis

Tasks	System and service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
5.1. Implement laws and regulations	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 4 % workforce performing task: 21%	Investigate Negotiate Use evidence Communicate Ensure compliance	++++	Mean: 3.0 Range: 2-5
5.2. Enforce regulations	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 4 Territorial authorities +++ Police ++ Courts + % workforce performing task: 26%	Assess Analyse Use evidence Communicate	+++	Mean: 3.5 Range: 2-5
5.3. Promote compliance	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 3 Local authorities +++ Police ++ Judiciary + % workforce performing task: 36%	Assess Investigate Analyse Advocate Negotiate Communicate Use evidence Ensure compliance	+++	Mean: 3.8 Range: 3-5
5.4. Review and update regulations	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 2 Solicitor General's Office + % workforce performing task: 19%	Assess Set priorities Develop plans Use evidence	++	Mean: 3.1 Range: 2-4

(f) Function 6: Human resources development and planning in public health**Function-level analysis**

Percentage of workforce performing function: 69%

Competence of performance of function: mean 3.6; range 2-5

Competence of performance of function by workforce group: Medical Officers 3.6; Nurses 4.0; Paramedics 3.3

Competence of performance by geographical location: Urban 4.2; Rural 2.8

Task-level analysis

Tasks	System and service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
6.1. Assess, perform and maintain inventory	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Public Service Commission ++ Ministry of Education ++ % workforce performing task: 50%	Assess Investigate Analyse Evaluate	++++	Mean: 3.7 Range: 2-5
6.2. Project workforce requirements	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Public Service Commission ++ Ministry of Education ++ % workforce performing task: 44%	Develop plans Set priorities Communicate	++++	Mean: 3.6 Range: 2-5
6.3. Ensure adequate human resource base	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Public Service Commission ++ Ministry of Education ++ Development partners +++ % workforce performing task: 47%	Advocate Manage Implement	+++	Mean: 3.6 Range: 3-5
6.4. Ensure workers are adequately educated and trained	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Public Service Commission ++ Ministry of Education ++ Department of Immigration ++ Professional organizations +++ % workforce performing task: 50%	Evaluate Ensure compliance	+++	Mean: 3.6 Range: 2-5
6.5. Coordinate	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Public Service Commission ++ Ministry of Education ++ Department of Immigration ++ Professional organizations ++ % workforce performing task: 44%	Negotiate Communicate Develop plans Implement	+++	Mean: 3.8 Range: 2-5
6.6. Promote continuing professional education	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Professional organizations ++++ % workforce performing task: 56%	Negotiate Communicate Advocate	+++	Mean: 3.8 Range: 2-5
6.7. Monitor and evaluate	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 % workforce performing task: 50%	Advocate Manage Implement	++	Mean: 3.3 Range: 2-5

(g) Function 7: Health promotion, social participation and empowerment

Function-level analysis

Percentage of workforce performing function: 60%

Competence of performance of function: mean 3.6; range 2-4

Competence of performance of function by workforce group: Medical Officers 3.6; Nurses 3.5; Paramedics 3.8

Competence of performance by geographical location: Urban 3.9; Rural 3.0

Task-level analysis

Tasks	System and service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
7.1. Contribute to improving community capacity and capability	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 Ministries of Home Affairs, Regional Development, Fijian Affairs, Education, Women & Culture +++ NGOs +++ Provincial councils/Indian Advisory Councils ++++ % workforce performing task: 50%	Develop plans Set priorities Implement Communicate Evaluate Manage Use evidence Negotiate Advocate	++++	Mean: 3.6 Range: 2-5
7.2. Create supportive environments	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 5 Ministries of Home Affairs, Regional Development, Fijian Affairs, Education, Women & Culture ++ NGOs +++ Provincial councils/Indian Advisory Councils ++++ % workforce performing task: 52%	Advocate Negotiate Communicate Develop plans Use evidence Implement	+++	Mean: 3.7 Range: 2-5
7.3. Empower citizens	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 5 NGOs +++ Provincial councils/Indian Advisory Councils ++++ Ministries of Education, Women & Culture +++ % workforce performing task: 28%	Advocate Negotiate Communicate Set priorities Use evidence	+++	Mean: 3.6 Range: 2-5
7.4. Facilitate and convene partnerships	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 5 NGOs ++++ Provincial councils/Indian Advisory Councils ++++ National Centre for Health Promotion ++++ % workforce performing task: 56%	Advocate Communicate Negotiate Manage	+++	Mean: 3.6 Range: 2-5
7.5. Communicate	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 NGOs +++ Provincial councils/Indian Advisory Councils ++++ National Centre for Health Promotion ++++ % workforce performing task: 35%	Advocate Communicate	++++	Mean: 3.3 Range: 1-5
7.6. Provide accessible health information	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 NGOs ++ National Centre for Health Promotion +++ % workforce performing task: 63%	Assess Communicate Develop plans Manage Implement Evaluate	+++	Mean: 3.7 Range: 2-5

(h) Function 8: Ensuring the quality of personal and population-based health services

Function-level analysis

Percentage of workforce performing function: 38%

Competence of performance of function: mean 3.2; range 1-4

Competence of performance of function by workforce group: Medical Officers 3.0; Nurses 3.2; Paramedics 3.3

Competence of performance by geographical location: Urban 3.9; Rural 2.5

Task-level analysis

Tasks	System and service responsibilities	Resources:	Workforce	
		Practices	Adequacy of numbers	Competence
8.1. Define appropriate standards	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Professional organizations ++ % workforce performing task: 19%	Assess Investigate Analyse	++	Mean: 3.4 Range: 2-5
8.2. Develop models	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 2 Professional organizations ++ Academic institutions +++ % workforce performing task: 18%	Set priorities Develop plans	+	Mean: 2.7 Range: 1-4
8.3. Identify valid measurement instruments	Principal responsibilities (as per tasks): Ministry of Health levels 1 - 3 Professional organizations +++ Academic institutions +++ % workforce performing task: 24%	Investigate Analyse Evaluate	++	Mean: 3.1 Range: 2-5
8.4. Monitor and ensure safety and ongoing quality improvement	Principal responsibilities (as per tasks): Ministry of Health levels 1 – 5 Professional organizations +++ Academic institutions +++ % workforce performing task: 33%	Develop plans Manage Implement Evaluate	++	Mean: 3.5 Range: 2-4

(i) Function 9: Research, development and implementation of innovative public health solutions

Function-level analysis

Percentage of workforce performing function: 36%

Competence of performance of function: mean 3.3; range 1-4

Competence of performance of function by workforce group: Medical Officers 3.4; Nurses 3.3; Paramedics 3.6

Competence of performance by geographical location: Urban 3.0; Rural 3.2

Task-level analysis

Tasks	System and service responsibilities	Resources:		
		Practices	Workforce Adequacy of numbers	Competence
9.1. Develop a public health research agenda	Principal responsibilities (as per tasks): Ministry of Health levels 1 –5 Academic institutions +++ Community ++ Professional organizations + National Health Research Committee +++ % workforce performing task: 18%	Investigate Analyse Set priorities Develop plans Communicate Use evidence	++	Mean: 3.0 Range: 2-4
9.2. Identify adequate sources of research funding	Principal responsibilities (as per tasks): Ministry of Health levels 1- 3 Academic institutions ++ Development partners ++ NGOs++ National Health Research Committee ++ % workforce performing task: 19%	Communicate Develop plans Manage	+	Mean: 3.1 Range: 2-4
9.3. Encourage cooperation and joint approaches	Principal responsibilities (as per tasks): Ministry of Health levels 1 -5 Academic institutions ++ Professional organizations ++ NGOs +++ National Health Research Committee +++ % workforce performing task: 24%	Communicate Manage Negotiate	++	Mean: 3.5 Range: 1-5
9.4. Ensure appropriate ethical safeguards	Principal responsibilities (as per tasks): Ministry of Health levels 1- 3 Academic institutions +++ Community ++ Professional organizations ++ National Health Research Committee ++++ % workforce performing task: 17%	Develop plans Communicate Implement Ensure compliance	+	Mean: 3.5 Range: 2-4
9.5. Develop processes for dissemination of research findings.	Principal responsibilities (as per tasks): Ministry of Health levels 1 –5 Academic institutions? Community ? National Health Research Committee? % workforce performing task: 19%	Communicate Negotiate Develop plans Implement Manage	+	Mean: 3.3 Range: 2-5
9.6. Encourage participation	Principal responsibilities (as per tasks): Ministry of Health levels 1 -5 Academic institutions +++ NGOs+++ Community ++ % workforce performing task: 32%	Communicate Develop plans Set priorities	++	Mean: 3.5 Range: 2-4
9.7. Develop innovative programs to problems	Principal responsibilities (as per tasks): Ministry of Health levels 1- 3 Academic institutions + Community ++ National Health Research Committee ++ % workforce performing task: 28%	Develop plans Manage Implement	+	Mean: 3.4 Range: 2-4

3.3 EPHF – summary of performance

(a) Function most staff perform:

Health situation analysis – 82%

(b) Function least staff perform:

Research, development and implementation of innovative public health solutions – 36%

(c) Function with highest overall level of competence:

Strategic management of health systems and services for population health gain – 3.7

(d) Function with lowest overall level of competence:

Ensuring the quality of personal and population-based health services – 3.2

(e) Function with highest level of performance in any workforce group

Health situation analysis – doctors – 100%.

(f) Function with lowest level of performance in any workforce group

Regulation and enforcement to protect public health – nurses –13%

(g) Urban v. rural competence:

Overall urban competence 16% higher than rural

(h) Competence with highest urban: rural difference:

Ensuring the quality of personal and population-based health services

(i) Workforce group performing most functions:

Doctors - 66%

(j) Workforce group performing least functions:

Nurses - 40%

Further details of the performance of the various functions are displayed in Tables 3.6 and 3.7.

Table 3.6: Overall function performance

Function number	% of staff who perform this function	% of staff not performing this function	Mean competence	Range competence	Urban competence	Rural competence
1	82%	18%	3.6	2 – 5	3.7	3.1
2	61%	39%	3.4	1 – 4	3.8	3.3
3	50%	50%	3.4	1 – 4	4.1	4.0
4	47%	53%	3.7	2 – 5	3.6	2.5
5	37%	63%	3.4	2 – 4	3.5	4.0
6	69%	31%	3.6	2 – 5	4.2	3.5
7	60%	40%	3.6	2 – 4	3.9	3.0
8	38%	62%	3.2	1 – 4	3.9	2.5
9	36%	64%	3.3	1 – 4	2.7	3.0
Overall	53%	47%	3.5	n/a	3.7	3.2

Table 3.7: Function performance by workforce group

Function number	% of doctors performing this function	% of nurses performing this function	% of paramedical staff performing this function	Competence level of doctors	Competence level of nurses	Competence level of paramedical staff
1	100%	66%	83%	3.6	3.6	3.6
2	72%	38%	78%	3.4	3.2	3.7
3	60%	32%	67%	3.3	3.3	3.6
4	65%	35%	44%	3.7	3.7	3.8
5	48%	13%	61%	3.1	3.3	3.8
6	69%	68%	72%	3.6	4.0	3.3
7	85%	52%	83%	3.6	3.5	3.8
8	49%	32%	44%	3.0	3.2	3.3
9	47%	30%	39%	3.4	3.4	3.6
Overall	66%	40%	63%	3.4	3.4	3.6

4. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF CURRENT ORGANIZATION AND DELIVERY OF EPHFS

The findings from the stocktake process were, for the purposes of this analysis and subsequent option appraisal, aggregated into several theme areas.

The findings in the various theme areas are summarized below in terms of strengths and weaknesses. Opportunities and threats are primarily addressed in the subsequent text on the proposal to strengthen the delivery of EPHFs and the option appraisal.

4.1 Human resources

(a) Strengths

- Equitable geographical distribution of nursing staff
- Good overall doctor/nurse to population ratios
- Comprehensive basic training of all workforce groups.

(b) Weaknesses

Number, type and distribution

- Insufficient medical officers to perform both public health and clinical duties in rural areas

- Over-concentration of medical staff in urban and hospital settings
- Inadequate leaders at all levels
- Lack of other key professional support groups with knowledge of health/public health issues e.g. legal
- Lack of specific workforce groups to champion key areas e.g. health promotion.

Training and continuing professional development

- Lack of appropriate training for rural areas among new graduates
- Inappropriate blend of skills in post-basic training
- Lack of specific skills for e.g. economic analysis for sectoral planning; leadership
- Limited access to training for rural staff
- Lack of coordination of postgraduate training across organizations and institutions.

4.2 Funding and finances

(a) Strengths

- Overall per capita expenditure on health good
- Expenditure on health as percentage of overall government expenditure good.

(b) Weaknesses

Funding mechanisms for public health

- Inadequate government funding to public health for the performance of core public health functions
- Funding of public health reliant on external sources for some core activities
- Budget at operational public health level (subdivision and below) static, although overall Ministry of Health budget has grown.

Funding process

- Inequitable funding as planning process and subsequent allocation dominated by hospital practitioners
- Lack of equitable and transparent processes for resource allocation
- Funding for public health often mixed in with primary health care or disease-specific funding and, therefore, difficult to programme efficiently
- Significant part of funding for public health programmes comes from external sources – therefore, difficult to programme effectively
- Poor linkage of capital (especially project-focused) expenditure and recurrent budget
- Little incentive for generation of income, either centrally or locally
- External priorities may be inconsistent with local ones and, therefore, potentially produce distortions – especially with project approach.

4.3 Data and information

(a) Strengths

- Comprehensive national mortality and morbidity data
- Up-to-date population and demographic data
- Good activity data at all levels.

(b) Weaknesses

Data sources and collation

- Databases and other elements of information systems uncoordinated
- Lack of integration of data between hospitals and community settings
- Data definitions vary from area to area
- Differing population databases, giving differing denominator populations for calculation of rates
- Lack of data from private, informal and voluntary sectors on performance of public health activities.

Data analysis and dissemination

- Lack of timely and appropriate analysis
- Computer-based facilities only at certain levels
- Lack of timely communication of findings to facilitate action.

4.4 Process, support and infrastructure issues

(a) Strengths

- Strong teamwork ethos, especially at subdivision level and below
- Unitary command structure at subdivision level and below, with amalgamation of public health and clinical management functions
- Strong relationship with community
- Good road/air and telecommunication systems.

(b) Weaknesses

Coordination and communication

- Public service procedures time-consuming and effective communication poor, especially to rural areas
- Lack of coordination of government primary care functions with general practice in urban areas

- Differing management and reporting structures for public health and hospital activities at certain levels
- Limited linkage of external support with local priorities and activities.

Quality, monitoring and evaluation

- Lack of research into effectiveness of strategies
- Notions of quality and ISO criteria not widespread in system
- Limited financial support for implementation of quality standards.

Support structures

- Health education materials of limited effectiveness and availability
- Lack of analytic tools (personal computers)
- Legislative framework is complex, confused and old
- The lack of universal application of parts of the public health act makes coordination across boundaries difficult
- Lack of basic facilities, particularly transport, in rural areas
- Local laboratory facilities limited, transport to national problematic.

5. PROPOSAL TO STRENGTHEN EPHF DELIVERY

5.1 The proposal

The proposal represents the principal issues raised in the SWOT analysis above and presents them by the same theme areas.

(a) Changes to the workforce

Number, type and distribution

- Increase absolute numbers of public health workers

- Increase number of medical officers in rural areas
- Designate medical officers with specific responsibility for public health activities at subdivision level and below
- Develop more multiskilled workers for rural areas
- Increase structured involvement of private sector workforce in public domain e.g. private general practitioners in primary care workforce, especially in urban areas and NGOs in rural areas
- Develop new staff cadres e.g. health promotion workers.

Training and continuing professional development

- Move to local-level choice and quota basis
- Promote flexibility of training options at postgraduate level, including multiple entry/exit and distance capability
- Increase coordination across agencies and institutions to ensure, where appropriate, uniformity and seamless progression of training options and programmes, including increasing cross recognition and coordination of courses in public health
- Ensure public health is core subject in all undergraduate courses
- Design postgraduate courses in public health to provide non-traditional skills e.g. qualitative research; effective communication (in order to produce 'transformational leaders')
- Ensure consistency of content (and approach) across agencies and courses.

(b) Changes to funding

Funding mechanisms for public health

- Increase amount of funding for public health and ring fence for public health
- Increase government share of public health funding

- Change distribution mechanisms to improve geographical equity
- Explore role of private sector in the funding/provision of public health activities (including the ‘polluter pays’ approach)
- Integrate public health programme funding with other primary health care funding at operational level
- Move from project-based to sustained programme funding or other approach for funding of EPHFs, especially with development partners.

Budgetary control and revenue generation

- Shift locus of responsibility for appropriate budgetary control to appropriate level
- Enable locally generated income to be retained locally
- Increase opportunities for generation of income locally.

(c) Changes to data and information

Data sources, collection and collation

- Link databases and ensure compatibility
- Integrate data sets and flows between hospitals and primary care
- Define data parameters and collection and collation procedures
- Develop mechanisms for sharing of data between private and public sector.

Data analysis and dissemination

- Improve timeliness of analyses
- Increase computer-based facilities in rural settings
- Improve timeliness of communication of investigative findings.

(d) Changes to process, support and infrastructure

Coordination and communication

- Integrate all core public health programmes and activities into primary health care system for planning and delivery purposes
- Integrate management of primary care and public health with that of hospitals and other services at divisional level and below
- Develop better links with communities, especially in rural areas, to promote public health (esp. health promotion)
- Increase multisectoral work, especially in noncommunicable disease prevention.

Quality, monitoring and evaluation

- Standardize management protocols at population and individual levels
- Increase operational health research activity
- Promote structured approach to quality across the sector
- Develop robust mechanisms for evaluation of technology.

Support structures

- Change legislation to meet newer environmental challenges
- Improve transport availability, especially in rural areas.

5.2 Option appraisal

(a) Justification

- The elements of the proposal are all derived directly from the SWOT analysis and, as such, represent the views of those best placed to assess the issue.

- The proposal consists of changes to all elements of the system, including process and structural issues, thereby proposing a coordinated across-the-board approach to change that is more likely to achieve support and success than isolated initiatives.

(b) Feasibility

- Will require amending current workforce definitions and job descriptions.
- Will need some amendment of current health delivery paradigm, especially of primary health care (including funding) and reconstruction of a new one to embrace core public health functions.
- Will require more across-the-board coordination between training funders, agencies and institutions, and government agencies.
- Does diminish central control, which may be seen to be problematic.
- Empowers staff at lower levels and, as such, enhances prospects of greater local activity and action, especially in rural areas.
- Integrates public and private sector for population health gain.

(c) Resource implications

- Potential for significant increases in revenue and savings.
- Changes in resourcing mainly involve reallocation of resources, not new resources.

(d) Education/Training requirements

- Will require curriculum modifications at undergraduate level and improved coordination across agencies and organizations, but essentially cost-neutral.
- Will need investment in delivery systems for distance learning, possible costs of developing resource centres and telecommunication links in rural areas.

(e) Value for money

- As the proposal focuses on improving the most cost-effective part of the system i.e. the primary care network, the gains are likely to be optimized for any given investment.
- Should provide efficiencies in services, with integration of existing management structures and processes.
- Potentially gives significantly greater performance.
- Public health and primary care services are a more cost-effective means of health gain than investment in hospital services.
- Improves existing staff capability, albeit with the establishment of small cadres of new staff, predominantly through reallocation within existing resources.

(f) Likelihood of success

- Good, as the suggestions build on existing and established government policy and strong established primary care network
- The redistribution of resources to rural areas will provide strong political support, given the large number of rural voters.

(g) Sustainability

- The various elements of the proposal are in the main innately self-sustaining, as they will command broad support across the political spectrum, at both the local and national government level and amongst the community at large.
- From a financial sustainability perspective, the changes are, in the main, process- or structure-based and, as such, have little/limited financial impact. Moreover, increasing local control of budget will lead to greater efficiencies due to increased responsiveness.

5.3 Possible threats to the proposal

As a final step, the project required consideration of possible threats to the proposal. In addition to the prescribed core factors identified in the project operating guideline, three additional local factors (political situation, changing disease patterns and demographic

trends, and environmental degradation) were identified as potentially having the most impact on the implementation of the recommendations. Under each of the headings, participants were asked to give the reasons for their views. A summary of this evaluation is outlined in Table 3.8.

Table 3.8: Impact of potential changes on the proposal

Potential change	Impact of the change of the proposal	Impact of the change on the status quo
Corporatization	The strengthening of management and leadership under the proposal would enable positive responses to such a scenario.	The Ministry of Health is central to current arrangements; should this be corporatized the delivery of EPHFs could be compromised.
Privatization	Privatization in whatever form would, in the context of the proposal, improve the delivery of EPHFs.	The lack of transparency of operation and regulation of the private sector under current arrangements will prove difficult for EPHF delivery.
Decentralization	Could enable local and responsive organization of EPHFs within wider primary health care framework; promotes equity and good governance.	Has the potential for further fragmentation and confusion.
Technological innovation	Dissemination of information technology capacity and capability would enable the timely incorporation of information into EPHFs.	The lack of information technology capability is a major impediment to the efficient dissemination of data and information.
Globalization	An effective framework enables proper and timely environmental health protection initiatives to be implemented.	The lack of an effective regulatory system is a major obstacle to health protection in an era of globalization, especially in the context of global warming.
Political situation	More localized arrangements make dependence on central functions less problematic.	Current centralized arrangements, including funding and staffing, make delivery difficult at times of political instability.
Changing disease patterns and demographic trends	The proposal makes effective health promotion and disease prevention responses (including tertiary prevention) at a local level a reality for all age groups, including the elderly.	Existing high rates of noncommunicable diseases and the lack of funding for effective local responses increase health service demands, and, therefore, funding is required for the curative part of the health system.
Environmental degradation	The effects of environmental degradation will not only be effectively monitored, but possible adverse effects will be prevented by local action.	Current focus of control centrally is inefficient and the outcome is increasing outbreaks of communicable diseases and evidence of toxic challenges (e.g. fish poisoning).

6. CONCLUSIONS

The project was a very valuable exercise for Fiji in that it :

- enabled wide-ranging discussion of health sector challenges across a broad spectrum of the workforce;
- brought a much-improved understanding of the proper extent of core public health functions;
- provided a useful platform for the consideration of public health activity to be incorporated in any discussion of health sector reform;
- enabled the development of skills in the investigation of such issues;
- derived a considerable number of issues regarding competency and performance of public health functions for further investigation (Due to the concise nature of the report required for this chapter, it has not been possible to provide detail on these issues.);
- provided a shared understanding for action to protect and strengthen public health action; and
- highlighted the need for more intersectoral collaborative effort specifically geared towards improving the delivery of EPHFs.

7. RECOMMENDATIONS

Having completed this study, the research team felt it appropriate to make the following three key recommendations to the Ministry of Health:

- (1) The maintenance and strengthening of EPHFs must remain the basis for all public health activities in any health systems reform process.
- (2) The budgetary allocation must reflect the priority areas of primary and preventive health care rather than clinical care.
- (3) Human resource development/training in public health must be a continuing priority process, given the demonstrated need for greater numbers and competence of staff to maintain and strengthen the delivery of EPHFs.

8. ACKNOWLEDGEMENTS

Fiji Project Advisory Group

Dr Lepani Waqatakirewa, Director Primary and Preventive Health Services, Ministry of Health

Dr Setareki Vatucawaqa, Sub-divisional Medical Officer, Rewa Subdivision

Dr Sala Saketa, Divisional Medical Officer, Northern District

Mr Alan Hodgkinson, Training Adviser, AusAID Health Management Reform Project, Ministry of Health, Suva

Ms Karen Denison- Biumaiwai, Lecturer in Health Service Management, Fiji School of Medicine

Mr. Navi Litidamu, Senior Lecturer in Environmental Health, Fiji School of Medicine

Ms Lorraine Kerse, Regional Adviser - Human Resource Development, WHO, Suva

Professor David Phillips, Professor of Public Health and Primary Care, Fiji School of Medicine

Fiji Project Research Team

Mr Navi Litidamu, Senior Lecturer in Environmental Health, Fiji School of Medicine

Dr Berlin Kafoa, Lecturer in Health Service Management, Fiji School of Medicine

Dr Iris Wainiqolo, Lecturer in Primary Care, Fiji School of Medicine

Dr Phyllis Hotchin, Lecturer in Primary Care, Fiji School of Medicine

Mr Madhukar Pande, Lecturer in Social Science, Fiji School of Medicine

Professor David Phillips, Professor of Public Health and Primary Care, Fiji School of Medicine (Principal Investigator)

The Project Research Team wishes to acknowledge the support of the Dean, Fiji School of Medicine, Dr Wame Baravilala, in enabling staff to take part and providing logistical support to the project.

Figure 3.3: Central Government structures in support of public health

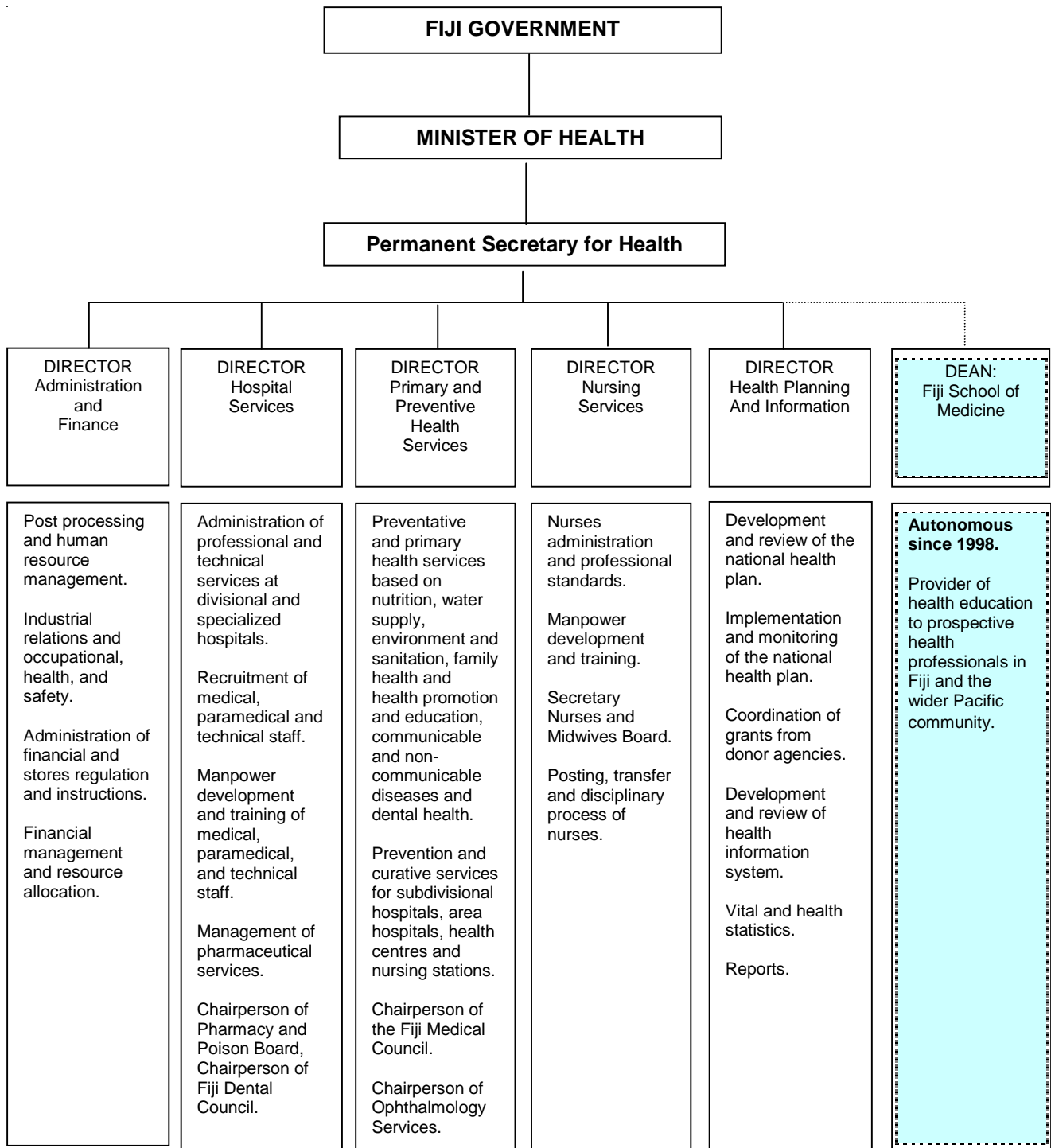


Figure 3.4: Organization of health services at divisional, subdivisinal and area levels

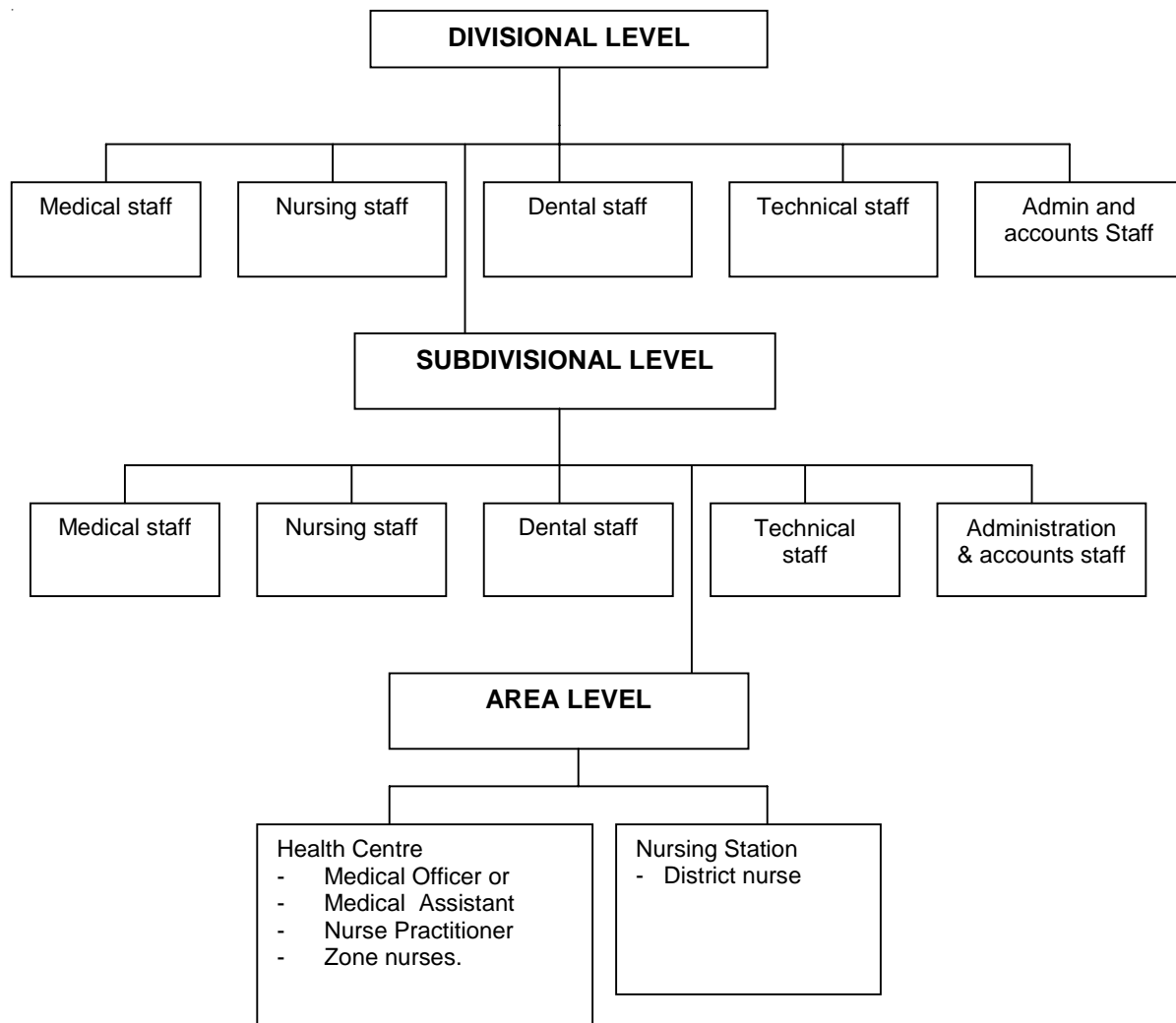
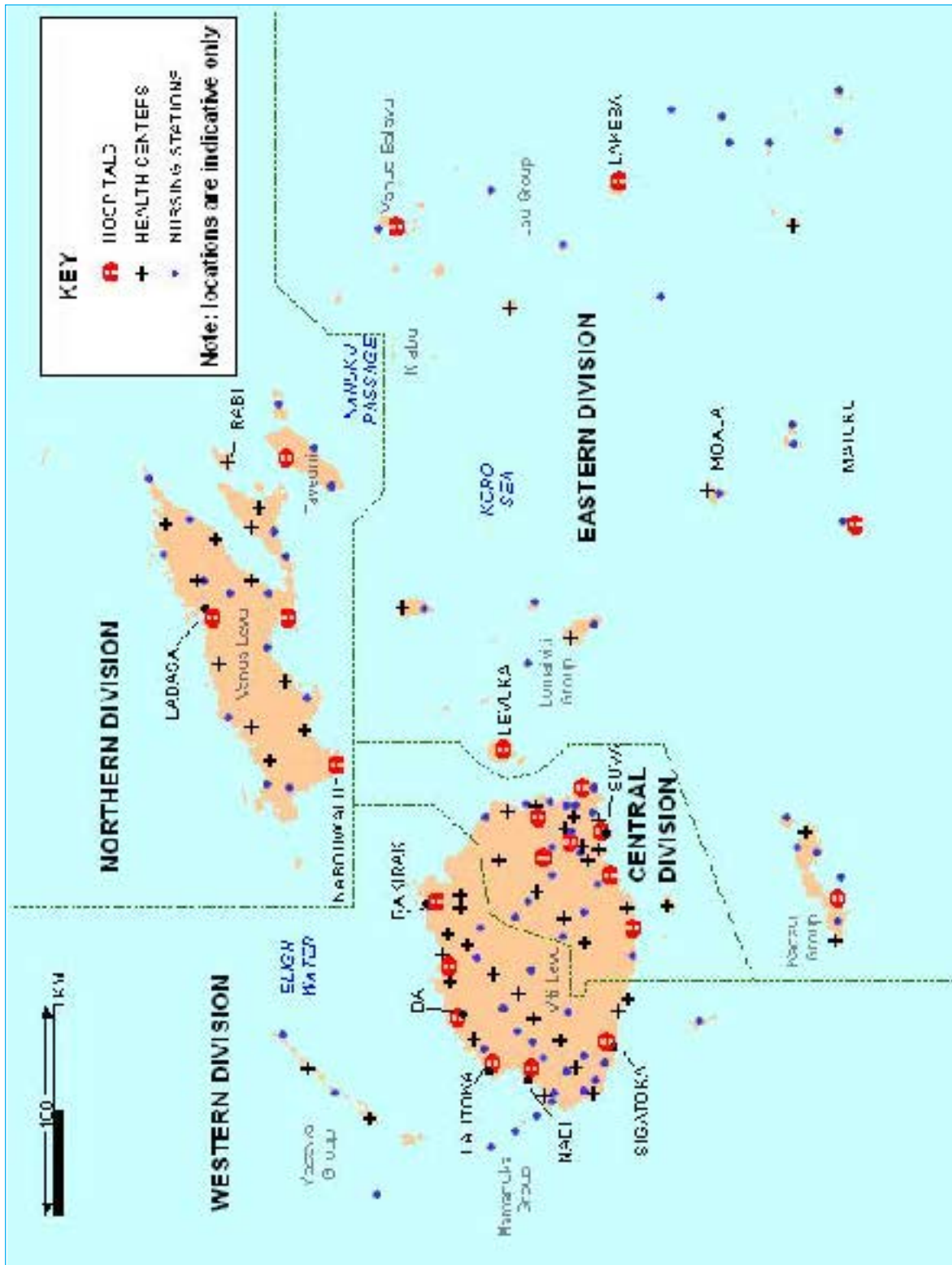


Figure 3.5: Fiji's health care divisions



9. REFERENCES

1. Douglas N, Douglas N, eds. *Pacific Islands Yearbook*. 17th ed. Suva, Fiji Times Limited, 1994.
2. Anonymous. Travel Information on Fiji. 1999.
3. *Quarterly Review*, June 2000. Suva, Reserve Bank of Fiji, 2000.
4. *1996 census*. Suva, Bureau of Statistics, Fiji, 1996.
5. United Nations Development Programme. *Human development report 2000*. New York, Oxford University Press, 2000.
6. United Nations Development Programme. *Pacific human development report 1999. Creating opportunities*. New York, Oxford University Press, 1999.
7. *The world health report 2000. Health systems: improving performance*. Geneva, World Health Organization, 2000.
8. *Fiji poverty report*. New York, United Nations Development Programme, 1997.
9. *National state of the environment report*. Suva, Ministry of Environment of Fiji, 1992.
10. *The world health report 1999: Making a difference*. Geneva, World Health Organization, 1999.
11. Country Health Information Profile: Fiji. Regional Office for the Western Pacific, World Health Organization; 1999. Accessed December 1999 from <http://www.wpro.who.int>
12. *Human development report, Fiji*. New York, United Nations Development Programme, 1997.
13. *Health Workforce Plan, Fiji 1997 - 2012*. Suva, Ministry of Health of Fiji, undated.
14. *Corporate Plan*. Suva, Ministry of Health of Fiji, 2000.
15. *Annual budget*. Suva, Government of Fiji, 1998.

CHAPTER 4

MALAYSIA CASE REPORT

1. CONTEXTUAL INFORMATION

The concise contextual information in this section is provided to enable the reader to understand the context in which Malaysia's public health services are currently being provided.

1.1 Geography, demography and socioeconomic situation

(a) Country profile

Malaysia occupies a central position within Southeast Asia and includes two landmasses of Peninsular Malaysia (11 states) and the states of Sabah and Sarawak on the island of Borneo. A federation of 13 states and 3 federal territories, Malaysia occupies an area of 329 758 km²,

with an estimated population of 21.6 million and a population density of 69 per km² (1). Kuala Lumpur is the capital city, with a population of approximately 3 million.

Manufacturing is the leading sector in the economy, with output accounting for 33.1% of GDP in 1995. The principal source of export earnings is the electrical and electronic products industries, with a 65.7% share of manufactured exports in 1995 (2). The contribution of the agricultural sector accounted for only 13.6% of GDP in 1995.

(b) Socioeconomic and demographic indicators

A summary of socioeconomic and demographic status in Malaysia is presented in Table 4.1.

Table 4.1: Socioeconomic and demographic indicators for Malaysia

Indicator	Value	Source
GDP per capita (US\$) (1998)	4251	United Nations Development Programme (3)
GNP annual growth rate (1990-98)	6.4%	United Nations Development Programme (3)
Official development assistance per capita, (1998)		
Total (US \$ million)	202.00	United Nations Development Programme (3)
As % GNP	0.3	
Per capita (US\$)	9.1	
% population in rural areas		Department of Statistics (2)
Actual 1999	41.9	
Projected 1999	41.2	
Total population (1999)	21 830 000	World Health Organization (4)
Population density (sq km)	69	Department of Statistics (2)
Population distribution (1999)		Department of Statistics (2)
Gender (x 1000) – male	11 632.5	
– female	11 079.4	
Children <5 (x1000)	2614.6	
Adolescents (10-19 years inclusive) (x 1000)	4791.2	
Women in child bearing age group 15 – 49 yr (x 1000)	5084.9	
Older persons (60 years +)	1.3 million (6.0%)	
Ethnic group - Malay	10 682.3	
- Chinese	5597.8	
- Indian	1582.5	
- other Bumiputera	2477.1	
Population annual growth rate (1990-1999)	2.3	World Health Organization (4)
Population ageing	5.9% (1999)	
Adult literacy rate (%) (1998)	86.4	
Primary school enrolment (%) (1997)	99.9	
Secondary school enrolment (%) (1997)	64.0	
Dependency ratio (per 100) (1999)	63	
Percent of population in absolute poverty	6.0	Department of Statistics (2)
Human Development Index (HDI) (1998)	0.772	United Nations Development Programme (3)

(d) Health status indicators

The health status of Malaysia is summarized in Table 4.2 below.

Table 4.2: Health status indicators for Malaysia

Indicator	Value	Reference
Total fertility (1999)	3.1	World Health Organization (4)
Infant mortality rate (per 1,000) (1998)	9	United Nations Development Programme (3)
% newborn birth weight <2500g (1990-1997)	8	United Nations Development Programme (3)
Mortality rates < 5 years (per 1000) - male	15	World Health Organization (4)
- female	13	
Mortality rates (per 1000) 15-59 years - male	172	
- female	125	
Maternal mortality ratio (per 100 000) 1990-1998	39	United Nations Development Programme (3)
Life expectancy at birth (1999) - Male	67.6	World Health Organization (4)
- Female	69.9	
Malnutrition stunting children < 5 years (5%)	Not available	
Child malnutrition ¹ - severe malnutrition	1.0	Ministry of Health (5)
Moderate malnutrition	15.2	
% population served with safe water	93.0	WHO Regional Office for the Western Pacific, Country Report
% population served with adequate sanitary facilities - Urban	100.00	
- Rural	97.6	
% children < 1 year immunized against measles (1995-1998)	86	United Nations Development Programme (3)
Tuberculosis cases (per 100 000) (1997)	64.4	
Annual average cigarette consumption per adult (1993-1997)	998	United Nations Development Programme (3)
Disability-adjusted life expectancy at birth (1997 – 1999) - male	61.3	World Health Organization (4)
- female	61.6	
Disability-adjusted life expectancy at age 60 (1997 – 1999) - male	9.7 (9.2 - 10.2)	
- female	9.7 (9.1 - 10.3)	
Health expenditure - per capita health expenditure in international dollar (US\$) (1997)	202	World Health Organization (4)
Five principal causes of hospitalization in government hospitals (excluding normal delivery):		Ministry of Health (5)
Total no. hospitalized	1 559 280	
Complication of pregnancy	11.99%	
Accidents	10.19%	
Disease of circulatory system	6.76%	
Disease of respiratory system	6.58%	
Certain conditions originating in the perinatal period	5.25%	
Five principal causes of deaths in government hospitals		Ministry of Health (5)
Total no. of deaths	29 447	
Heart diseases and diseases of pulmonary circulation	15.10%	
Septicaemia	10.98%	
Cerebrovascular diseases	9.47%	
Accidents	8.79%	
Malignant neoplasm	8.75%	

¹ Severe malnutrition is weight-for-age achievement of less than 3 standard deviations (s.d.), as per definition of the National Centre for Health Statistics. Moderate malnutrition is weight-for-age achievement at or more than 3 s.d. and less than 2 s.d.

1.2 Government structure and responsibilities

Malaysia is an independent nation with a Parliamentary Monarchy. The Head of State is His Royal Highness the King, who is on a rotational term of five years. Each of the 13 states of Malaysia is headed by a Sultanate, except for the four states of Sabah, Sarawak, Pulau Pinang, and Melaka, which are headed by Governors.

Under the Federal Constitution, ‘medical care’ is a responsibility of the Federal Government. The Constitution, however, does provide for ‘public health’ to be under the concurrent list of the 9th schedule, which means that state governments and local authorities, if they so wish, can enact legislation regarding public health.

The health sector is headed by a Minister, Deputy Minister and Parliamentary Secretary, who are all politically appointed. The executive head of the Ministry of Health is the Secretary General and the technical head is the Director General of Health, both of whom are public servants. The highest policymaking-body in the Ministry of Health is the Policy and Planning Committee.

Malaysia has a five-year rolling plan. The first plan began in 1960 and presently Malaysia is in its Eighth Malaysia Plan, for 2001-2005. The direction, focus and budget for each plan are usually decided upon in the Mid-Term Review of the preceding plan. The long-term plan, called the Outline Perspective Plan (OPP), first started in 1970. Presently, Malaysia is in the Third OPP (OPP3) for the period 2001–2010.

(a) Mandate

A strong mandate is in place for the core business in public health. Vision 2020 sets the direction for the development of the country. The Vision states:

“By the year 2020, Malaysia is to be a united nation, with a confident Malaysian society, infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient” (6).

Vision 2020 contributed to the development of the Vision for Health, which states,

“To develop a nation of healthy individuals, families and communities, through a health system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable and consumer friendly, with emphasis on quality, innovation, health promotion and respect for human dignity, and which promotes individual responsibility and community participation towards an enhanced quality of life” (7).

The Mission for the Ministry of Health emphasizes the building of partnerships for health to facilitate and support the people to attain their full potential in health, and to motivate them to appreciate health as a valuable asset and to take positive action to further improve and sustain their health status to enjoy a better quality of life (8).

(b) Health policies

Health development is enshrined in the national OPPs and the five-year rolling Malaysia Plans. Health sector development during the Seventh Malaysia Plan period (1996-2000) aimed at improving the health status of the population (2). It also stated that greater emphasis would be given to promotive and preventive health in order to reduce future expenditure on curative and rehabilitative health care.

(c) The role of the Ministry of Health

The role of the Ministry has evolved over the years. Its current role includes:

- policy analysis and formulation;
- health development planning and implementation of development projects;
- broad programming and target setting;
- setting standards and norms;
- obtaining and allocating resources;
- monitoring and evaluation; and
- reviewing and promulgating health legislation.

The Ministry plans to gradually reduce its role in the provision of health services and increase its regulatory and monitoring functions.

(d) The role of the private sector

It is stated in the Seventh Malaysia Plan that the private sector is the engine of the country's economic growth (2). The private sector is expected to play a bigger role in the health care industry, to support the Government in realizing its commitment to provide services and to finance other priorities in the health sector.

With the current shortage of manpower in the public and private sectors, the private sector is being encouraged to expand its own training capacity and share in the cost of training personnel.

(e) Financing of health care

The majority of health and health-related facilities belong to the public sector, funded through general taxation. Services provided at private facilities are presently paid through fee-for-service arrangements, either out-of-pocket or by a third party. Presently, private health insurance in Malaysia is not well developed.

(f) Public health leadership

Although health care services are provided by many agencies in Malaysia, the Ministry of Health plays a leading and significant role in guiding, advocating and providing services for public health. This leadership role is also supported by local health authorities in cities and some big towns.

Public health is represented at the national level through the Inter-Agency Planning Group. At state level, there is no standardized representation of the State Health Director in all states. Many of the states, however, include the State Health Director as a member of the Post-Exco, State Development Council and State Development Work Committee. The District Medical Officer of Health represents the district in providing guidance, advocacy and advice on matters pertaining to public health through his/her membership in the District Action Council. The health care providers at health clinic and community clinic levels are members of the local village committees, exerting their influence on health at the local level.

A number of public health professional organizations, in the form of associations or societies, have been registered to serve the development of public health professionals, and to advocate and provide a voice on public health matters through various forums and the media.

(g) Legislation

Public health departments are involved in drafting proposed legislation or amendments through the Main and Technical Advisory Committees. During the process, the proposed legislation or amendments are circulated to the organizations that are regulated (or to be regulated) for their comments. The process for the promulgation and amendment of public health legislation follows several steps, which are outlined in Appendix 1 to this chapter.

(h) Accountability/transparency

Accountability and transparency are major concerns of the Government, including the Ministry of Health. Internal and external auditing processes for the various activities of government agencies are undertaken on a regular basis, particularly with respect to financial and asset management.

The Quality Assurance Programme, established in 1985, looks into the technical accountability and transparency of various health programmes such as patient care, promotive and preventive care, oral health care, engineering services, pharmaceutical services, laboratory services, training programmes and health planning (9). More than 100 clinical and public health service indicators to measure performance have been developed and are continuously being monitored over time to improve the quality of services and ensure safety.

In recent years, the Government has been actively promoting integrity. Every organization is expected to formalize a Department and Institutional Management Integrity Committee. The ultimate goal of these committees is to create public services which are efficient, well disciplined and of high integrity.

(i) Effective participation of civil society

Community participation has been given priority in the decision-making process and activity in public health. At the lowest level, village committees and village health teams (part of the activity carried out by the health clinic) contribute and take an active role in health matters. Advisory panels are effective in providing community input at clinic level. A Hospital Advisory Board is established for every hospital. At the district and state levels, public health representatives sit on a number of intersectoral committees with community leaders as well as the nongovernmental organizations (NGOs). At the national level, annual dialogues have taken place over the last few years between the Ministry of Health, the health industry, NGOs and professional societies.

1.3 Overview of the health sector

(a) Provision of health care in Malaysia

The Ministry is the main provider of health care in the public sector, with the other providers being the Ministry of Education, the Ministry of Defence, the

Ministry of Home Affairs, statutory bodies and local authorities. The private medical sector and some NGOs complement these health services. The number of institutions and bed complements is summarized in Table 4.3.

The Ministry of Health has established hierarchical levels in the network of health service delivery points throughout Malaysia. Each level has a prescribed scope of functions with an established referral system. At the primary care level, there is a two-tier system (8). Each rural health unit serves a population of 15 000 to 20 000. It consists of a health clinic and four community clinics (*Klinik Desa*). People in rural areas enjoy comprehensive health services, ranging from outpatient curative care to promotive and preventive services, delivered through the rural health unit. Paramedics manage the community clinics, while professionals and paramedics manage health clinics and polyclinics. At the secondary level, there are small and large district hospitals, closely linked to the state and regional general hospitals. At the tertiary level, there are university hospitals and the national referral hospital, the Kuala Lumpur Hospital.

The private medical sector has grown tremendously in recent years. Under the free enterprise system, private practices may be set up anywhere in the country. The majority of private sector facilities are urban-based, explaining the disparity in the distribution of health facilities between regions and urban/rural localities. The private sector also concentrates mainly on curative care that produces high financial returns.

In Malaysia, traditional healers continue to play a role in the health care system. They include Chinese *sinsehs*, Indian *ayurvedic* and Malay traditional healers. There has also been recent interest among NGOs to become involved in both public health and personal care activities, for example, in providing home care, rehabilitative care and group support services for specific illnesses.

Table 4.3 : Number of institutions and beds (1999)

Health infrastructure	Number
Number of institutions:	
- Ministry of Health government general hospitals	111
- Ministry of Health government specialized hospitals	7
- Ministry of Health government district hospitals	225
- non-Ministry of Health government hospitals	6
- private hospitals, maternity/nursing homes	197
Number of beds:	
- Ministry of Health general hospitals	36 896
- Ministry of Health specialized hospitals	6692
- Ministry of Health district hospitals	11 026
- non- Ministry of Health government hospitals	1967
- private hospitals, maternity/nursing homes	7192
Number of clinics:	
- government health clinics	772
- government dental clinics	1436
- government community clinics	1987
- government maternal and child health clinics	102
- mobile clinics	284

Source: Ministry of Health (5).

(b) Primary health care, and expectations regarding the primary health care role in relation to public health

Malaysia has taken many steps in the attempt to realize a nation of healthy individuals, families and communities. The Vision for Health amplifies, among other things, the fact that ‘health’ is a social responsibility. Health is an asset that must be acquired, and every individual has the responsibility to maintain his/her own health to enable him/her to achieve his/her full potential and contribute to the well-being of the nation.

Primary health care was proclaimed as the “Thrust of Health Services” in the Seventh Malaysia Plan, and primary health care delivery services, including outpatient services, have been brought under the domain of the Public Health Department.

(c) Programme priorities

The Government plays a dominant role in the provision of promotive and preventive health programmes such as immunization and vaccination, control of communicable diseases, rural environmental sanitation, applied food and nutrition, occupational health and safety, health education, family health development, and dental health, as well as anti-drug and road safety programmes. The rural environmental and sanitation programme provides a clean water supply, sanitation facilities for rural households and public health services, including health education. These are the essential elements advocated by the Primary Health Care strategy (10). Many of these elements were present at the rural health clinics even before the Alma-Ata Declaration in 1978. The Ministry is also responsible for providing other supportive programmes, such as training and manpower planning, pharmacy and supplies, research, planning and development, and bioengineering.

(d) Programme objectives of the Ministry of Health

With expected new challenges to be faced during the period of the OPP3, the Ministry of Health has identified several priority areas to be taken into consideration in the Eighth Malaysia Plan (8). These are:

- (1) integration and networking;
- (2) priority in equity and accessibility;

- (3) restructuring of the public health sector;
- (4) health care financing;
- (5) quality and standards;
- (6) patient-focused health care;
- (7) corporate culture in the health sector;
- (8) appropriate technology;
- (9) integrated health management information system;
- (10) training and research;
- (11) legislation; and
- (12) impact of globalization and liberalization on the health sector.

(e) Accessibility to health care

Malaysia has achieved reasonable access to health care for all. In 1996, the ratio of health clinics to population at the primary care level was 1 to 15 753 (11). The ratio of government hospital beds to population was 1.2 per 1000 people in 1996. The basic elements of essential primary care are within access of the vast majority of the population; about 81% live within 3 km of a static health facility (either a government or private health facility) and about 89% live within 5 km (12).

The development of private facilities has complemented those of the Government. The Second National Health and Morbidity Survey, conducted in 1996, showed that 54% of residents in Malaysia live nearest to a private clinic (12). A private clinic was nearest to 81% of residents in urban and 38% in rural localities. The study also showed that the mean distance of a private clinic from a residential area is only 8.6 km, and half of the population are within 2 km of a private clinic.

All of the eight elements of primary health care, including dental care, are provided at the community level. In ensuring access to higher-level care, a referral system is established through an ascending hierarchy of increasingly sophisticated health facilities and services.

(f) Public health workforce

The numbers of key health personnel related to public health is shown in Table 4.4.

Table 4.4: Number of health personnel (1998)

Type of Personnel	Malaysian		Number of expatriates
	Number	Ratio personnel to population	
Doctors	15 016	1:1465	316
Dentists	2104	1:10 456	NA
Pharmacists	2129	1:10 333	NA
Health civil engineers	21	1:1 200 000	0
Nurses	23 672	1:929	1011
Community nurses and midwives	6620	1:3323	0
Medical assistants	4960	1:4435	0
Laboratory technicians	2534	1:8682	NA
X-ray technicians	812	1:27 094	NA
Health inspectors	1660	1:13 253	0
Public health assistants	2562	1:8587	0

Source: Government of Malaysia (13)

The occupational classification and production of the public health workforce is listed in Appendix 2 to this chapter.

2. METHODOLOGY

Malaysia adopted the key-informant methodology to undertake the analysis.

Three workshops were conducted over a period of 2-3 days each. A number of pre-selected key informants were brought into a conducive environment where they could have concentrated time to apprehend, discuss and contribute to the required information.

The first workshop emphasized the situation analysis of the EPHFs; the second discussed the strengths, weaknesses, opportunities and threats of the delivery of EPHFs, their governance and stewardship; and workshop three deliberated on the proposals and the impact on the proposals of potential changes in the health sector and beyond.

The first workshop was attended by 47 key informants and the research team members. They represented health care providers from the five levels of care in the Ministry of Health². For the purpose of the workshop, they were grouped in the following manner:

- Level 1A - Health-programme managers³ (the group included a federal territory health manager)
- Level 1B - mainly Health-institution managers (the group included research and training institutions)
- Level 2 - State health managers
- Level 3 - District health managers
- Level 4 - Health clinic providers
- Level 5 - Community clinic nurses

² Due to time and resource constraints, the research team was advised by the Malaysian Project Advisory Group to limit the stocktake to the context directly linked with the Ministry of Health, appreciating the fact that a number of agencies and sectors external to the Ministry also contribute in providing essential public health functions in the country.

³ Programme Managers are officers at the Ministry of Health level who have been assigned to develop and implement identified programmes such as Maternal and Child Health, Mental Health, Disease Control, Health Management Information System, Planning and Development.

The workshop built on the strengths of the qualitative key-informant technique. Each key informant was requested to contribute independently in silence, followed by sharing of opinions between group members within the same level of care to reach a group consensus. Each group consensus was presented at a plenary session, where inputs were also obtained from key informants from other levels of care. The approach not only enabled each participant to actively contribute, but also provided quality control for the information obtained from individuals and groups.

The workshop began by asking each key informant to understand the term ‘practices’ as used in the project. The definition of each ‘practice’, as provided by the project operating guideline (POG), was used as a guide, and the key informants were asked to redefine each term based on what they understood in the context of their work. The definition reached by consensus in each group was used as a reference for subsequent sessions.

Pre-designed formats were distributed to the key informants to guide their discussions on what essential public health functions are carried out at each level, what mandates are available to support those functions, what support they require, and what linkages exist within and between health care providers in the Ministry and other agencies. The discussion continued to identify the tasks for each function, followed by the practices for each task.

Finally, each key informant assessed his/her level of competency (perceived confidence in carrying out the practice for each task to perform each function, without external assistance) by answering a self-administered questionnaire. A scale of 1-10, where ‘1’ equals no/very minimal competence and ‘10’ very confident of competency, was used.

For the second workshop, 30 key informants were invited, 13 of whom were also key informants for the first workshop. Based on their decision-making capacity, they were grouped into: policy and organization; or service delivery.

The main findings of the first workshop were presented to the second workshop and the key informants were introduced to the process of strength, weakness, opportunity and threat (SWOT) analysis. Based on the POG, a questionnaire was formulated to guide the key informants in identifying and discussing issues related the delivery of EPHFs, and their governance and stewardship. From those findings, participants worked

on possible proposals that could protect or strengthen the EPHFs. A question and answer session followed the presentation of a paper entitled *The Future Health System in Malaysia*, given by the Director-General of Health, which helped to clarify some components proposed by participants in drafting the proposals.

Following the two workshops, the research team formulated a proposal for the structure and sustainable delivery of EPHFs in Malaysia. The proposal was synthesized from the findings of the two workshops, contextual information on Malaysia, and the four main documents on strategic planning in Malaysia (8, 13-15). Several strategies were formulated to support each EPHF for the proposal. The proposal and the strategies were presented in the third workshop, where members of the project advisory group and other identified individuals were invited. They deliberated on the impact on the proposal of possible changes in the health sector and beyond.

The findings of the study and the proposal were presented to the Director-General of Health, Malaysia, and to the audience of the Second National Public Health Conference, held in April 2001.

3. STOCKTAKE

The workshops produced a great wealth of information. For practical reasons, the POG put a significant limitation on the size of the case study reports. Readers, therefore, need to understand that the following sections are a very concise summary of the analysis and results produced as part of the project.

3.1 Essential public health functions

No additional function was suggested by the key informants. The nine functions were found to be comprehensive enough to cover the tasks and activities carried out by all levels, except by those working at health clinics (level 4) and community clinics (level 5).

At the health clinic level (level 4), participants claimed that the functions of ‘Development of policies and planning in public health’ and ‘Research, development and implementation of innovative public health solutions’ are not applicable. At the community clinic level (level 5), the participants claimed that the following four functions are not applicable:

- Development of policies and planning in public health
- Strategic management of health systems and services for population health gains
- Regulation and enforcement to protect public health, and
- Research, development and implementation of innovative public health solutions.

3.2 Mandates for each function

Mandates are present for all levels of the health delivery system to carry out each of the essential public health functions. Each function is supported by various mandates, consisting of national policies, norms and standards, guidelines, codes of practice, bylaws, guidance (e.g. circulars), and Acts of Parliament.

3.3 Support for each function

Human resources and financial support were the main support requirements identified by most of the key informants for all functions.

Data information, technical, legislative, and logistics/infrastructure support requirements were mainly identified by the programme managers (level 1). Research and development, networking, community, political, supplies, equipment, standard operating procedures, and technology were mainly identified by participants from the state health level (level 2).

The key informants from district health offices (level 3) were also concerned with technological and training support. Those at the health clinic level (level 4) were more concerned with support for networking, facilities, equipment, and incentives. The key informants from community clinics (level 5) were concerned with support for data information, training, clear instructions, leadership and reference materials.

3.4 Linkages

Linkages exist between and within organizations for performing the essential public health functions. The pattern of the linkages and their purposes appeared to be the same for various functions at various levels. Strong linkages⁴ between the Central Government and the Ministry of Health were reported to exist at programme and institutional levels (levels 1A and 1B).

Linkages within the public health system appear to be established for all functions at various levels. However, gaps were noted in policy development in most of the essential functions for level 5. Information flows seem to be well established at all levels, for all functions.

Linkages between communities and public health appear to be strongest at levels 4 and 5. The key informants from level 1A reported weak linkages between communities and public health for most of the functions.

Linkages with other sectors that influence the determinants of health and public health appear to be weaker at levels 4 and 5, except for the purpose of providing some public health services. Increased revenue for public health programmes, through linkages with these other sectors, is consistently lacking for all functions.

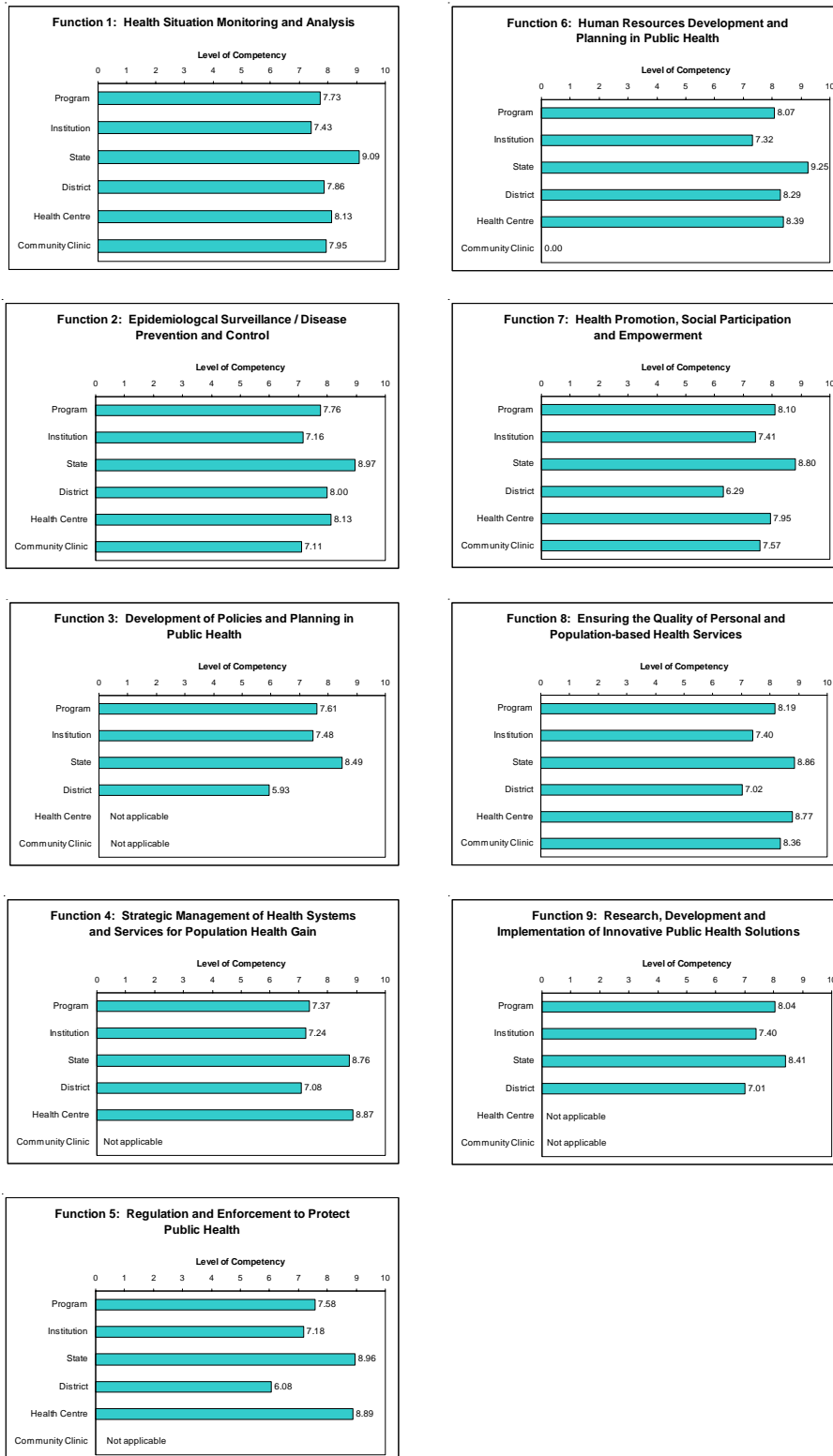
Linkages of level 5 with academic institutions were reported as lacking for most of the functions.

3.5 Tasks for each function

The tasks listed in the POG were found comprehensive and adequate to support implementation of all functions. No additional task was suggested.

⁴ Links were considered 'strong' when three or more of the respondents within the same group reported the link being present. Otherwise the link was considered weak.

Figure 4.1: Average perceived competency for each EPHF



3.6 Practices for each task in performing each function

The key informants reported that all the practices listed in the POG are being carried out. In some cases, additional were practices identified for some tasks.

3.7 Perceived competency

The overall average perceived competency by the key informants for each function is shown in Figure 4.1. The overall perceived competencies were computed from the average competency for the tasks performed in each function. The average perceived competency for each task is an overall average of the practices carried out for the task.

It was observed from the self-assessed evaluation that, on average, the key informants are confident (a score between 6-9 on a scale of 1-10) about carrying out the various tasks for all EPHFs. However, readers should exert caution in comparing the perceived confidence for the different levels. The findings should be interpreted within the context of the definitions of each 'practice' as understood by the group members, and within the limitations of the approach adopted for the study.

4. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF CURRENT ORGANIZATION AND DELIVERY OF EPHFS

A synthesis of the strengths, weaknesses opportunities and threats of the present health care delivery system in Malaysia is listed below. Details on the strengths, weaknesses, opportunities and threats are available in the full project report prepared by the Malaysian team (16). These following points emerged from the study:

- (1) The following factors have driven the development of methods to define essential public health functions and to measure the performance of national, state or local health departments and indicate their effectiveness in delivering those functions: health reform; shifts in demographic and epidemiological trends in diseases and in the prevalence of risk and protective factors; new technologies for health care; information and communication technology; and existing and emerging environmental hazards.
- (2) Visionary leadership and relevant legislation can withstand political pressure, as well as the threat of privatization.
- (3) With adequately trained human resources and the appropriate information and communication technology, Malaysia should be able to expand coverage and improve the quality of public health services.
- (4) The capability to manage and meet challenges in public health can be strengthened by constant review and development of training programmes, structured continuing medical education programmes, and support from local universities in carrying out relevant training programmes in public health.
- (5) The policy on smart partnership, endorsed by the Ministry of Health, can help to overcome the threat of ambiguity in handling workers' health, and the problems of illegal immigrants, drug addiction, rapid urbanization, sociodemographic changes, lifestyle changes and the emergence and re-emergence of infectious disease.
- (6) With well established physical structure and health programmes, together with the support and cooperation of other agencies, Malaysia should be able to enhance the coverage and improve the quality of public health care.
- (7) With the existing quality assurance/ improvement programmes, the good referral system and the forthcoming information and communication technology, Malaysia should be able to enhance the quality of public health services and accessibility to health care.
- (8) With improvements in the career pathways of public health care workers and appropriate and attractive incentives, the Ministry of Health should be able to retain existing staff and attract more qualified personnel into the public health service.
- (9) With adequate enforcement of public health legislation, supported by other relevant authorities, the emergence and re-emergence of communicable diseases can be contained.

- (10) Improving the health management information system (HMIS) to make it more comprehensive and dynamic, together with appropriate technology, should speed up information flow and facilitate timely public health interventions in Malaysia.

5. PROPOSALS TO STRENGTHEN EPHF DELIVERY

Malaysia is set to face the new decade with reformed strategies that are moving from a provider-centred focus to one based on the person and the population. Those strategies have been developed as part of a project called the 'Future Health System' (FHS). In order to sustain and protect EPHFs, the opportunity must be taken to build public health into the FHS.

The FHS is aimed at developing an advanced health system that harnesses the power of information and appropriate technologies to transform the delivery of health care and improve health outcomes. In working towards the FHS, the following eight health services goals have been identified (17):

- The focus will be on wellness, where services must be provided to promote individual wellness throughout life.
 - The focus will be on the person, where services must be based on individuals and made available whenever and wherever required.
 - All individuals must become informed persons supported by services that provide accurate and timely information and knowledge to enable individuals to make well-informed decisions about their health.
 - All individuals will be able to participate in self-help practices and services that facilitate knowledge and skill transfer, empowering individuals and families to manage their own health and be involved in their own care.
 - Whenever required, care will be provided at home or close to home, in the community and in other health settings.
 - The care provided will be coordinated, continuous and seamless. Services will be developed to manage and integrate care across episodes and settings throughout life.
- Services will be tailored to individual and group needs.
 - The services provided must be effective, efficient and affordable. There must be greater equity, greater access, and greater integration of health care services, and more timely delivery of high quality services at an affordable cost.

The following sections describe the key strategies to achieve the FHS while protecting and strengthening each of the EPHFs. The detailed strategies, which have been the product of several sittings, can be found in the full project report prepared by the Malaysian team for in-country consumption (16).

5.1 Proposed strategies, by function

(a) Function 1: Health situation monitoring and analysis

There is a need to further improve data and information management. This will be done by:

- improving and updating the quality of data collection
- implementing ICD-10 in all health facilities
- integrating all Ministry of Health programmes into the HMIS, and
- integrating data and information collection from the private sector, NGOs and other sectors.

(b) Function 2: Epidemiological surveillance / disease prevention and control

Surveillance activities will be applied beyond community surveillance. Efforts are underway to develop a system beginning at the individual level and using health-risk assessment approaches. It will also include impact assessment of health outcomes, linked with health care providers' activities. The quality of surveillance at the provider and community levels will be further enhanced through automation to improve coverage of data collection, both in depth and breadth, for all diseases, as well as essential information for impending and existing outbreak situations.

(c) Function 3: Development of policies and planning in public health

Policies that cut across the various activities of the health sector are required, to bring together different sectors that can contribute to health, such as Healthy Agriculture policies, Healthy Housing policies, and Healthy Education policies.

(d) Function 4: Strategic management of health systems and services for population health gain

The Ministry of Health, guided by the Vision and Mission for Health, now has a growing focus on appropriate management for acceptable health outcomes, using evidence-based approaches. Changes are already underway to reorganize the structure of the Ministry, with the addition of new divisions and units to accommodate newly identified functions, and the removal of some functions to autonomous bodies. Such changes will allow the Ministry to focus more on strategic management and legislative functions, including new strategies for a financing scheme and the delivery of personal care. There will be further enhancement of networking, using information and communication technology for better sharing of information to improve coordinated and synergistic planning.

(e) Function 5: Regulation and enforcement to protect public health

There is a great need to strengthen the function of the Ministry of Health with respect to implementing legislation and regulations. It is necessary to establish a Legislation and Regulation Division to oversee the promulgation and implementation of health legislation under the newly restructured Ministry. This division should have an adequate and appropriate mix of relevant health care professionals, legal advisers, drafters and support staff, which are currently lacking. There is also a need to review and revise the enforcement strategy in response to the changing socioeconomic environment and the threats posed by globalization.

(f) Function 6: Human resources development and planning in public health

The issue of human resources has been a subject of concern in both the public as well as the private sectors.

To ensure the availability of an adequate supply, number and appropriate mix of trained and skilled health personnel, a master plan for human resources for the health sector needs to be formulated, covering all related health sectors and based on the needs of the FHS. One of the strategies to be considered includes consolidation of all colleges in the Ministry into a network of 'One College of Health' for greater economies of scale and integrated planning. In addition, there needs to be further development of flexible learning approaches, greater emphasis on post-basic and higher specialty training, and upgrading and expanding of training facilities and professional development for health personnel.

(g) Function 7: Health promotion, social participation and empowerment

Further new approaches for the existing mass and electronic media coverage need to be explored to reach out to a broader spectrum of target groups. This will be enhanced by greater participation of individuals, the community and the private sector, as well as the NGOs involved in health promotion activities.

Messages should emphasize wellness, the management of wellness, the management and assessment of risk factors, the value and importance of early detection and the proactive management of illness, among others. Health promotion should facilitate the population in taking health actions in their capacity as a group, an organization or a community.

(h) Function 8: Ensuring the quality of personal and population-based health services

An evidence-based approach will be emphasized. Clinical practice guidelines, consensus statements and clinical protocols will be developed and used. Service standards need to be developed for all work processes. Quality assurance, clinical audit and other quality improvement initiatives must continue and be further strengthened to ensure greater health care provider accountability. The Strategic Plan for Quality in Health (18) must be operationalized at various levels to take advantage of lessons learned from past experiences and to inculcate a culture of quality in the FHS.

(i) Function 9: Research, development and implementation of innovative public health solutions

Research capacity and capability within the country need to be further enhanced through appropriate training, utilization of information technology, and the availability of adequate human resources and funding. Strategies will be further developed for intersectoral collaboration, inculcating research culture, improved sharing of research information, better coordination of research activities, greater research utilization, and the use of research to support national development.

5.2 Testing the proposals against future changes

In view of the global trend in health sector reform, the Malaysian research team decided to test the proposal on the structure and sustainable delivery of EPHFs against the following future changes: centralization, decentralization, and privatization.

It should be noted that, in testing against these future changes, it was fully understood that changes affecting the health system in Malaysia will not produce simple ‘centralization’, ‘decentralization’ or ‘privatization’ scenarios. In reality, a complex combination and interplay between the three scenarios, and perhaps with other changes, will continue to take place. However, this approach was undertaken to simplify the process of discussion and allow free flow of thought in developing strategies for each scenario. These strategies could contribute to the consideration of the future mix of reform scenarios.

(a) Centralization

A centralized system is defined as a health system that is owned, run and funded by the Government and where health is a social responsibility of the Government. In this scenario, the organization of health care in Malaysia would continue to be a centralized system, owned by the Government, which would continue to be the major provider of health services and funder of health care.

The main source of financing for health care services would continue to be from public revenue generated through general taxation. In addition, further collection

could be sought from taxes on certain products, such as tobacco and alcohol. Other sources of financing could include the Social Security Organization (SOCSO) and the Employee Provident Fund (EPF). In order to sustain and manage this health fund, a National Health Fund Authority should be developed which would be owned and controlled by the Government.

The operating budgets for programmes and activities would continue to be provided from the allocation of the Ministry of Health through the annual budgeting system to the states, hospitals and districts, based on needs and targeted outcomes. Providers would be paid by salary, with appropriate incentive mechanisms. A development budget would be allocated by the central Government through the national five-year rolling plans.

The pyramidal organizational structure of the Ministry of Health would be maintained at the national, state and district levels, in line with national administrative organization, to ensure a hierarchy of accountability and responsibility. Delegation of power, responsibility and accountability from the national level to the states and districts would allow greater flexibility for state and district managers in their technical and non-technical management roles and functions. The private sector, NGOs and other health and health-related agencies would continue to provide and complement the health services of the Ministry.

Uniform and comprehensive public health laws would need to be formulated to cover the various health-related laws, at both Federal and state levels.

A centralized health care system would ensure that all citizens, rich or poor, have equal access to health care based on need, and that vulnerable groups are protected. Centralization, being the main feature of the present health care system in Malaysia, is politically and socially well accepted, thus, minimal public debate should be expected.

Under this system, it would be far easier for the Government to ensure the quality of services and maintain a credible source of low-cost care. It would also serve as a competitive price check against the private sector.

(b) Decentralization

The discussion on decentralization was confined to deconcentration, devolution and delegation, as defined in the POG. Selective decentralization is defined to mean

that only identified components in the delivery of public health would be ‘shifted out’ and there would be a reduced role in service provision by the Government. In this scenario, the assumption is that the eight health service goals would be upheld by a strong, distributed, integrated health care network, ensuring no barrier to interaction and collaboration among the different providers and levels of care.

A health financing mechanism would need to be instituted that would ensure universal coverage with an appropriate basic health care package to maintain and improve health. A social insurance scheme, with affordable premiums, could be considered. The medical saving principle could also be applied, with appropriate modifications based on social acceptability. The Government would continue to fund and subsidize identified promotive and preventive activities considered as ‘public goods’. The source of funding would likely be from premiums, earmarked taxes, SOCSO and EPF. Private insurance would continue to co-exist in this scenario.

The provider payment mechanism would be largely fee-for-service, with Government grants for public providers, prospective global budgets for the restructured hospitals, and capitation payments for general practitioners. To reduce overutilization of services, the public would have to be given incentives, such as rebates or ‘no-claim bonus’ schemes. To reduce over- and underservicing by providers, some form of capitation payment would have to be developed. This payment should be given based on performance.

The Ministry of Health would be restructured. Service delivery would be delegated to an autonomous National Health Authority that would be responsible for the delivery of personal services, both curative and preventive; outpatient and family health services at the clinic level; and secondary and tertiary inpatient care for the ‘restructured’ clinics and hospitals. This Authority would be answerable to the Ministry. Financing would be based on disease-related groups (DRG) or ‘case-mix’, and subsidies from the Government would be based on needs.

The Ministry’s main role would be to set policy direction, formulate and regulate laws, and monitor and evaluate standards and outcomes. Managers in central and local governments would be accountable for the

performance of the restructured or contracted activities, which would be measured against financial and quality targets, as well as health gains.

A decision to decentralize would force the development of the capacity to change some of the regulations to monitor the decentralized system, so that the system would be able to accomplish national goals. A new Health Regulation Division would need to be developed under the Ministry. Besides playing a regulatory role for the new health authorities, it would also be a regulator for all other Public Health Acts.

The sustainability of this proposal is dependent on key strategies, which include:

- achieving quality health services performance that is of world standard;
- equipping medical and health societies with the skills to be competitive, not only in service performance, but also in facing health-related economic challenges;
- investing in information and its utilization towards the development of a society with greater knowledge and more knowledgeable consumers, regulators and industries; and
- enacting new laws, and reviewing existing laws, such as the Public Health Laws, Cyber Law, Telemedicine Act, and others, to ensure adequate coverage of all anticipated eventualities that may impinge on health.

(c) Privatization

Working on the principles of exclusion, the scope of privatized services would not include strategic policy-making, establishing service standards and the legal framework, or monitoring and evaluation of services. Those aspects would still be undertaken by the Ministry of Health, as the central agency, to ensure that EPHFs are integrated into the proposed health care system of the future. Through those functions, the Ministry would ensure conformance to service standards, contributing to a realization of favourable health outcomes.

It is deemed feasible to privatize other remaining functions, and they could be undertaken by private health

care providers. A National Healthcare Financing Authority (NHFA) would be formalized to manage the financing of the service delivery. The Ministry would need to work closely with NHFA, to enforce policy and regulation as well as to obtain information for monitoring and evaluation of health outcomes.

There would be a National Health Advisory Council to oversee the health care system.

It is possible for the various tasks of the nine EPHFs to be allocated systematically, those relevant to the Ministry of Health in its role as the central agency, and those that could be carried out by privatized entities. To ensure sustainability of the various EPHFs in the privatized scenario, it would be important that the functions were packaged into some grouping (or alliances) that would allow the spread of risks and enhance the benefits/returns.

6. CONCLUSIONS

This study enabled Malaysia to define and identify the functions, tasks and practices that are essential, termed EPHFs, in the delivery of public health services. Those functions, if carried out effectively, should result in improved health status and quality of life for Malaysian people, reduced inequalities, increased safeguards for the public's health, and a reduced acute and chronic disease burden.

Through the key-informant technique, organized as workshops, the study provided evidence that all nine EPHFs are in place in the present health care delivery system in the Ministry of Health. The existing mandate, support and links are sufficient to enable all of those functions to be carried out effectively.

The SWOT analysis identified a range of strengths and opportunities within and outside the present health delivery system in the Ministry that can protect and further strengthen the implementation of EPHFs. The analysis provided an in-depth understanding of the present situation in the Malaysian health system, including the public health system, financing and the players in public health.

The study was timely in providing input to strengthening public health within the concept of reform in the health system, termed the "Future Health System (FHS)". The FHS was conceptualized to meet the needs of the country from the priorities outlined in Vision 2020,

Vision for Health, the Ministry of Health Mission, and service delivery goals. The study proposed that the structure and sustainable delivery of EPHFs should be protected and further strengthened in the FHS. Through SWOT analyses, various strategies were identified for each EPHF to support the realization of the FHS.

As the detailed reform elements had not been formalized, the study took one step further in attempting to test how the structure and sustainable delivery of EPHFs would apply in three isolated scenarios of centralization, decentralization and privatization. This was deliberated within the overriding concept of the FHS. Although taking isolated scenarios is somewhat artificial, the exercise, nevertheless, allowed the identification of important issues worth considering if such situations were to take place, independently or in combination.

It is believed that this review is an invaluable document that could be used by policy-makers and other health providers in pursuing the sustainability of essential public health functions for the people in Malaysia.

7. ACKNOWLEDGEMENTS

Malaysia Advisory Group:

Datu Dr Mohamad Taha Arif, Director General of Health

Dr Lee Cheow Pheng, Director of Communicable Disease Control Division

Dr Narimah Awin, Director of Family Health Development Division

Datin Dr S Selvaraju, Director of Planning and Development Division

Datin Dr Harrison Aziz, Director of Food Quality Control Division

Dato' Dr Wan Mohamad Nasir Wan Osman, Deputy Director of Oral Health Division

Mr Sarjit Singh, Director of Health Education and Communication Centre

Professor Jason Teoh, Lecturer, Department of Social and Preventive Medicine, University of Malaya

Dr Zainol Arifin Pawanchee, Health Director of Kuala Lumpur City Hall

Dr Suleiman Che Rus, Director, Institute of Public Health

Professor Syed Mohamad Al Junid, Lecturer of Community Health Dept. National University of Malaysia

Ms Sabariah Hassan, Assistant Secretary -Human Resource Division

Mr Zulkifli A Rahman, Chief Public Health Inspector, Public Health Department

Ms Datin Shamsiah Omar, Principal Matron, Malaysian Nursing Board

Mr Mansor Fenner, Principal Tutor, Institute of Public Health.

(Members are from the Ministry of Health unless otherwise indicated.)

Malaysia Research Team:

Dr Narimah Awin (Chairperson), Director of Family Health Development Division

Dr Maimunah A. Hamid (Principal Investigator), Head, Health Systems Research, Institute of Public Health

Dr Safurah Hj Jafaar, Principal Assistant Director, Family Health Development Division

Dr Mohd Safiee Ismail, Assistant Director, Family Health Development Division

Dr Noridah Mohd Saleh, Assistant Director, Family Health Development Division

Ms Low Lee Lan, Research Officer, Health Systems Research Division

Ms Haniza Mohd Anuar, Senior Research Officer, Institute of Public Health

Dr Zailan Dato' Hj Adnan, Principal Assistant Director, Institute of Health Management

Dr Siti Rafiaah Ismail, Senior Medical Officer of Health, Institute of Public Health

Dr Zainal Abidin Abu Bakar, Assistant Director, Family Health Development Division

Ms Dayang Annie Abang Narudin, Chief Public

Health Matron, Family Health Development Division

Mr Hj Zainal Abd Ghaffar, Senior Public Health Inspector, Public Health Department

Mr Mohd Radzi Abdullah, Chief Public Health Medical Assistant, Family Health Development Division

(All Research Team members are from the Ministry of Health.)

Acknowledgements:

The Malaysia Research Team would like to express their appreciation to the Director-General of Health, Malaysia, for allowing the study to be conducted. They also wish to thank the Project Advisory Group for their guidance and support during the conduct of the study, for refining the proposals on how essential public health functions in Malaysia could be protected and strengthened as part of health sector reform in the country, and for their significant contribution in reviewing the final report.

The Malaysia Research Team also wishes to thank all participants of the three workshops, who contributed data and information for the project. The study could not have been completed without their invaluable contribution.

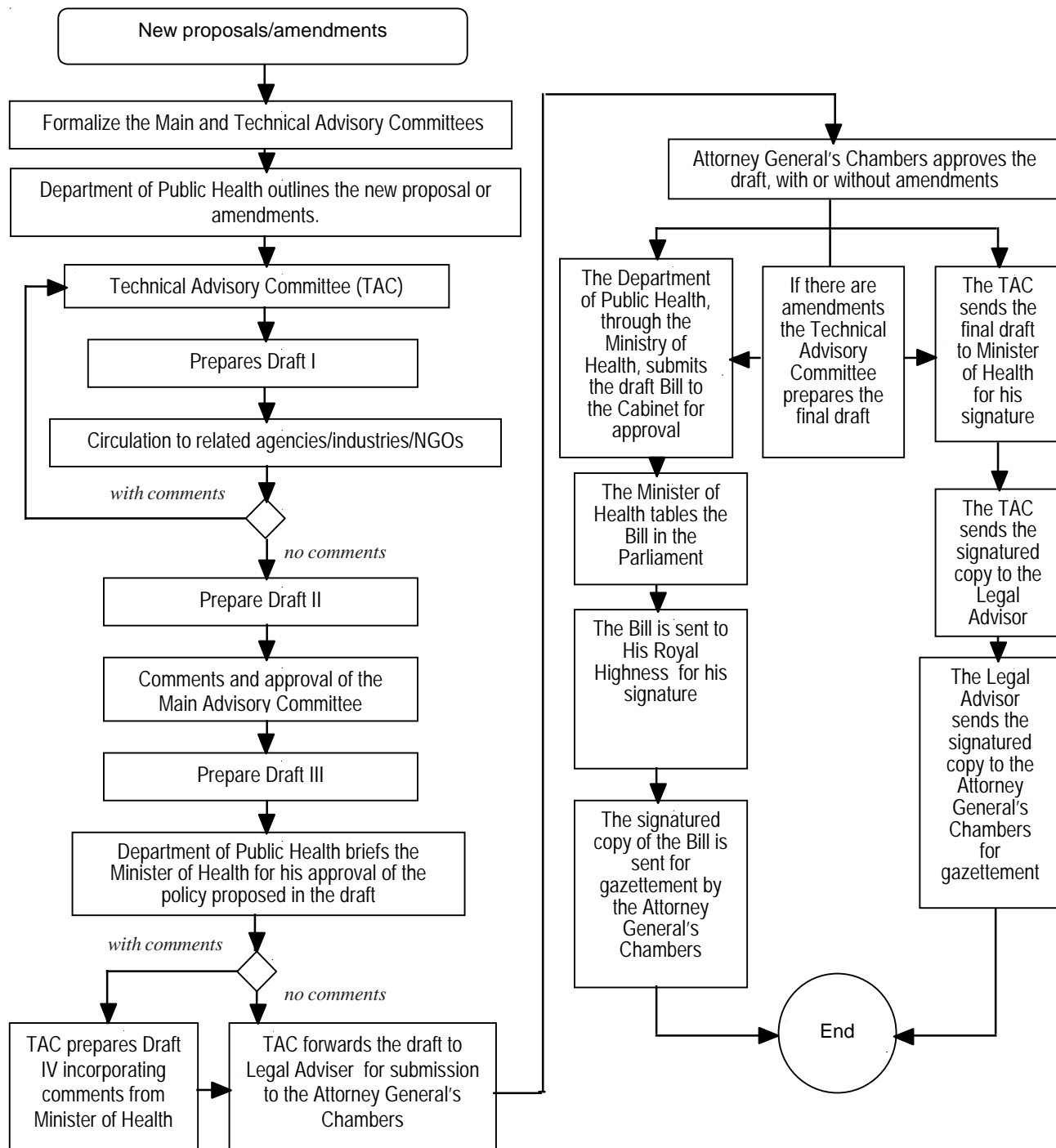
8. REFERENCES

1. SEAMIC. *Health statistics*. Japan, International Medical Foundation of Tokyo, 1996.
2. *Malaysia*. Kuala Lumpur, Department of Statistics, Malaysia, 2000.
3. United Nations Development Programme U. *Human development report 2000*. New York, Oxford University Press, 2000.
4. *World health report 2000. Health systems: improving performance*. Geneva, World Health Organization, 2000.
5. *Health facts*. Kuala Lumpur, Ministry of Health, Malaysia, 1999.
6. Ahmad Sarji Abdul Hamid. *Malaysia Vision 2020: Understanding the concept, implications and challenges*. Kuala Lumpur, Pelanduk (M) Sdn. Bhd, 1993.
7. *Health in Malaysia. Achievements and challenges*. Kuala Lumpur, Ministry of Health, Malaysia, 2000.
8. *Eighth Malaysia Plan (2001-2005)*. Draft. Kuala Lumpur, Government of Malaysia, 2001.
9. Abu Bakar Suleiman, *et al*. Quality assurance in Malaysia. In: Al-Assaf AF, ed. *Health care quality: An international perspective*. New Delhi, World Health Organization, Regional Office for South East Asia, 2001.

10. World Health Organization, United Nations Children's Fund. *Primary health care: report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978*. Geneva, World Health Organization, 1978.
11. *Indicators for monitoring and evaluation of strategy for Health for All*. Kuala Lumpur, Ministry of Health Malaysia, Information and Documentation System, 1998.
12. *Report of the Second National Health and Morbidity Survey Conference*. Kuala Lumpur, Ministry of Health, Malaysia, 1997.
13. *Outline Perspective Plan 3 (2001-2010)*. Draft. Kuala Lumpur, Government of Malaysia, 2001.
14. Mohamad Taha Arif. Conceptual paper on health system of the future. Paper presented at the Ministry of Health Directors Meeting; 2001 23 January 2001, Imperial Sheraton Hotel, Kuala Lumpur.
15. Abu Bakar Suleiman. Issues of the future health system. Paper presented at the Ministry of Health Directors Meeting; 2001 23 January 2001, Imperial Sheraton Hotel, Kuala Lumpur.
16. *Malaysia report: The structure and sustainable delivery of essential public health functions in the Western Pacific Region*. Report prepared for the World Health Organization Regional Office of the Western Pacific. Kuala Lumpur, Ministry of Health, Malaysia, 2001.
17. *Malaysia telemedicine flagship*. Kuala Lumpur, Ministry of Health Malaysia, 1997.
18. *Strategic plan for quality in health*. Kuala Lumpur, Ministry of Health Malaysia, 1998.

APPENDIX 1

FLOW CHART FOR THE PROMULGATION AND AMENDMENTS OF PUBLIC HEALTH LEGISLATION IN MALAYSIA



APPENDIX 2

CLASSIFICATION AND PRODUCTION OF PUBLIC HEALTH PERSONNEL

Category	Function	Entry qualification	Training requirement	No. of school	Average output / year
Doctors	<p>3 categories:</p> <ul style="list-style-type: none"> - Public Health Specialist – specialist who are trained in 5 public health specialities - Family Medicine Specialist – specialist who are trained as general physician to provide comprehensive care to patient and family. - Medical and Health Officer is a medical officer who practices at primary health care clinics and provides primary care treatment. <p>They either practice at national, state or district office levels. Those at national level are mainly involved in the development and evaluation of policies and specific public health programmes. Those at state health office level are involved in monitoring and evaluating the implementation of the policies and public health programmes. Those at district health office level operationalise all programmes and activities while managing the health district.</p>	<p>Qualified Medical Officer</p> <p>Qualified Medical Officer</p> <p>Qualified Medical Officer</p>	<p>A 4-year Master Programme in Public Health</p> <p>A 4-year Master Programme in Family Medicine</p> <p>On the job training</p>	<p>4</p> <p>3</p> <p>-</p>	<p>50</p> <p>25</p> <p>-</p>
Public Health Dentist	<ul style="list-style-type: none"> - Undertake promotive and preventive, curative and rehabilitative oral health care - Develop oral health policy - Manage oral health programmes - Regulate dental practise in the country - Ensure safety and health of clinical environment 	<p>Qualified dental practitioners, registered with the Malaysian Dental Council.</p>	<p>A 1-year Master Programme in Dental Public Health/Community Dentistry</p>	<p>2</p>	<p>5</p>
Health Education Officer	<p>Design, implement and evaluate health promotion activities in the community.</p>	<p>Degree in Mass Communication</p>	<p>A 2-year Master Programme in Health Education</p>	<p>1</p>	<p>15</p>
Public Health Nurse	<ul style="list-style-type: none"> - provide promotive, preventive and rehabilitative services under the supervision of Public Health Specialist 	<p>Malaysian Certificate of Education with credits in Science and Mathematics subjects</p>	<p>A 1-year post-basic training (distant learning).</p>	<p>1</p>	<p>80</p>
Public Health Inspector	<ul style="list-style-type: none"> - enforcement activities in preventing and controlling diseases - surveillance of diseases - monitoring of food quality control, water and sanitation 	<p>Malaysian Certificate of Education with credits in Mathematics and 2 Science subjects</p>	<p>A 3-year basic training with emphasis on environmental health, disease control, epidemiology, food safety, and health legislation</p>	<p>2</p>	<p>100</p>

CLASSIFICATION AND PRODUCTION OF PUBLIC HEALTH PERSONNEL (continued...)

Category	Function	Entry qualification	Training requirement	No. of school	Average output / year
Medical Assistant	<ul style="list-style-type: none"> - provide promotive, preventive, curative and rehabilitative services at primary care level under supervision of the Medical Officer. - treat simple ailments, - make appropriate referrals - carry out minor procedures. 	Malaysian Certificate of Education with credits in Science and Mathematics subjects	A 3-year basic training at recognised Medical Assistant Colleges, which includes theory and practical.	4	560
Dental Nurse	<ul style="list-style-type: none"> - provide oral health care to those age 17 years and below under supervision of Dental Officer - provide promotive and preventive oral health activities - perform specific clinical functions delegated by the dentists - complement and supplement work of public sector Dental Officer - undertake simple and repetitive curative procedures 	Malaysian Certificate of Education with credits in Mathematics, Bahasa Malaysia and Science subjects	A 3-year basic training in dental schools and practical training	1	100
Radiographer	<ul style="list-style-type: none"> - operating radiological procedures to facilitate diagnosis making and patient care. - care of the patient before, during and after the procedure - ensure safety of X-ray <p>2 categories :</p> <ul style="list-style-type: none"> - Diagnostic Radiographer - Radiotherapy Radiographer (specialised in radiotherapy field in management of cancer patient) 	Malaysian Certificate of Education and credit in Bahasa Malaysia Science, Mathematics and English subjects	A 3-year basic training at recognised college / school with emphasis on- radiographic sciences, physics, human biology, diagnostic imaging technique, diagnostic equipment	2	100
Assistant Pharmacy (Dispenser)	<ul style="list-style-type: none"> - provide pharmaceutical care under the supervision of the Pharmacist. - prepare drugs and dispensing medicine over the counter. 	Malaysian Certificate of Education	A 3-year basic training including extemporaneous dispensing, pharmacology subjects, and practical	1	120
Medical Laboratory Technologist	<ul style="list-style-type: none"> - provide laboratory investigations and analysis procedures 	Malaysian Certificate of Education with credits in Mathematics and 2 Science subjects	A 3-year basic training which covers chemical pathology, radiochemistry, microbiology, virology, cytology, haematology immunology, blood products, and biotechnology	2	210

CLASSIFICATION AND PRODUCTION OF PUBLIC HEALTH PERSONNEL (continued...)

Category	Function	Entry qualification	Training requirement	No. of school	Average output / year
Occupational Therapist	<ul style="list-style-type: none"> - Provide specialised care for patients with physical, emotional, mental and social handicaps to facilitate productive daily living by using specific techniques. - Provide a comprehensive assessment of the environment and work place - Assess occupational skills - Propose supportive equipment/devices, if needed - Health education on patient care to the families. 	Malaysian Certificate of Education with credits for English, Mathematics, Biology and 2 other subjects.	A 3-year basic training with emphasis on anatomy, physiology and behavioural sciences, psychology, occupational rehabilitative techniques and community rehabilitation.	1	50
Physiotherapist	<ul style="list-style-type: none"> - Assess of musculo-skeletal, cardio-respiratory, neurological and psychological function for preventive and curative patient care. - Provide specialised physiotherapeutic care 	Malaysian Certificate of Education with credits for English, Mathematics, Biology and 2 other science subjects.	A 3-year basic training which covers topics on human anatomy, physiology and disorders of body system and its management.	1	50
Dental Surgery Assistant	<ul style="list-style-type: none"> - assist oral health professionals and dental nurses in chair-side clinical procedures - infection control pertaining to material, equipment, instruments in work areas - undertake documentation of patient care 	Lower Certificate of Education with credits in Science and Mathematics subjects.	A 2-year basic training (distant learning) . They are exposed to theory, demonstration and practical sessions.	1	200
Community Nurse	<ul style="list-style-type: none"> - provide midwifery nursing for maternal and childcare, before, during and after the partum period. - Provide child health care - assist in family planning and school health programmes. 	Lower Certificate of Examination with credits in Science, Mathematics and English	A 2 ½ - year basic training which covers basic anatomy and physiology, microbiology, psychology, basic nursing, midwifery /domiciliary	12	1200
Public Health Assistant	<ul style="list-style-type: none"> - a front liner in giving health education and demonstration on healthy practice especially on disease control aspects such as environment health, water safety, sewage & solid disposal to the community. 	Lower Certificate of Education	A 1-year basic training	2	80

CHAPTER 5**VIET NAM CASE REPORT****1. CONTEXTUAL INFORMATION**

The concise contextual information in this section is provided to enable the reader to understand the context in which Viet Nam's public health services are currently being provided.

1.1 Geography, demography and socioeconomic situation

Viet Nam occupies a narrow S-shaped strip of land, located between 08°02' and 23°23' north, and 102°08' to 109°28' east, stretching along the eastern coast of the Indochina peninsula, with eastern and southern aspects of the country bordered by the Pacific Ocean. The country is 1650 km long from north to south, and from east to west the widest part is 600 km and the narrowest 50 km. It has 3730 km of inland borderline, with China in the north, and Cambodia and the Lao People's Democratic Republic in the west. The whole territory covers a land area of 330 991 km², with an immense area of sea. Viet Nam's territorial waters are 12 miles wide. The exclusive economic sea zone is 200 miles wide, covering an area of about one million km².

Viet Nam is located in the tropical area where the air currents from the Equatorial Ocean meet those from inland, thus creating two types of Asian monsoon: north-eastern and south-eastern. North-eastern monsoons are usually strong only in the north and north central regions. Thus Viet Nam has two different climate zones. The north has two distinct seasons: a hot season from May to October, and a cold season from November to April. The south is influenced mainly by the south-eastern monsoon and is therefore hot all year round. In addition there are variations in climate within the northern and southern

regions, depending on geographical and topographical features. Storms, tropical low atmospheres, floods, vortices and whirlwinds occur mostly in the central and northern regions, and occasionally in the south. The warm climate also favours epidemic diseases and insect growth, thus adversely affecting people's health and damaging crops and livestock.

The country is divided into 61 provinces, 597 districts and 10 331 communes. The four biggest cities are Ha Noi and Haiphong, located in the north, Danang in the central region, and Ho Chi Minh City in the south. There are up to 2860 rivers, with a total volume of 867 billion cubic meters flowing per year. Adding to the diversity of Viet Nam's topography is the system of islands and the archipelago. There are approximately 4000 islands in the territorial waters of Viet Nam.

In 1999, the population was 76 324 753, with approximately 54 minority ethnic groups. About 70% of the population reside in rural areas. The two largest cities are Ho Chi Minh City (5 million people) in the Mekong delta of the south, and Ha Noi (2.6 million people) in the Red River delta in the north. Two main religions prevail: 70% Buddhism, 15% Catholicism, and 15% non-religious or other religions.

The agricultural industry has shown the greatest gain during the recent years of economic renovation. Food output recorded over the past years has ensured domestic food security. Indeed, output of 25–26 million metric tons per year has resulted in a surplus in 2 million tons of rice for export annually. In 1989, Viet Nam became the world's third-largest exporter of rice.

Recent industrial growth is partly attributed to the strong investment made in key industries, such as oil and gas, power and cement. Oil production reached 12.5 million tons in 1998, compared with 1990 production of 2.6 million tons (1, 2). The trade balance has been positive since 1994 and hyper-inflation has been cut down from nearly 70% in 1991 to around 10 % in 1993-1998 (see Table 5.1). As a result, the overall government budget deficit has been reduced.

The renovation of industrial management processes in the industrial sector has resulted in a shift from a centrally planned and subsidized mechanism to a market one, and since 1986, the overall economic and political climate has been changing rapidly. However, reform has been accompanied by a fiscal policy calling for a reduction in public expenditure, including cuts in allocations for

health care. As a result, the health sector has been increasingly under pressure. Public resources are no longer sufficient to respond to the need to improve the quality of care, especially in the poorest provinces.

Revenue in the economic sector comes from a variety of sources, such as the state, collective, private, individual, mixed and foreign investment. GDP, the most general representative indicator of economic development, which grew slowly or was even negative in the years before 1990, has been increasing constantly since 1991. The average annual growth rate of GDP for the period 1981-1985 was 6.4%; for 1986-1990, 4.34%; and for 1991-1998, 8.03%. In 1989, the per capita GNP at market prices was estimated at US\$ 175. This index reached more than US\$ 300 during 1994-1999.

Table 5.1: Inflation rate in Viet Nam from 1991 to 1998

	1991	1992	1993	1994	1995	1996	1997	1998
Inflation rate (%)	67.5	17.55	5.2	14.4	12.7	4.5	3.6	9.2

Source: General Statistical Office (2).

Table 5.2: Socioeconomic and demographic indicators

Indicator	Value	Reference
GDP per capita, 1998	US\$ 331	United Nations Development Programme (3)
GNP annual growth rate, 1998	8.0%	United Nations Development Programme (3)
Official development assistance (ODA) per capita, 1998	US\$ 15	United Nations Development Programme (3)
% population in rural areas, 1989	78.4% (50 801 000)	General Statistical Office (4)
% population in rural areas, 1999	76.5% (58 409 700)	General Statistical Office (5)
Total population, 1989	64 774 000	General Statistical Office (4)
Total population, 1999	76 327 919	General Statistical Office (5)
Population density (pers./ km ²), 1989	195	General Statistical Office (4)
Population density (pers./ km ²), 1999	231	General Statistical Office (5)
Population distribution by gender, 1999		General Statistical Office (5)
- female	50.8%	
- male	(38 809 372) 49.2% (37 518 547)	
Sex ratio (M:F), 1999	0.9667	General Statistical Office (5)
Population distribution by age, 1999		General Statistical Office (5)
- children under 5 years	7 269 372	
- 10 – 19 years	17 350 326	
- women 15-49	20 694 597	
- over 60 years	6 199 579	
Average annual population growth rate (1989-1999)	1.7%	World Health Organization (6)
Population ageing, 1999	7.5%	World Health Organization (6)
Adult literacy rate (% age 15 and above, 1998)	92.9%	United Nations Development Programme (3)
Primary school enrolment as % of relevant age group	99.9%	United Nations Development Programme (3)
Secondary school enrolment as % of relevant age group, 1997	51.1%	United Nations Development Programme (3)
Dependency ratio (per 100), 1999	65	World Health Organization (6)
Human Poverty Index (HPI-1) value, 1998	28.2%	United Nations Development Programme (3)
Human Development Index (HDI) value, 1998	0.671	United Nations Development Programme (3)

1.2 Health status indicators

Table 5.3: Health status indicators

Indicator	Value	Reference
Total fertility rate	2.5	World Health Organization (6)
Infant mortality rate, per 1000 live births	31	United Nations Development Programme (3)
% newborns with birth weight less than 2500 grams	17%	United Nations Development Programme (3)
Mortality rate (under age 5 years), per 1000 - males - females	39 31	World Health Organization (6)
Mortality rate (between ages 15 and 59 years), per 1000 - males - females	225 153	World Health Organization (6)
Maternal mortality ratio (per 100 000) 1990-1998	160	United Nations Development Programme (3)
Life expectancy at birth - males - females	64.7 68.8	World Health Organization (6)
Malnutrition stunting among children under 5 years (around 1995)	47%	World Health Organization (7)
Child malnutrition (weight/age <2SD), 1999	36.7%	General Statistical Office (5)
Percentage population served with: - safe water - sanitary facilities	50% 16.3%	(8)
The five leading causes of hospitalization (public), excl. pregnancy, 1999 (ICD-10), per 100 000 pop • Pneumonia (169) • Acute pharyngitis and acute tonsillitis (165) • Acute bronchitis and acute bronchiolitis (170) • Diarrhoea and gastroenteritis of presumed infectious origin (005) • Medical abortion (235)	426.60 291.44 250.29 237.32 161.66	General Statistical Office (5)
The five leading causes of mortality 1999 (ICD-10), per 100 000 pop. • Pneumonia (169) • Intracerebral haemorrhage (153) • Respiratory tuberculosis (007) • Intracranial injury (278) • Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (246)	1.82 1.69 1.19 0.99 0.87	
Percentage children under 1 year immunized against measles, 1999	93.8%	
Notifications of tuberculosis, 1999, per 100 000	116.53	
Incidence of sputum-positive TB, 1999, per 100 000	70.57	
Cigarette consumption, 1990-92 (average annual no. of cigarettes/adult (>15 years))	790	(9)
Disability-adjusted life expectancy (years):		
Males: - At birth - At age 60	56.7 9.7(9.1-10.4)	World Health Organization (6)
Females: - At birth - At age 60	59.6 10.8 (10.1-11.5)	

1.3 Overview of the health sector

The health care services provided by the Government are organized in four levels: national, provincial, district and commune.

According to the 1999 official statistics from the Viet Nam General Statistical Office (10), there are hospitals, polyclinics and special clinics. The total number of

hospital beds is 174 077, of which 16 100 belong to ministries other than Health (such as the Ministry of Labour, Invalids and Social Affairs, the Ministry of Transportation and the Ministry of Science, Technology and Environment, and to state industries (such as rubber, gas, mining, etc.)). Tables 5.4 and 5.5 provide some additional detail and statistics on the health sector.

Table 5.4: Overview of the health sector

Health sector statistics				Reference	
Health expenditure					
Total health expenditure as % of GDP (1997)		4.8%		World Health Organization (6)	
Total health expenditure per capita (1997), in US\$ at official exchange rate		17US\$			
Health workforce (1999)	Number	Per 10 000 population		General Statistical Office (5)	
1. Medical doctors	39 294	5.14			
2. Assistant doctors	50 657	6.64			
3. Pharmacists	5849	0.77			
4. Assistant pharmacists	7793	1.01			
5. Nurses	44 946	5.89			
6. Midwives	14 149	1.85			
7. Other nursing/auxiliary	6806	0.89			
8. Other paramedics	19 065	2.50			
9. Other health personnel	38 980	5.11			
Non-nationals as % of workforce	Data unavailable				
Public health workforce occupational classification	Viet Nam does not yet have an occupational classification for the PH workforce				
Annual output of health professionals	Data unavailable				
Health infrastructure	Public		Private		General Statistical Office (5)
	Number	Beds	Number	Beds	
1. Institutes	10	2 150	0	0	
2. General hospitals	682	83 376	4		
▪ Central level	11	6320			
▪ Provincial level	94	34 165			
▪ District level	519	37 411			
▪ Other branches	58	4550			
3. Specialty hospitals	65	15 558	0	0	
4. Traditional medicine hospitals	43	4181	105		
5. Rehabilitation hospitals/centres	12	605	125		
6. Maternity homes (district level)	47	887	264		
7. Sanatoria	73	12 166	0	0	
8. Leprosaria	18	1439	0	0	
9. Polyclinics	906	9709	7103		
▪ Central level	2	40			
▪ Provincial Level	0	0			
▪ District level	882	8644			
▪ Other branches	24	455			
10. Specialty clinics	44	1542	3432		
▪ Central level	0	0			
▪ Provincial level	42	1502			
▪ Other branches	2	40			
11. Primary health centres	10 872	42 464	0	0	
▪ Communal health stations	9957	42 464			
▪ Other branches	915	0			

Viet Nam has traditionally been committed to the health sector. Since 1954, efforts have been made to extend basic health services to the commune level. Around 80% of rural and urban populations now have access to this basic health network. National health programmes in the areas of hygiene, nutrition and eradication of vectorborne disease have accompanied those efforts.

The proportion of the national government budget for expenditure on health increased from 2.76 % in 1986 to 5.9% in 1991, and remains around 4.8% at the present time (6). While the total amount of health expenditure supported by the Government has increased, the proportion, with respect to health demands, has actually decreased. This trend is due to an increase in demand for

economy has contributed to an increasing gap between the rich and the poor.

The health system in Viet Nam is still predominantly public. Of the 800 hospitals, only four are private. Conversely, 92% of the total 11 485 polyclinics and specialty clinics in the country are private. These figures mask the fact that the majority of the public polyclinics are large, while the private clinics are small, usually having only a single health provider rendering services in the private clinic. Private clinics are the most popular form of private health service and can be found in almost all provinces. Doctors, assistant doctors, nurses and midwives who meet the legal requirements are allowed to own private clinics and provide private health services.

Table 5.5: Inhabitants per physician, 1995-1999

Categories	1995	1996	1997	1998	1999
Number of inhabitants per doctor	2374	2253	2256	2083	1942
Number of inhabitants per doctor and assistant	946	923	930	891	849

Sources: General Statistical Office (5, 10)

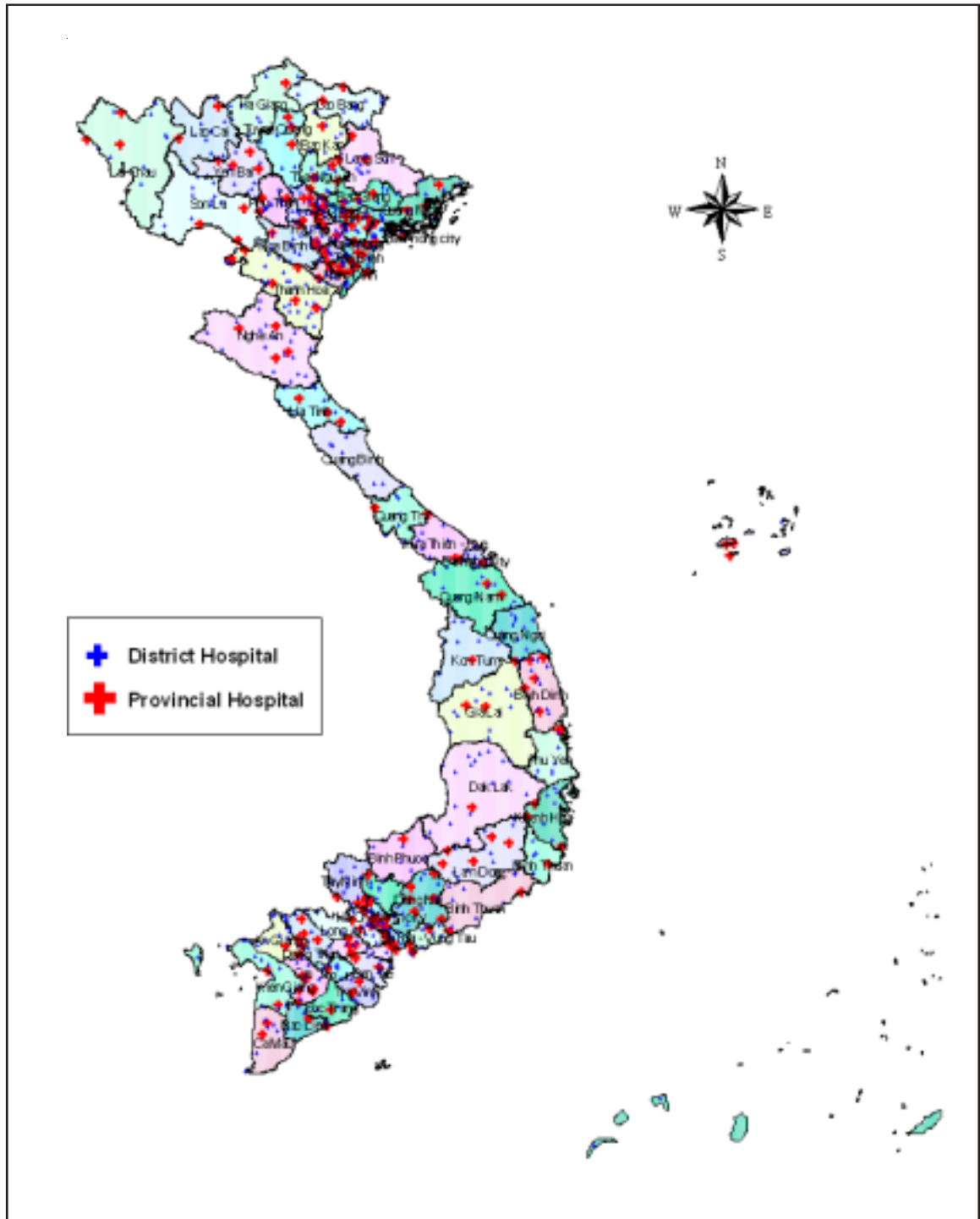
clinical treatment and consultation. Viet Nam was also adversely affected by the Asian economic crisis, resulting in the proportion of the budget going to health seeing a decreasing trend from 1991 to 1998 (1, 4, 5, 10). According to *The World Health Report 2000* (6), in 1997, public expenditure, as a percentage of total expenditure on health, fell to about 20%. Many 'needs' cannot be satisfied, such as modern equipment, long-term care facilities, new drugs, and facilities for treatment and diagnosis.

Health and the health sector in Viet Nam have undergone several stages of development. Over the last 10 years, due in large part to socioeconomic and health sector reform, the public health system, which is based on equity and prevention, has improved the life expectancy and infant mortality of its people. The disease pattern in Viet Nam now reflects both the characteristics of a tropical low-income country (infectious diseases, malnutrition, acute diseases, maternal and child health problems) and of an industrialized country (injuries, cardiovascular diseases, cancers, chronic diseases, elderly health problems). In addition, the adoption of a market

In 1998, of the 9399 doctors licensed to practice in the private health sector, 82.8% were also government employees (11). The proportions of government employees licensed for private practice as assistant doctors, nurses and midwives in 1998 were 41.2%, 48.1% and 48.2%, respectively. The geographical distribution of hospitals is illustrated in Figure 5.1.

Academic institutions and a significant number of nongovernmental organizations are also important players in the health sector. Over the past 10 years, public health training institutions and preventive medicine schools in Viet Nam have been developed with the assistance of international organizations. However, the public health training system still encounters difficulties, with shortages in human resources, methodologies, equipment and facilities. In recent years, institutions such as the Ha Noi School of Public Health have begun carrying out public health research on relevant health issues at the national and ministerial levels. Several of the theses have translated into health policy.

Figure 5.1: Map of provincial and district hospitals in Viet Nam



The health achievements of Viet Nam are the result of an early orientation and commitment from the Government and social organizations to primary health care (PHC). The PHC delivery system was built on the back of the revolution in the North. In a recent historical overview of PHC development in Viet Nam (12), three aspects of this historical legacy were identified as fundamentally influencing the current organization of PHC. The first, born out of necessity, was during 1945–1954, when positive attitudes towards community development were developed. The second was the continuation of this relatively high commitment to equity and social mobilization following national reunification in 1975. The final influence was the inconsistency of the health policy enacted during the reform period. By the late 1980s, health officials were still ‘reacting’ to developments as opposed to setting out health policy systematically.

Viet Nam’s national health priorities have recently been outlined by the Government in terms of health targets for 2020. The list of fifteen targets includes improving life expectancy; nutritional status; reproductive health services; access to care; safety; infant and under-5 mortality rates; low birth weight; control of the traditional, as well as newly emerging infectious diseases; and control of chronic non-infectious diseases. To carry out these policies, the Government plans to mainly reform the organizational structure (current structure is detailed in Figure 5.2) and improve the management capacity of the health care network.

2. METHODOLOGY

This section describes the methods used in Viet Nam for the case study. They were based on the project operating guideline (POG) developed by the International Project Team, as described in chapter 2, with some modifications to suit the local context in Viet Nam.

2.1 Data sources

Four main sources were used: official statistics and government reports; key informant interviews at different levels of the health care system; group discussions by key informants at each study site; and the Laws database for the description of mandates.

2.2 Research sites

Sites from four provinces were chosen. The criteria for selection of sites were:

- The study sites best represented the main public health activities in Viet Nam. Selection factors included the level of authority, various aspects of resource allocation, educational standards, and health services utilization.
- Key government employees in the health sector and leaders in other related fields were able to be included in the research.
- At the provincial level, the selected provinces represented geographical aspects of the country (delta / rural, city, and mountainous regions), and reflected different public health actions and strategies according to the ecology of each area.
- In each province, two districts were selected, representing urban and rural.
- In each district, two communes with average socioeconomic status, health and health care indicators were selected.

On the basis of these criteria, the sites listed in Table 5.6 were selected for the study. Their geographical location is illustrated in Figure 5.3.

Figure 5.2: Organizational structure of Viet Nam's health system

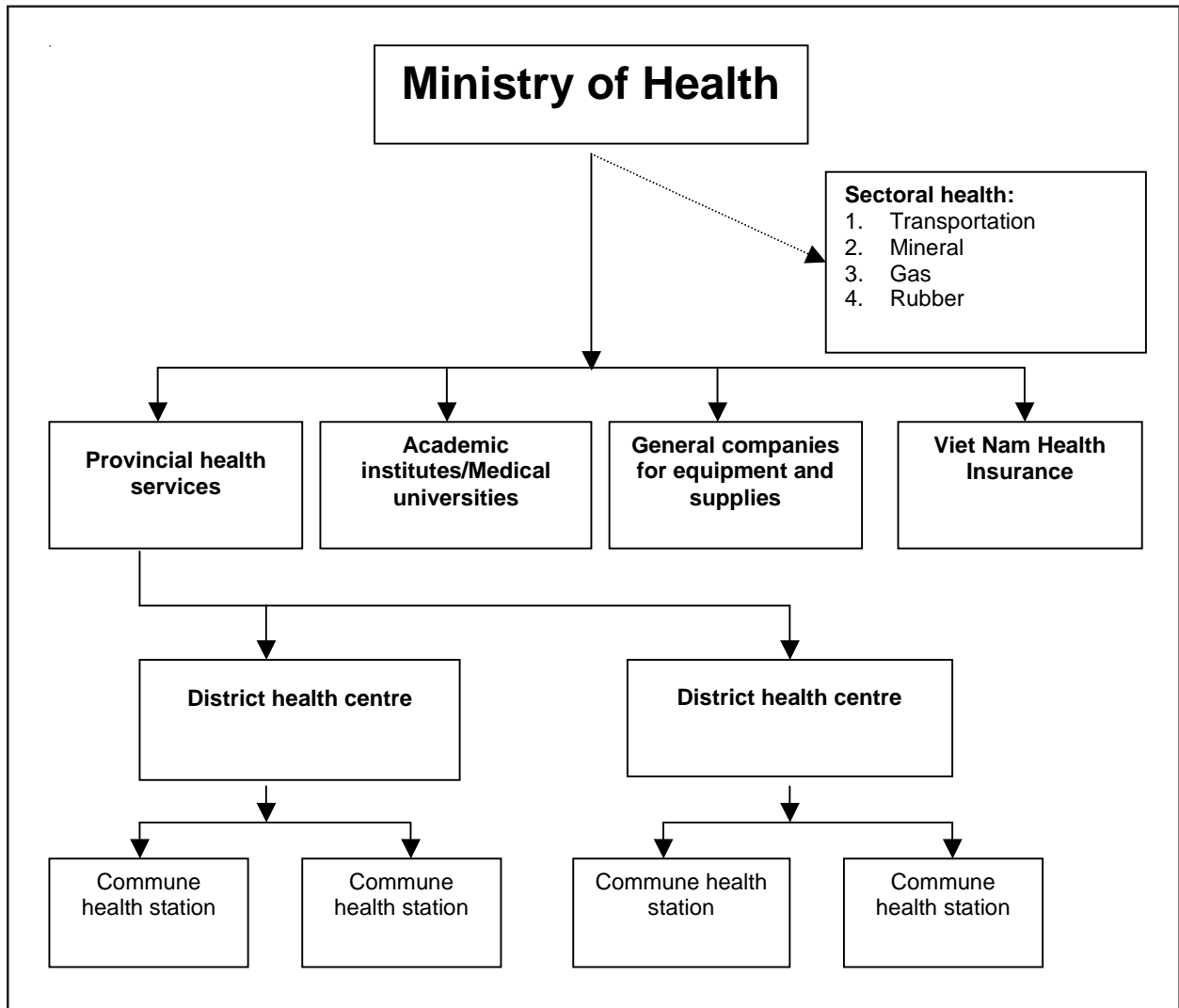


Table 5.6: Sites selected for inclusion in the study

Province	District	Commune
Quang Ninh Mountainous, coastal and populous region, sharing border with China, highest HIV/AIDS prevalence	Ba Che	Ba Che town
		Don Dac
	Cam Pha	Cam Trung
		Cam Tay
Ha Noi Capital, Red River delta, Central level	Soc Son	Hien Ninh
		Nam Son
	Gia Lam	Viet Hung
		Le Chi
Gia Lai Central highland, poor province, multiple ethnic composition, low development of transportation and communication	Chu Se	Dun
		Ia Blang
	Chu Prong	Ia Ve
		Chu Prong town
Can Tho Mekong River delta, highly developed in agriculture, dynamic health care management	Thot Not	Thach Quoi
		Thuan Hung
	Long My	Long My town
		Viet Ha

2.3 Instrument

The nine EPHFs identified by the IPT, as well as suggestions from *Public health – what it is and how it works* by Bernard J. Turnock (13) were used to develop a main questionnaire, and were adapted and refined for the Viet Nam situation as the questionnaire was developed. The instrument was first pilot-tested and validated in the field before administering it to selected key informants as well as in group discussions.

2.4 Protocol

In each site, both key informant interviews and group discussions were conducted.

Subjects for key informant interviews were chosen based on:

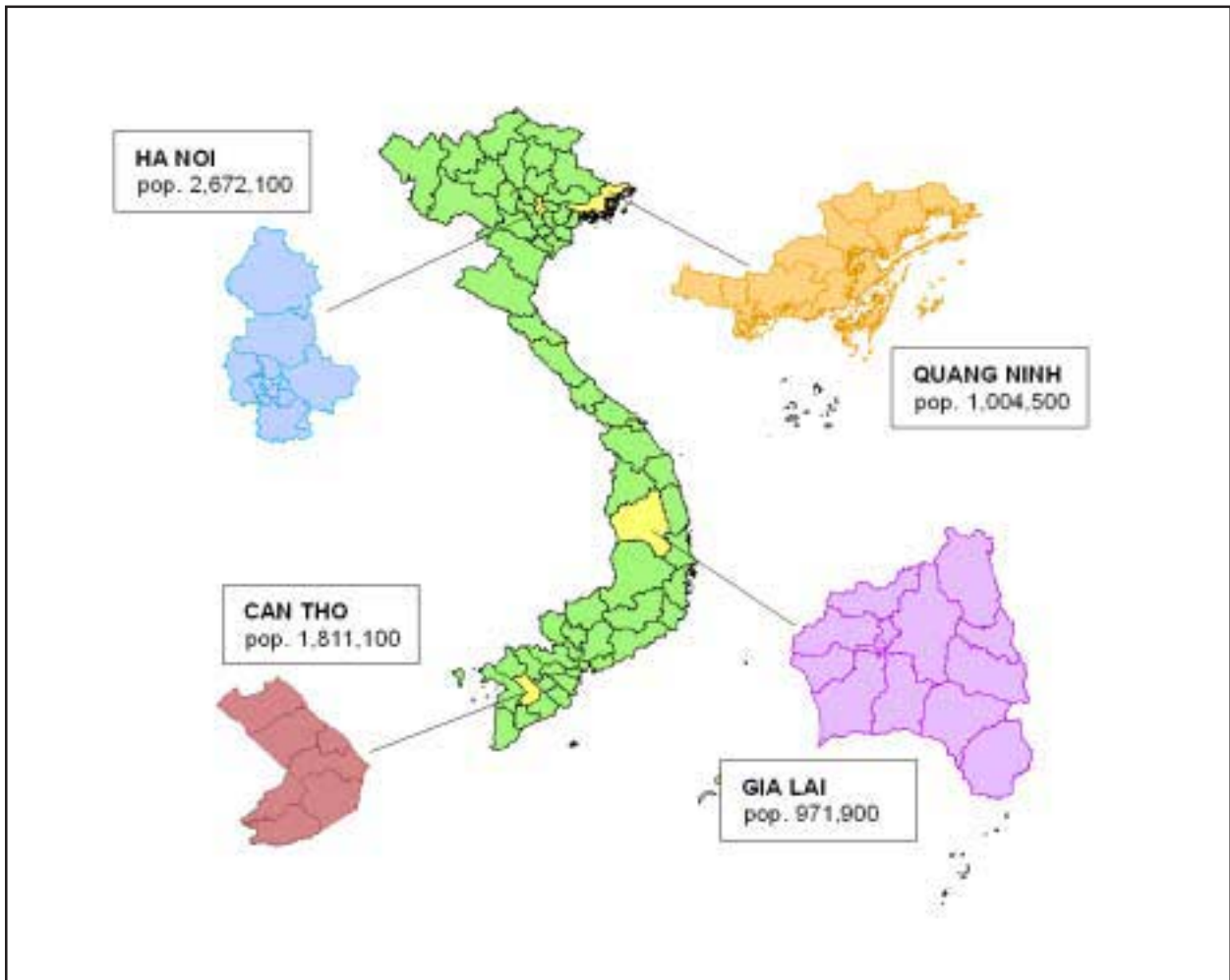
- the position that the key informant had been playing in the health system, and

- the experiences that the key informant had obtained while holding that position.

Subsequent to the personal interviews, all informants were brought together for a focus group discussion. The line of inquiry for the focus groups was developed to elicit problems and solutions at the system level across all of the EPHFs. The questions explored the strengths, weaknesses, opportunities and threats of implementation of each EPHF. The total number of interviewees was 199, and 12 focus group discussions were held.

The solutions identified at the task, function or system level were merged and used to develop a proposal for the effective and efficient implementation of all essential public health functions. The research team designed the proposal to strengthen the effective features of the current public health system, and to overcome weaknesses. The proposal was then reviewed in light of potential future changes to the health sector.

Figure 5.3: Geographical location of selected sites



2.5 Rating methodology

Rating for each EPHF was based on two sources of assessment:

- self-reporting of interviewees, and
- observation and discussion among researchers.

2.6 Implementation

A multidisciplinary research team was formed (members are listed in the Appendix to this chapter), which proved important because the EPHFs cover areas as diverse as epidemiology, policy analysis, communication and information technology, management, and health promotion. The multidisciplinary nature of the team strengthened the development and administration of the country-specific study instruments, and the analysis and interpretation of the data. The multidisciplinary research team enabled the development of study instruments that drew out the key problems and solutions in relation to the situation analysis for each of the functions, and for the public health system as a whole.

The first district in Ha Noi served as a pilot study setting. The results of that study were then used to refine the final instrument for its use in the other provinces.

The research team was also able to use direct observation at each site to complement the administration of the instruments. These complementary methods enabled the team to assess competency in implementing each EPHF. If there were any differences between the assessment reported by the key informants, and by the research team, they were justified by using the evidence gained from observation at each study site, and data from individual and group interviews. Strengths, weaknesses, opportunities and threats were identified for each function, and then merged for all nine.

2.7 Data analysis

All interviews and focus group discussions were recorded and transcribed. Function specialists were identified among the research team. Each function specialist was responsible for analysing data and preparing the report section(s) for that function(s). Agreement was achieved on coding common themes that emerged from analysis of data for a number of functions,

by regular meetings and discussion by all function specialists.

2.8 Quality control

Project Advisory Group

A Project Advisory Group was formed to provide overall guidance and quality control for the project. Membership of this Group is detailed in section 7 of this chapter.

Recording

All interviews were recorded. The tapes were transcribed immediately after the interview and kept for all who needed them for analysis.

Data analysis

A framework for analysis was developed based on the objectives and research issues. Data compilation sheets were developed around the various issues selected. The research team met when needed throughout the analysis process to discuss analysis issues, and tasks were divided between research team members as necessary.

3. STOCKTAKE

3.1 Governance

Vision

The government resolution on Strategic Orientations for People's Health Care and Protection from 2001 to 2020 states:

“The human being is the most precious resource, deciding the development of the country, in which health is the most valuable capital of each individual and of the whole society. It is also the greatest source of happiness for each and every individual and family. Investment in health, so that everybody can have access to health care, also means investment in the socioeconomic development of the country and improvement of the quality of life for each and every individual and family.

Active prevention constitutes the prominent principle in the process of building and developing Viet Nam's health service. Active prevention must be advocated and applied in efforts to create a healthy situation, beneficial to disease prevention and better health. It is also necessary to be active in the prevention of factors harmful to human health in the course of industrialization and urbanization.

The local health network should be strengthened, with the local authority exercising management over health activities in the community. The health sector is responsible for providing guidance professionally and technically through the control of funds and health personnel. Health programmes at the community level shall be guided by various levels of authority and implemented by health and other sectors with the participation of all community people.

The network of preventive care should be strengthened through organization, work and training and investment in the upgrading of health facilities.”

Health policies

Over the past two decades, a vast volume of literature has pointed to weak health policy development. The Strategic Orientation for People's Health Care and Protection (1996-2000) and Viet Nam's National Drug Policy, which is the primary policy document for health sector development, does not provide a clear description of purpose or clear measures to address issues of inequity, quality, funding and other identified problems.

Consequently, efforts to address those issues have not been particularly effective. Existing health information systems also need considerable improvement in order to provide the necessary range and quality of data to develop appropriate health strategies and policies.

The Government is currently undertaking a comprehensive health sector review in collaboration with the donor community. The review is providing an opportunity for intentions to be translated into clear policies through examination of national strategic orientation and formulation of an investment plan for the sector.

Role of the Ministry of Health

The role of the Ministry of Health has been defined as:

- formulating and executing health policies and programmes for the country;
- issuing instructions on technical questions of implementation;
- directly managing a number of specialized institutes that provide tertiary and referral services in various specializations, as well as national medical, pharmaceutical and public health schools;
- having responsibility for the management of all central hospitals, and national drug and medical equipment producers.

Role of the private sector

The number of private health providers has almost doubled since 1996. The development of private health services has taken place in the absence of clear policy guidelines or regulation/enforcement. There are no referral guidelines for patients from the private to the public sector, nor any integration of the private sector into the national health service. Private providers have also yet to establish contracts to access funding through health insurance.

Private health services generally make use of public-sector health facilities, and, while private practices contribute considerably to the private income of health professionals, the use of public facilities for this purpose offers no financial return for the public health system.

Financing of health care

The public health budget contains four separate levels of fiscal transaction: Central Government and the three levels of local government (provincial, district and commune).

In principle, only the neediest provinces receive budgetary support from the Central Government. In fact, however, almost all provinces receive central subsidies. Some of that support is in the form of central financing of high priority programmes, such as malaria control or EPI, or literacy campaigns that need to be implemented by the provinces. The Ministry of Health determines the need of individual provinces for support from each programme, but the bulk of the health budget that falls under provincial control is allocated to the provinces on the basis of norms that vary across provinces.

Public health leadership

Public health leadership is not clearly defined, but it does appear that the Ministry of Health plays a leading and significant role in guiding, advocating and providing services for public health. At other levels of the health care system, that leadership is supported by the local health authorities, according to their level.

Public health is present at all levels of the health care system and is not easily defined separately from the curative system. At the central level, public health is implemented by institutions belonging to the Ministry of Health; at the provincial level, it is managed by the provincial health bureau; in the district, it is managed by the district health centre; and at the commune level by the commune health station.

There is only one public health professional body, registered under the name of The Ha Noi Association of Public Health.

Public health is quite new in Viet Nam, and the Ministry of Health strongly supports all individuals and organizations working for public health. That support has so far been provided through some changes in training, such as creating public health training programmes, and, very recently (in Vietnamese), “The University of Public Health” was founded by the Government, based on the Hanoi School of Public Health (the international name of this university remains “The Hanoi School of Public Health” – refer <http://www.hsph.edu.vn> for further details).

The rule of law and transparency

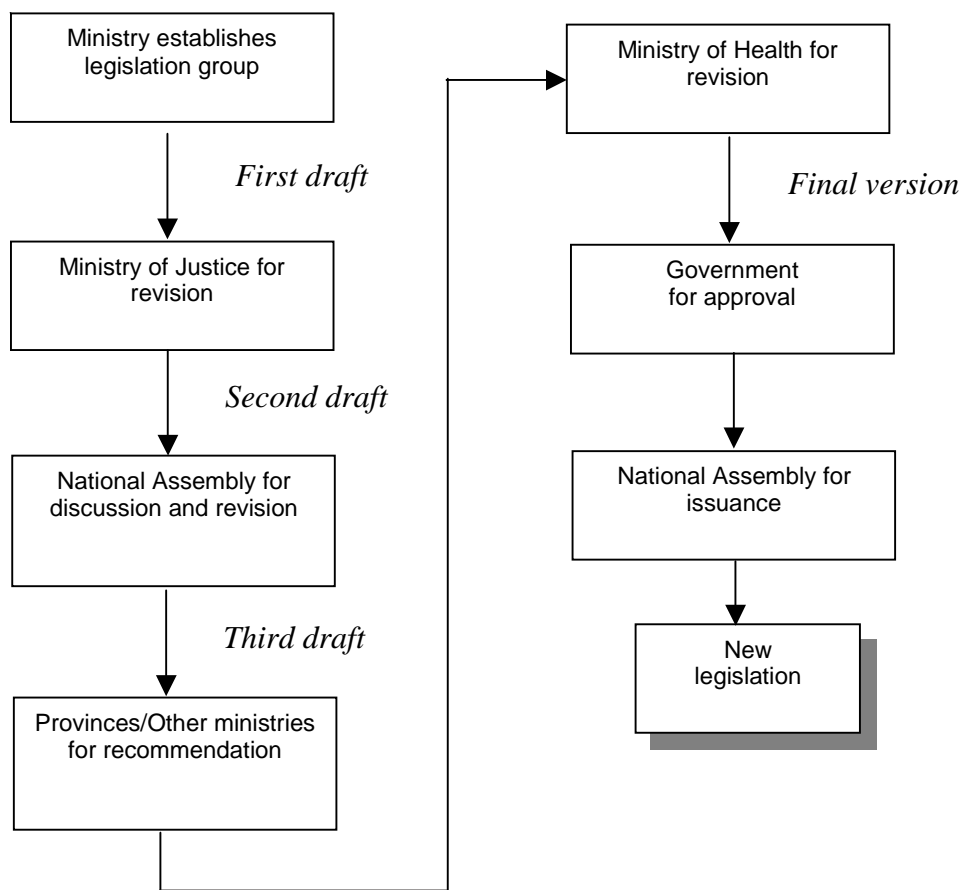
The process for promulgation and amendment of legislation follows the following steps:

- Step 1. The Ministry of Health establishes a legislation development group, comprising all concerned organizations, institutes, health departments, etc. The legislation group makes the first draft of new legislation.
- Step 2. The Ministry of Health sends the first draft to Ministry of Justice for review and makes amendments (second draft).
- Step 3. The Ministry of Health sends the new legislation to be discussed in the National Assembly, after which the third draft is developed.
- Step 4. The Ministry of Health distributes the new legislation to provinces and related ministries for recommendations.
- Step 5. After the feedback/consultation in step 4, the fourth draft is developed by the Ministry of Health.
- Step 6. The Ministry of Health submits the new legislation to the Government for approval.
- Step 7. After approval by Government, the new legislation is issued by the National Assembly.

Effective participation of civil society

Aside from reforming the structures and functions of the State and promoting an enabling environment for the private sector, improving the quality of governance also depends on increasing the participation of the broader society at all levels. To this end, high priority has been attached by the Government to both improving the transparency of government mechanisms and functions

Figure 5.4: Flow chart of formulating law/legislation



and increasing the participation of ordinary citizens in governance. The Grassroots Democracy Decree (No. 29), promulgated in 1998, assigned to commune-level administrations the important task of ensuring that the citizenry exercises its rights. The decree is also directed at improving the transparency of local government and providing households with more information about local government activities and finances. However, the decree is only in the early stages of implementation and there remains significant scope for boosting participation and empowering the public, particularly those who have lacked a voice and access to systems of governance in the past. Nurturing an environment in which civil society can develop and all members of society, including women and ethnic minorities, can participate, is key to creating effective and sustainable systems of governance.

Viet Nam's open door policy and a number of important recent changes are contributing to the creation of a more enabling environment for the emergence of a civil society. Such changes include:

- the development of a system of rule of law, in particular a civil code;
- a move towards more accountable, transparent and participatory government;
- the reform of state-owned enterprises, which makes workers and managers stakeholders in the system;
- the emergence of an information society;

- international economic integration; and
- the move to enhance grassroots democracy.

The emergence of many Vietnamese NGOs is encouraging, but these organizations are still young and restricted by historical, economic and social conditions, as well as by the lack of an enabling legal environment. As such, they have not yet been able to develop their full potential to actively contribute to the development of the country.

Access to knowledge and education

For some time, the Government has prioritized information, education and communication (IEC), as evidenced by a 1979 national policy document that states that “care and education given to children from birth to six years of age is of prime importance” (14).

A new Education Law came into effect in January 1999, making early childhood education part of the formal national system of education for the first time. It stipulates the basic required content of early childhood education and lists different types of recognized IEC institutions. While the State encourages the establishment of private IEC institutions, it also acknowledges its responsibility to support disadvantaged groups in gaining access to IEC services. It is clear that current government policies prioritize enrolment of children in kindergartens over enrolment in “day care centres” (DCCs), and this trend will almost certainly continue well into the next decade.

3.2 Regulatory support system

A significant effort was made during the case study research to compile the regulatory statutes related to the functions of public health promulgated by all the levels and sectors. The regulatory statutes were compiled by direct photocopy or from the Viet Nam Law CD-ROM, issued by the Viet Nam National Assembly in 1999. The regulatory statutes were then analysed by EPHF and task. However, the result still cannot be considered fully inclusive, which is a limitation of the study.

In general, the national and sectoral health-related regulatory statutes, even although widely applied, still do not address all tasks for each of the functions. Each of the regulations, despite being in many different forms, from the Government, the Ministry of Health and other sectors and levels, tend to address only one or two specific

tasks of an EPHF. In reality, the promulgation of directives and statutes is almost always based on the tasks, issues or a specific event, on the basis of responsibility and authority of the promulgating agency and the enforcement units. The promulgation of regulations and protocols do not necessarily follow the specific tasks for each of the EPHFs. Therefore, it was difficult to identify which tasks and functions some statutes actually addressed, or their coverage was incomplete. The collected statutes formed for the project clearly identified a lack of complete coverage and appropriateness.

However, the following statutes are meaningful in their guidance for specific functions and have excellent coverage:

The national statutes relating to EPHF 2 (Epidemiological surveillance/disease prevention and control) partly satisfy a number of specific tasks on monitoring, inspection, laboratory system, etc (these are listed and described in detail in the statute section in directive and statute descriptions). However, they are not complete, especially the statutes providing guidance for implementation, organization and monitoring activities.

- *Directive (by Ministry of Health) on the reporting of epidemics. Number 10/1998/CT-BYT. Promulgated on 28/12/1998. The content focuses on maintaining the statistical monitoring network of epidemic diseases for all levels: the preventive health system, the treatment system. Assignment of implementation tasks: the Preventive Health Unit – Ministry of Health, the provincial centres for preventive health, the hygiene and epidemiology institutes, the Pasteur Institute, the Director of the National Hygiene and Epidemiology Institute (tasks 1, 2, 3, 4, 5, 6 of EPHF 2).*

For EPHF 7 (Health promotion, social participation and empowerment), although national statutes relating to this function have promulgated the guiding steps for implementation, they do not provide complete or comprehensive coverage for all the required tasks.

- *Government decree on the policy to encourage socialization in the areas of education, health, culture and sports. Number 73/1999/ND-CP. Promulgated on 19/08/1999. Content: socialization in the areas of education, health, culture and sports promote wide participation of communities and organizations in order to bring about a step-by-step increase in education, health, etc (tasks 2, 3 of EPHF 7).*
- *Government directive on leprosy eradication by the year 2000. Number 91-TTg. Promulgated on 07/02/1996. Content: socialization of leprosy eradication (tasks 3, 6 of EPHF 7).*

3.3 EPHF performance by function

A lengthy analysis of each task was undertaken for each EPHF. The full analysis for a number of the tasks of EPHF 1 has been provided in this report to illustrate the depth of analysis, including some illustrative quotes obtained during the interview process. The findings for the other functions have been summarized.

Function 1: Health situation monitoring and analysis

Task 1.1: Assessing health status

The Ministry of Health already has guiding documents for assessment of the health status of the population throughout the country, including specific high-risk groups. These guiding documents are usually expressed in the content of the activities of targeted programmes and are applicable to all levels of the health care system.

- o “Generally speaking, the Ministry of Health provides many guiding documents regarding public health activities, improving primary health care, health care facilities... With regard to the assessment of community health status, the targeted programmes all have it in their content of activities...and of course, all these documents are applicable to all levels” TWO3

However, these documents do not describe the roles of the central and local levels in the collection of data, the methods for data collection, or how to choose the source of needed information.

- o “...it seems to me that the methods for data collection are lacking; the documents only give the criteria. With regards to the roles of the central and local levels in data collection, there is nothing mentioned.” HNO4

The Ministry of Health have organized training on data collection and reporting skills. However, training for health staff at health facilities tends to be organized within the vertical programmes.

- o “...once in a while there are training classes...according to programmes such as malaria, EPI, leprosy prevention, tuberculosis prevention, nutrition ...” QN17A

Task 1.2: Analyse trends

The health facilities do perform data analysis for reporting and planning purposes, but only at a very simple level, using percentages. The use of computers for data analysis is very weak, even at the provincial level. However, a number of facilities (i.e., Soc Son District (Ha Noi), Chu Se District (Gia Lai), Can Tho) are currently implementing the CBM programme of the Ministry of Health, which makes use of more rigorous data collection and analytic methods.

- o “With regards to data collection, the systematic plan only calls for overall combined results and calculations based on percentages; there is no detailed analysis for evaluation.” CTO4

At the district and commune levels, health staff only try to fill in the ready-made forms. In many places even this cannot be carried out due to the low level of understanding among the health staff.

- o “...many of our health staff at the local level often cannot complete the data forms due to their low knowledge level...” GLO9

A complete evaluation and analysis of the population’s access to health care is not carried out. Instead, there is only calculation of the average number of visits per health facility. An evaluation of the community’s utilization of private health care is also lacking.

- o "...We agree that managing the private health care systems, both medical and pharmaceutical, is very difficult even here in Ha Noi, not to mention those in the other provinces. The evaluation of the proportion of access to health services has only begun at the public facilities level" HN-TL1

Task 1.4: Periodically assess health service needs

The health bureaux often receive periodic reports from the lower levels on disease epidemics as well as disseminating information back to the lower levels through working meetings. The Ha Noi Health Bureau regularly publishes *Health and Life* to disseminate needed information widely to staff, both inside and outside the health sector. Other localities reported:

- o "...regularly receiving monthly reports from the communes on current disease profile. In the past, this was due on the 23rd of each month, but now it is on the 27th of each month. The data are compiled and aggregated during the working meetings with other heads of commune health stations..." QN17A

Evaluation of the health care needs of the population is not carried out, or is carried out only through meetings with community representatives to get feedback, and then passed back to the health centre. No uniform formal periodic assessment is done for a whole area. Activities to provide guidance on developing a plan to deal with emergency health situations depend on the individual locality. For example, Ha Noi places high priority on this activity, whereas there is no mention of it in a number of other places.

- o "Ha Noi has (had) a collaborative military-civilian health programme since 1996 and has had regular practice drills to prepare for natural calamities" HNO4

Task 1.5: Identify resources and assets

The identification of resources in the community, organizations and groups to collaborate on public health activities occurs only for specific tasks. No place has a comprehensive and clear identification of human, material and financial resources.

- o "...currently the Health Centre is not able to identify the specific resources that the other organizations and groups have reserved for public health

activities... we collaborate with each other only according to specific tasks, since the resources are not available on a regular basis" GL17A

Task 1.6: Profile health status

The health facilities all have a list of laboratories; if needed, they can send in samples to investigate/identify epidemic outbreaks. The health bureaux have strict protocols based on the guiding documents from the central level on the collection, transportation and maintenance of samples.

- o "We have information on all laboratories to send samples to if needed. These data are kept in the planning and management office... The Bureau also has documents on these but they are based on those of the vertical central programmes, such as the AIDS Committee, the Preventive Health Unit, the Ministry of Health" GLO4-B

Periodic monitoring activities on the quality of testing are based on particular programmes, rather than being a general periodic activity of health facilities.

- o "...This is heavily dependent on the programme. For example, HIV/AIDS – the monitoring is in the Institute of Preventive Medicine; whereas for the Tuberculosis programme, the quality monitoring and evaluation is done at the Central Tuberculosis Institute" HNO4

No facility could identify the criteria that monitoring staff should use to evaluate the activities of the laboratory testing system. This area is still very weak.

- o "In general, monitoring is a very weak concept. The general understanding of this is still confined to just verification" GLO2

The regulations for facilities relating to the receiving and reporting of data for monitoring of diseases and specific health issues in the community are being implemented well. The reports tend to follow the requirements of vertical programmes, but the value of this information at all levels is often not recognized.

- o "...Reporting during health meetings with the Health Center is once per month, with different frequency depending on different programmes, such as ARI for which the reporting is once per quarter" GL26-A1

- o "...our weakness currently is in the feedback of information and the utilization of data at each level... there is no feedback and, worse yet, the information gathered is not being used by that level but for other people. Therefore, this creates a situation of low effectiveness because people aren't really concerned with the quality of the data and this can lead to erroneous data or loss of data" TWO3

Task 1.7: Manage information

At the provincial level, no separate staff or separate division has responsibility for evaluating the information provided by lower levels. The majority of the data are collected by the staff of health programmes.

- o "...there is no separate information division; instead, each programme may assign this task to one staff member,...the data collected are then reported to the Hygiene and Epidemic Prevention team to be reported further up" GL17A

Data collection activity on a number of special diseases mainly follows those of the respective programmes, such as HIV/AIDS or Malaria Prevention. However, there have been situations where the data collection staff have had to shoulder too many responsibilities.

- o "Having too many responsibilities, such as myself – I am also the secretary for the HIV/AIDS Prevention Committee. Even this Committee is also filled with multiple appointment members. Management of Food Safety, Health Education Communication, etc., all holding more than one appointment." GLO4

Data are currently compiled from multiple sources, if anything, from too many sources. This creates much duplication of effort and discrepancies in the data, creating the need for the health bureaux to 'recheck' data. In reality, there is no mention of methods to recheck data, only comparisons of different data. The quality of data, therefore, is still uncertain.

- o "...the quality of data cannot be said to be absolutely trustworthy...because there is no evaluation of those data, no one can say anything certain about it" QNO4

Presently, the compilation and dissemination of basic data on health status is only undertaken by the central level, through the publication of the *Health Statistics*

Yearbook. However, the distribution of this publication to lower levels, and the utilization of data by lower levels, are still lacking.

- o "...we have yet to receive the *Health Statistics Yearbook*, perhaps they are being distributed only to the leadership level. I have seen it in the office of the Director but do not have a chance to use it." HN17Ab

There is not yet a facility where there is a complete set of health statistics for its catchment community; information that is available covers the whole province instead.

- o "...there are health data for the provinces and the cities, however, I have yet to see separate set of health data for our community." GLO4

Even although there is no separate funding for data collection, in general, the facilities try hard to collect data according to the stipulations from the level above and "don't dare to stop".

The Ministry of Health has advocated the use of technology to assist with the management, analysis and quality monitoring of data. However, this has yet to be implemented due to the lack of resources (human and material). The level of application of information technology depends greatly on the ability of each province, and each city to mobilize the needed resources.

Task 1.8: Integrate information systems

The statistical activity of the health sector is limited to only a few types of data.

- o "There are only a handful of types of data that we deem important such as data on demography; health has some but not much" HN17Ab

The integration of different data collection and storage systems has only begun with a few large programmes, mainly those within the health sector and primarily in the public sector. Data from the private health sector still remain limited.

- o "...there has been integration but only for a number of programmes, as for the private health sector, it is still limited" QN17B

General impressions

There are guiding documents for assessing health status that are applicable to the health care system. However, these documents do not describe the data collection methods, nor the roles of different levels for this activity. The Ministry of Health does organize training on data collection methods for the bureau level, but at the lower levels the training activities depend mainly on vertical programmes.

In general, health facilities only collect data using ready-made forms, with very little in the way of analysis. Technology has yet to be used in data analysis. There are no comprehensive evaluations or analyses of the communities' accessibility to health services.

Remaining difficulties

- The quality of information is an issue that needs improvement, especially with statistics that are often insufficient and late. There is no formal system of monitoring. The knowledge and capacity of health staff for data analysis is still very weak.

- Resources for data collection activities are lacking.
- The Ministry of Health's reporting model for the commune level is too complex and overlapping.
- There is no separate division responsible for the collection and analysis of data.
- The application of information technology in health statistics is still very limited.
- There are problems in the bidirectional flow of data forwarding and feedback.
- The current role of information in public health is deemed to be low.

Linkages and relationships

The nature of current links and relationships for EPHF 1 is summarized in Table 5.7.

Figure 5.5: Overall assessment of the implementation of EPHF 1

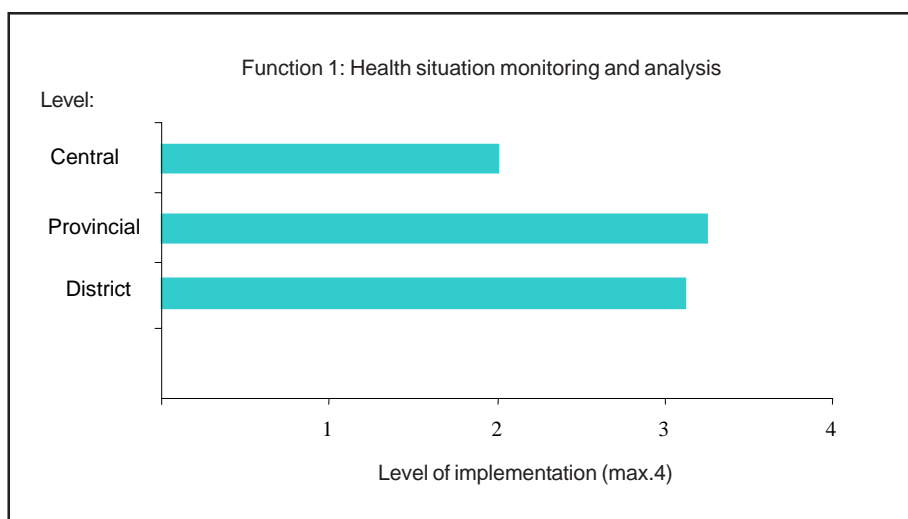


Table 5.7: Nature of relationships for EPHF 1

Association	Relationship
Between the Government and the Ministry of Health	Accommodating: The relationship between the Government and the Ministry of Health is a close one, with the Government deciding on the strategic direction and policy, allocating resources, and providing information and guidance on the development activities of information technology.
Within the health system (internal association) between the commune health stations, health centres, health bureaux and the Ministry of Health	Interacting: These interactive relationships are not very complete.; information tend to flow from the lower to the higher level, but flow in the opposite direction is still limited. Integration activities are still very weak.
Between the community and public health	Accommodating: For the most part, the community has yet to participate in the monitoring and analysis of health status
Between the various organizations (government, private, nongovernmental) that have influence on health determinants and public health (ie, at home, transportation, farm, tourism, cultural norms, education, social security, etc.)	Parallel: The exchange of information for monitoring and analysis of health status between these organizations is almost nonexistent. However, there are some interactions between the NGOs and government organizations
Between the academic institutions and public health	Interacting: There are some collaborative activities between the academic institutions and public health that have been initiated through a number of research activities and training classes on data collection and processing; however, these are still confined within the activities of specific health programmes.

Table 5.8: Situation analysis of function 1

Tasks	System and service responsibilities	Resources: workforce		
		Practices	Adequate numbers	Competence
1.1 Assess health status	Ministry of Health PHB DHC CHC	Assess Analyse Set priorities Evaluate Communicate Use evidence	Not adequate number of workforce to do this function (in both quantity and quality)	Ministry of Health: communicate
				PHB: communicate, analyse, evaluate
				DHC: communicate, analyse, evaluate
				CHC: communicate, analyse, set priorities,
1.2 Analyze trends	Ministry of Health PHB	Analyse		Ministry of Health: not adequate
				PHB: not adequate
1.3 Identify threats	Ministry of Health PHB DHC	Assess Investigate Analyse Communicate Use evidence		Ministry of Health: not adequate
				PHB: not adequate
				DHC: not adequate
1.4 Periodically assess health service needs	Ministry of Health PHB	Assess Analyse Evaluate Use evidence		Ministry of Health: not adequate
				PHB: not adequate
1.5 Identify resources and assets	Ministry of Health PHB DHC CHC	Investigate Assess		Ministry of Health: acceptable
				PHB: acceptable
				DHC: not adequate
				CHC: not adequate
1.6 Profile health status	Ministry of Health PHB DHC CHC	Analyse Communicate Use evidence		Ministry of Health: communicate, analyse
				PHB: communicate, analyse
				DHC: communicate
				CHC: communicate
1.7 Manage information	Ministry of Health PHB DHC CHC	Develop plans Manage Implement Evaluate Use evidence		Ministry of Health: not adequate
				PHB: not adequate
				DHC: not adequate
				CHC: not adequate
1.8 Integrate information systems	Ministry of Health PHB DHC CHC	Negotiate Communicate Advocate		Ministry of Health: not adequate
				PHB: not adequate
				DHC: not adequate
				CHC: acceptable

Function 2: Epidemiological surveillance/ disease prevention and control

General impressions

Importance is placed only on epidemic-causing diseases; there is not yet concern about other health risks to the community. The method of working is passive and dependent on guidance and documents. There are issues concerning training and specific protocols. Support systems or components, such as laboratory services, are still weak and inadequate.

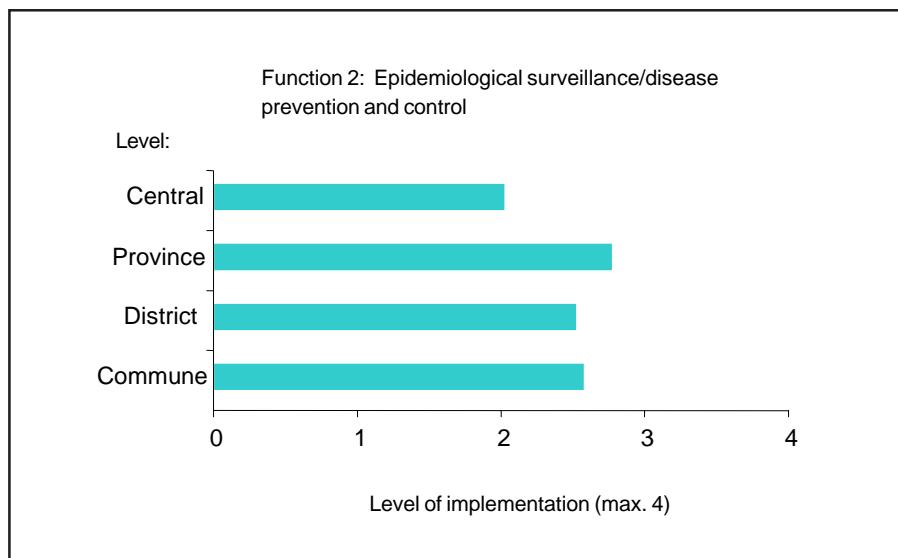
Remaining difficulties

Resources are limited, and there is a lack of funding for activities. Specialization skills are lacking or weak. The testing facility is inadequate. No feedback on the result of samples is sent to upper levels for testing.

Transport and conditions are still difficult in many areas. The level of understanding of the inhabitants is still low, with pervasive use of superstitious methods for disease control. The management skills of health staff are still poor. There is no control over which level of service a patient can access. The reporting system is weak from the commune level on up. Because the catchment areas of communes are large, data gathering (from reports of villages and communes) is difficult and incomplete.

There is continued deterioration of facilities, with a low standard of living for health staff. Staff are overburdened with work and have no opportunity for further training. Diagnoses are made clinically, and there is, therefore, low confidence in the data.

Figure 5.6: Overall assessment of the implementation of EPHF 2



Function 3: Development of policies and planning in public health

General impressions

The overall objectives of the health sector bear a close relationship to those at the local level; local facilities consistently implement the Ministry of Health's guidance on health care. However, there is little active participation by groups; the community has yet to participate in the identification of priorities. The funding available is insufficient to fully attain objectives.

The training plan for health personnel is still inappropriate; training of staff at the local level especially is dependent on the funding programme.

There is no indicator to measure users' satisfaction with health care services. Also, there is no standard protocol for monitoring public health indicators to improve quality. There is no evaluation of the interaction between government and private organizations in health care activities. The Ministry primarily sets the national plan and the lower levels carry out the orders. The inability to carry out planning is a big gap in training.

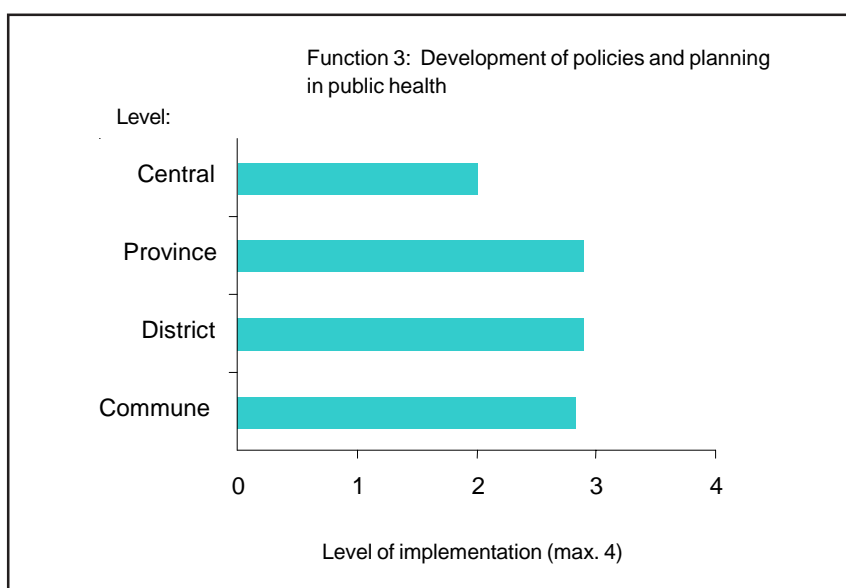
Remaining difficulties

Health policies are not adequate in their coverage, nor in their mobilization of potential resources, and do not help to promote understanding of the public and private health care sectors, especially in management.

Support from the higher levels in the development of plans and monitoring activities is very limited, and there is no standardized policy on training for all levels. This leads to inconsistencies, with different places providing different training, some driven by the availability of vertical programmes. In some cases there may be an overlap in training, as has occurred in Ha Noi.

The criteria for planning, handed down from above, are not based on the statistics of the province. There is no standard protocol for monitoring the indicators used to evaluate the achievement of set objectives.

Figure 5.7: Overall assessment of the implementation of EPHF 3



Function 4: Strategic management of health systems and services for population health gain

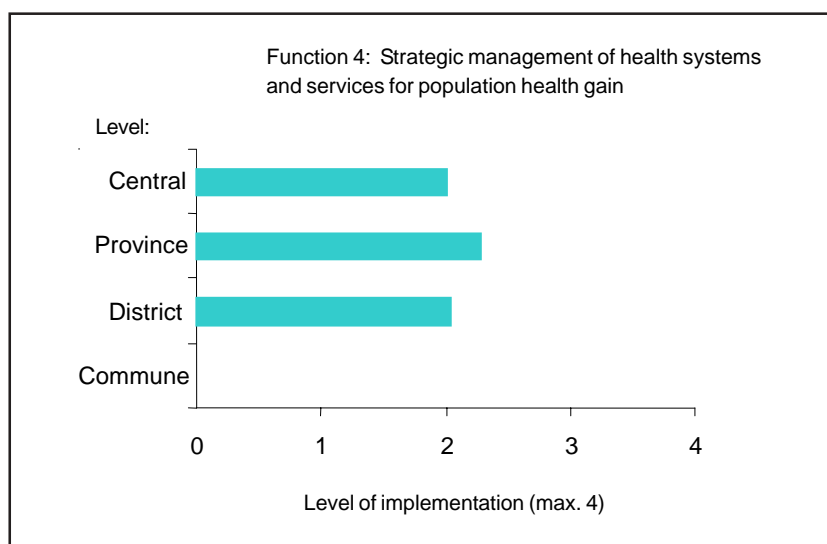
General impressions and remaining difficulties

The implementation of activities to assess access to health services does occur at all health facilities and levels; however, it does not follow any specific protocol and is not sufficiently detailed with respect to users' satisfaction with health services. There is also no evaluation with respect to access to private health services. Decreasing inequity in the utilization of health services, facilitated through intersectoral collaboration among agencies, is occurring satisfactorily. There are still many limitations regarding funding.

The use of evaluation results for improvement of health services is still low. Intersectoral collaboration in the evaluation of services is limited to sharing of reports. Information on health services utilization is still narrowly focused in reports.

The health sector and the governmental levels have created favourable conditions to overcome obstacles to accessing health services by organizing health services at needed locales. However, the human resources needed to maintain activities and facilitate access to services is still not sufficient in remote areas. Also, the lack of skills and appropriate methods to prioritize selection, and the low understanding of health staff, contribute to needs being unmet. Evidence is rarely, if ever, used for evaluating health services.

Figure 5.8: Overall assessment of the implementation of EPHF 4



Function 5: Regulation and enforcement to protect public health

General impressions and remaining difficulties

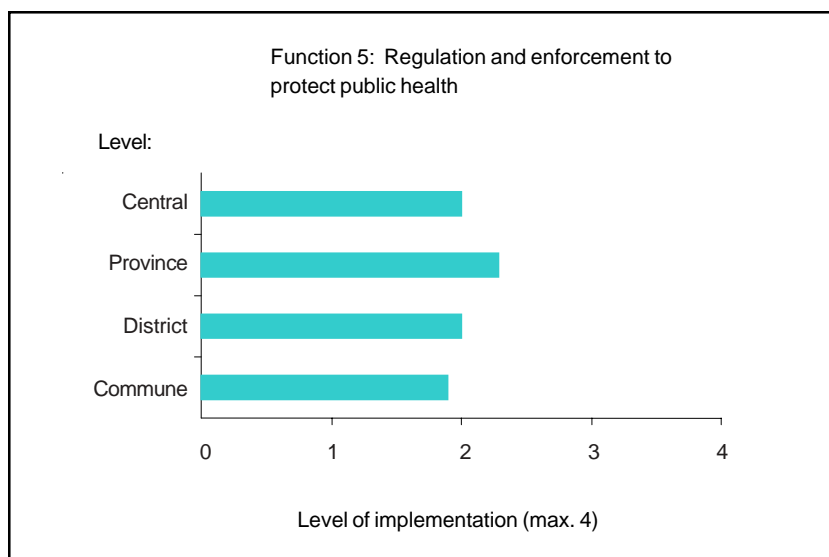
There is no funding available for monitoring the enforcement activities, nor any intersectoral collaboration in the inspection of enforcement. There is no plan for an independent funding mechanism, so there is no planning of activities. There is no financial and organizational mechanism for intersectoral collaboration.

The methods used to develop legal documents do not include input from those who are doing the compliance inspections. Therefore, some of the regulations are not very practical or realistic. The

regulations do not extend to the commune level and are not very well known. The funding/staffing for inspection tasks is low. There is no formal training in the area of health inspection. There is no evaluation mechanism for assessing the knowledge, understanding and practice of those who enforce the law.

There is poor intersectoral collaboration. The district- level leadership is too distant and there are no monitoring criteria to evaluate hygienic conditions in a specific way. Criteria for evaluation are lacking.

Figure 5.9: Overall assessment of the implementation of EPHF 5



Function 6: Human resources development and planning in public health

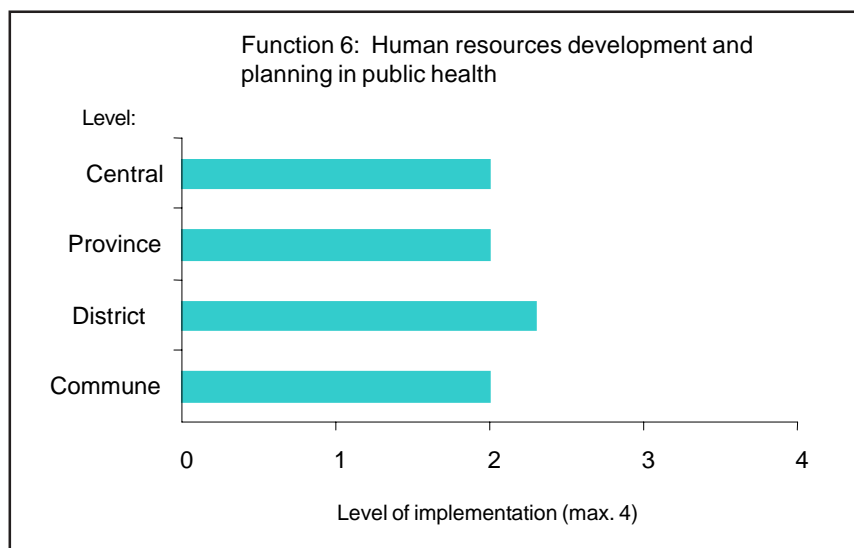
General impressions and remaining difficulties

Funding is lacking for retraining. The retraining of staff occurs through vertical planning, and short-term training depends on national programmes. The management of training occurs only at the facility level. The relationship between facilities is still limited; there seems to be no participation of other facilities in the development of training programmes. Even although training is encouraged, there is little in the way of support

or needed incentives. There is no post-training follow-up or evaluation after graduation. Monitoring activities for training do occur, but are not yet very common.

There are statistics on human resources. The distribution of staff is uneven and the specific protocols for staffing are inappropriate for local areas. Projections for health manpower are not carried out; instead criteria from the higher level are relied on. The training plan also relies on resources from the level above.

Figure 5.10: Overall assessment of the implementation of EPHF 6



Function 7: Health promotion, social participation and empowerment

General impressions and remaining difficulties

The Primary Health Care (PHC) Committee is the main channel for community health improvement for provinces, districts and communes, according to specifications from the Ministry of Health. The membership of these committees include the Women's Union, Youth League, Red Cross Society, the health sector and the population sector. Each committee is under the leadership of a vice-chairperson of the city/province, district or commune People's Committee, as appropriate. This helps ensure that it represents all sectors equally. It functions primarily through the specialty advice of the health or the population sector. Therefore, it creates a situation where the other sectors do not actively get involved, but just depend on the health sector.

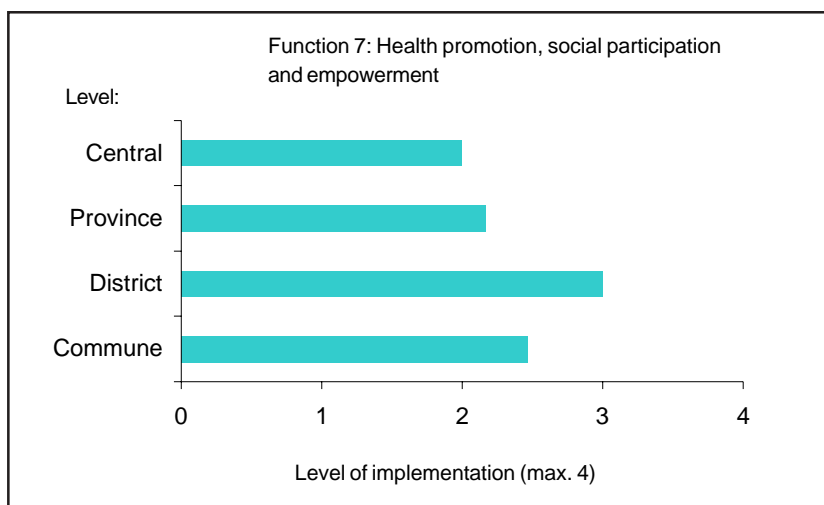
At their inception, these committees functioned effectively because they were supported well. However, as time goes by, their effectiveness appears to be diminishing, in part due to low quality and unsustained

monitoring activities. This is one of the outcomes of inadequate investment. In places where there are staff who are active and have a good understanding of the issues, the activities of the PHC Committee are very effective.

No attention is being given to providing these committees with appropriate equipment and capable human resources to carry out their activities. There are no staff dedicated to facilitating conditions for collaboration and coordination activities. The activities lack proper methodology, regular planning, and monitoring. Nothing has been done with respect to taking note of a community's input regarding health promotion within their own community.

The PHC committees should continue, but they need to become effective organizations for the improvement of community health. Coordination is not uniform, the level of understanding of many staff is still low, and the understanding of the people is limited. The PHC committees' activities have no proper methodology, no regular planning, and no monitoring from higher to lower levels.

Figure 5.11: Overall assessment of the implementation of EPHF 7



Function 8: Ensuring the quality of personal and population-based health services

General impressions and remaining difficulties

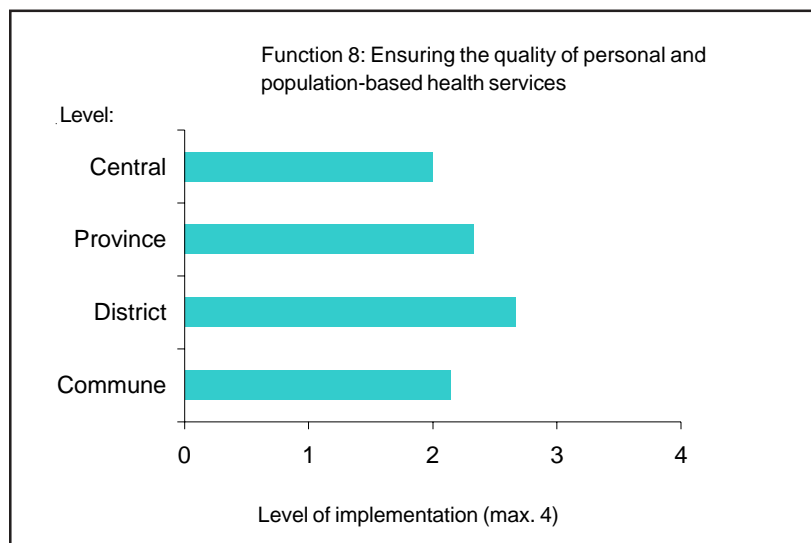
Criteria for evaluating the quality of health services are based on the Ministry of Health protocol. Grading occurs through the cross-monitoring of facilities belonging to the health bureaux, and a number of bureaux make adjustments to be more appropriate to their localities. With respect to the private health sector, monitoring is based on administrative management needs.

Quality monitoring, in reality, has not occurred at the facility level. The instruments were only established by the health sector, without the participation of other sectors and groups. These instruments for measurement (also discussed in the evaluation of EPHF 1) are

inappropriate for evaluating the quality of health services; they are geared more towards following administrative protocols. The instruments have not been standardized and researched with respect to different geographical areas, therefore, implementation is difficult. The instruments being used for evaluating the quality of private health services are, in reality, just an administrative formality, and are, therefore, not very effective for measuring quality. The system for evaluation is old, insufficient and has not addressed the issue of quality. Quality monitoring is not routinely done and there is no model of quality management at any level.

Periodic monitoring is being performed as stipulated by the Ministry of Health and is an activity that has maintained the quality of health services. However, organization of quality evaluation at the commune level does not occur evenly; urban areas appear to have better organization and better indicators for evaluation.

Figure 5.12: Overall assessment of the implementation of EPHF 8



Function 9: Research, development and implementation of innovative public health solutions

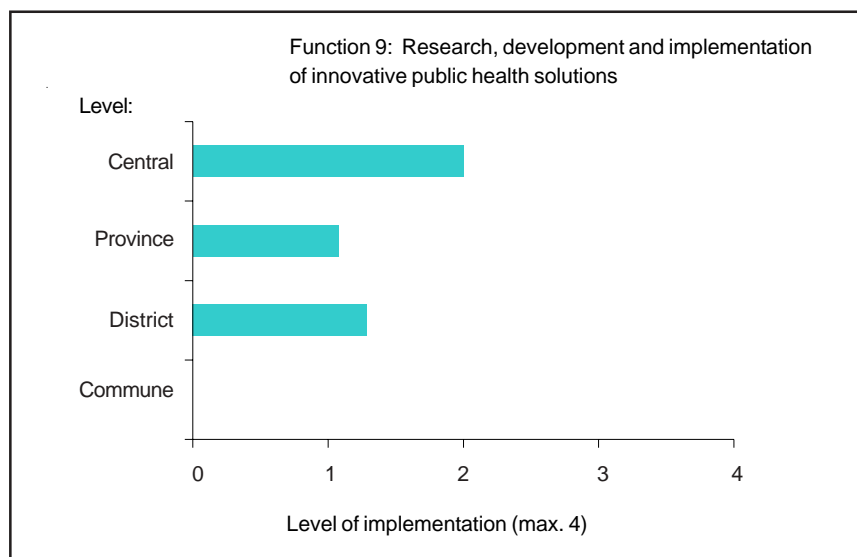
General impressions and remaining difficulties

There is planning for research activities, but it is not very specific, and participation in research planning of other sectors is not common. There is a scientific committee to manage research activities. Two percent of total government health funding is allocated to research, however this funding source is not very secure. Each year, the provincial government allots this funding evenly across all facilities undertaking research activities, and currently still favours branches of clinical medicine as opposed to public health.

Research results are only utilized internally. There is capability to store small sets of data, however this does not function effectively. Data analysis tools/software are often available at health facilities, but staff are usually not able to use them.

Collaboration is encouraged, but, in reality, it does not occur. There is no specific mechanism for utilizing or systematically disseminating the results of research. Research results are disseminated to only a few facilities within the sector, or published in a limited number of specialized journals. There are still very few sources of information and they are not widely disseminated to health facilities within the sector. The training of staff for research is still limited.

Figure 5.13: Overall assessment of the implementation of EPHF 9



4. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF CURRENT ORGANIZATION AND DELIVERY OF EPHFS

4.1 Strengths

- i. Health worker networks extend to the grass-roots level. Methods to contribute to the capacity and capability of communities, to decrease their vulnerability and damage to health, are well developed through the commune health stations.
- ii. The hygiene and epidemiology network is available from the Ministry to the district level, and is supported by prevention by the commune health stations.
- iii. The first priority of the government's health system is prevention and this priority is operationalized in the plans that now extend to 2010 and 2020.
- iv. A disease-reporting system is in place at all levels.
- v. Guidelines for the detection and management of some of the main communicable diseases are available from higher levels in the system.
- vi. Relationships/linkages within the public health system, and with the personal health system, communities and other sectors, are at an 'interacting' level for epidemiological surveillance/disease prevention and control.
- vii. Disease outbreaks and other emergency situations are generally well managed. The system generally responds well to crises, but mechanisms to prevent emergencies are less well developed.
- viii. There is a strong emphasis on regulating industry and other development projects to ensure public health and safety.
- ix. The Government has a strong policy on equity. Elimination of hunger, alleviation of poverty, and the reduction of disadvantage in remote areas, are all priorities.

4.2 Weaknesses

- i. The health workforce, in terms of numbers, distribution (particularly to disadvantaged areas), quality, level and breadth of training, is generally inadequate.
- ii. The low income of public health staff, in comparison with curative services and other sectors of the economy, undermines recruitment and retention of high quality staff. Information technology specialists are particularly difficult to retain because their skills are in demand throughout the economy.
- iii. Public health practice is perceived to be less professionally satisfying than practice in curative personal health care services. Health professionals working in personal curative services are perceived to be of higher status than those working in public health.
- iv. Training and continuing education of the health workforce is poorly developed for generic competencies, such as health needs and health risk assessment, and research. Training is related to vertical programmes.
- v. Information is of low quality, with complicated forms for data collection.
- vi. There is low utilization of information technology.
- vii. There are gaps in the disease surveillance system, and the quality is variable.
- viii. Laboratory services are poorly developed at the lower levels of the health system, particularly the provincial and district levels. Sample collection by the commune health stations could be improved. Laboratory services are needed for diagnosis, monitoring the effectiveness of treatment of diseases of public health significance, and monitoring food and environmental issues of public health importance.
- ix. Health care needs assessment and health risk assessment are poorly developed.

- x. The level of public funding for health has fallen as a proportion of GDP, even although the level is rising in absolute terms (as GDP rises). The findings of this study consistently show that the absolute increase in funding is being allocated to curative personal health care services, to the detriment of public health funding.
- xi. The policy-making process is top-down. There are too few opportunities for staff and communities to contribute ideas to planning or policy development. Internal relationships in the public health system in respect of policy development and planning do not operate effectively, with little interaction.
- xii. Monitoring and evaluation of the implementation of health policies, programmes and services, are poorly developed.
- xiii. Public health laws and decisions are generally unclear. There are few sanctions for non-compliance.
- xiv. Policy implementation and enforcement of regulations are generally weak. For example, there is no system to implement quality improvement, even although standards are well developed and valid and reliable instruments to measure quality are available. Similarly, although 2% of public funding for health is allocated to research, workforce training is such that good quality research proposals are not forthcoming.
- xv. Access to health information resources at community levels needs development, particularly in remote areas.
- iii. The National Health Programme, which includes human resource development, is clearly defined so that opportunities are generated in the implementation of the Programme.
- iv. The National Policy on Information Technology and the policy on the development of a health management information system (HMIS), are already in place.
- v. Viet Nam is strengthening its policy for regulating the private health care sector.
- vi. The recent establishment of the Health Policy and Strategy Institute provides an opportunity to strengthen public health policy and its implementation.

4.4 Threats

- i. The epidemiological transition means that Viet Nam is still dealing with the burden of communicable diseases while facing an increasing burden of noncommunicable diseases and injuries.
- ii. Privatization of the health system is associated with a focus on curative personal health care services, low-quality health services, loss of health professionals to the private system, and maldistribution of health professionals because they stay in cities where there is more opportunity for private practice than in disadvantaged areas.
- iii. Some international donors exert pressures on the public health system by requirements that place a higher priority on some vertical programmes so that balanced implementation of EPHFs based on Viet Nam's needs is difficult to achieve.
- iv. Viet Nam's membership of AFTA (the Asian Free Trade Association), ASEAN (Association of South East Asian Nations), and subsequently the World Trade Organization, and the application of international free trade agreements and reduction in tariffs to the domestic economy, may have implications for public health.
- i. The public health training system is developing. For example, there are now four institutions offering courses leading to a Master of Public Health.
- ii. The international support for the development of public health at the country level, particularly that provided by the WHO Regional Office for the Western Pacific, provides an opportunity to strengthen implementation of EPHFs.

4.3 Opportunities

- v. Increased exposure to globalization may be associated with loss of public health professionals overseas.

5. PROPOSAL TO STRENGTHEN EPHF DELIVERY

One proposal was identified that would strengthen both the structure and sustainable delivery of EPHFs in Viet Nam, as well as protect their implementation during possible future health reforms. This proposal is: to strengthen the primary health care (PHC) network. The development of this proposal has resulted from applying a SWOT analysis to the PHC network and using the strengths and opportunities to address the weaknesses and threats.

5.1 Proposal description

This proposal provides the PHC Committees with the mechanism for strengthening the structure and sustainable delivery of EPHFs. The proposal utilizes all levels of the health care system in implementing the functions and also the health worker network, right down to the grass-roots level.

The proposal proposes that, within PHC, vertical programmes should be integrated. Integration would require strengthening of relationships with those international agencies (such as WHO) that support the development of public health at the country level. In addition, integration would need to be supported by strong advocacy by the Department of International Cooperation with those bilateral and multilateral agencies that place requirements on Viet Nam for implementation of a vertical programme, to the detriment of integration.

Vertical integration would require that training and continuing education of the PHC workforce focus on competence in undertaking the practices that underpin implementation of the EPHFs and could be applied to all vertical programmes, rather than on the content of the vertical programmes. These practices are: assess; investigate; analyse; advocate; negotiate; integrate; set priorities; develop plans; manage (resources and patients); implement; evaluate; communicate; collect and use evidence; and ensure compliance with regulation (see glossary for definitions). Some examples of specific training and continuing education required under this option are: the application of information technology to

EPHFs; health needs assessment; health risk assessment, management and communication; policy and programme evaluation; research skills to improve the collection and utilization of evidence; health management; policy development and implementation, including enforcement of public health regulations; laboratory techniques; and health information resource development. This approach to training and continuing education maximizes the opportunity provided by the developing public health training system in Viet Nam and implements the national policy on human development in the National Health Programme.

This proposal would need to be supported by:

- further developments in health policy;
- a strong focus on information technology and the HMIS, with streamlining of the reporting requirements;
- strengthening of health management so that there is emphasis on accountability for achieving outputs and outcomes rather than on input controls exercised by the Ministry of Health;
- changes in institutional arrangements;
- improvement in the availability of laboratory services at the provincial and district level, and sample collection by the commune health stations; and
- adequate funding to support the strengthening of the PHC network.

Further developments in health policy

The proposed areas for policy development build on the Government's strong policy emphasis on prevention and equity and the policy of providing clear guidelines for certain communicable diseases to facilitate implementation. Further developments in health policy are assisted by the recent establishment of the Health Policy and Strategy Institute.

A key issue for consideration under this proposal is reversing the current top-down approach to the development of health policy. More effective involvement of the PHC network in health policy development would strengthen implementation because implementation issues would have been considered and, to a degree, resolved in the policy development process. Some changes

in institutional arrangements, to be discussed later, such as decentralization, could strengthen the relevance and feasibility of health policy. Training on policy development and implementation, and strengthened accountability and transparency, would facilitate the reversal of the top-down process over time.

Some specific policies that need development include review and updating of the existing legislation and decisions so that they are clear and include, where appropriate, sanctions for non-compliance that trained PHC staff could then enforce. Improved regulation of the private sector, both facilities and health occupational groups, would also be required to support this proposal for the sustainable delivery of EPHFs. Adoption of the proposal would maximize the opportunity provided by the current developments in regulating the private sector to incorporate a clear focus on the private sector contribution to implementing EPHFs where appropriate.

Two developments in health policy are required to support equitable coverage of the PHC network for the population as a whole, including in remote areas, and equity in the delivery of EPHFs. These developments include recent health graduates spending a period of time in disadvantaged areas, and further development of policy in relation to the establishment of volunteer health workers in remote areas. In both cases, the policies should include consideration of an appropriate level of training in implementing EPHFs.

Strong focus on information technology

A strong emphasis on training could assist with the development of a strong focus on information technology (IT) in a strengthened PHC network. The application of IT underpins many of the EPHFs. The proposal would maximize the opportunity provided by the National Policy on Information Technology and the HMIS. The use of IT could assist in overcoming inadequacies in the number and quality of the PHC workforce more efficiently.

Strengthening health management

Improved training in health management would assist a shift from input controls to accountability for outputs and outcomes. In human resource management, for example, this shift would result in managers at the provincial, district or commune levels of the health sector

having the flexibility to develop and implement a system of incentives to attract and retain staff that are appropriate to meet the needs of the population they serve. Rather than being subject to input controls from the Ministry of Health on the workforce they employ in terms of numbers, occupational group, and salary, managers would be accountable for application of their human resource to achieve outputs and outcomes agreed with the Ministry.

Changes in institutional arrangements

An example of changes in institutional arrangements to support strengthening the PHC network to implement EPHFs is the development of a quality assurance system with strong leadership (eg, a unit) at the Ministry of Health. Decentralization by devolving functions and funding to the provinces might assist in improving the quality of health policy.

Improving the availability of laboratory services at the provincial and district level, and sample collection by the commune health stations

Laboratory services are required to support early diagnosis and intervention for diseases of public health significance, as well as for monitoring of environmental quality, important for the core business of public health. The improvement of laboratory services at the provincial and district levels, and improved quality of sample collection by the commune health stations, would support the PHC network in implementing EPHFs.

Adequate funding

The findings of this study strongly support the allocation of adequate funding to support strengthening of the PHC network to implement EPHFs. This would be assisted by increasing the proportion of GDP that is allocated to health. In addition, it would be necessary to ensure the allocation of the additional resources to the implementation of EPHFs, rather than to high-technology, curative personal health care services that have little or no impact on population health.

5.2 Proposal appraisal

Justification

The proposal builds on the strengths of the current system (the integration of EPHFs with the PHC system) and current institutional arrangements (the Primary Health Care Committee). Implementation of the proposal could be phased. For example, early implementation would focus on training and continuing education of the health workforce. This could be achieved by accelerated development of the public health training system. Training would be needed as the basis for the focus on IT, strengthening health management, and improving enforcement of laws and decisions. Concurrently, health policy could be progressively developed to support the proposal. Institutional arrangements, funding issues, and improving the adequacy of laboratory services at the provincial and district levels of the health sector, could be considered. The proposal is feasible and represents a real improvement on the status quo.

Gains that could be expected

The sustainable delivery of EPHFs that would result from implementation of the proposal would give the Government and the public confidence that safeguards exist for the protection of the public's health, and that early warning of problems would be provided. Improved health status and quality of life, reduced inequalities, safeguards on the public's health and reduction in the burden of disease would eventuate from the policies and planning developed and implemented to achieve those aims. The workforce required to implement EPHFs would be trained, attracted and retained in the PHC network. Communities would be healthier. The quality of health services in which EPHFs are implemented would be improved. Innovative ways to improve health status and the quality of life, reduce health inequalities, safeguard the public's health, and reduce the burden of disease would be researched and evaluated.

Value for money

The proposal represents value for money because its focus is on strengthening the existing PHC network and

improving the training and development of existing staff. A strengthened PHC network would improve the public's accessibility to EPHFs.

Likelihood of success

There would be a high likelihood of success because the proposal builds on established policy and the strengths of the system.

Risks associated with implementation

The risks of implementation are minimal providing a phased approach to implementation is adopted. Regulating the private health sector, however, presents particular challenges. In addition, Viet Nam's increased exposure to globalization might affect funding of the health sector and the availability of public health professionals, who are in demand in many countries.

Resources required for implementation

This proposal would require additional funding from the Government and from donor agencies. The quantum of additional funding would be dependent on the speed of implementation.

Education/training requirements for implementation

As education and training is fundamental to the proposal, these are discussed in the description of the proposal.

5.3 Future scenarios and their impact on the proposal

Table 5.9 summarizes the effects of a number of potential future changes on the proposal outlined above.

Table 5.9: Impact of potential future changes

Potential change	Proposal: Strengthening the PHC network	Status quo
Corporatization	The strengthening of health management and the HMIS under this proposal means that the implementation of EPHFs would be well positioned under corporatization scenarios.	Implementation of EPHFs would be placed at risk because of reliance on input controls by the Ministry of Health, and the early stage of development of the HMIS.
Privatization	Increased clarity of laws and decisions, strengthened regulation of the private sector and enforcement would contribute to the sustainable implementation of EPHFs under a number of privatization scenarios.	The delivery of EPHFs could be at risk because of weak regulation of the private sector.
Decentralization	Improved policy-making and implementation to support the delivery of EPHFs could be achieved with decentralization. A strengthened PHC network would reduce the risk of fragmentation under decentralization scenarios.	Decentralization could be associated with fragmentation in the delivery of EPHFs.
Increased competition	A strengthened PHC network would be well placed to retain the delivery of EPHFs because it would be attractive to the public.	Increased fragmentation and poor quality of PHC would place the delivery of EPHFs at risk from competition.
Technological innovation	A well trained, IT-literate PHC network would embrace those technological innovations that improve the delivery of EPHFs.	Inadequate training would reduce uptake of appropriate technology so that delivery of EPHFs would be impaired.
Globalization	A strengthened PHC network would be well placed to address the challenges imposed on the delivery of EPHFs by globalization. Improvements in health situation monitoring and analysis would lead to early warning of problems. It would also be more professionally satisfying for staff to work in a strengthened network, and thus the risk of losing trained public health professionals on the global market would be reduced. Improved performance of the practices that underpin the delivery of EPHFs would mean that a strengthened PHC network would be better placed to advocate for an appropriate level of funding, because the gains associated with implementation of EPHFs on Viet Nam's economy and global competitiveness would be evident.	The delivery of EPHFs would be at risk because of potential attrition of funding and of trained health professionals. Viet Nam would be less able to withstand any potential impacts of globalization on public health.

6. CONCLUSIONS

The project has proved a valuable exercise for Viet Nam. The research on all practical health tasks in the health care and related systems was carried out with great attention to detail with the goal of improving understanding about the structure of public health functions and their implementation at all levels of the health system. It has provided a baseline assessment of the capacity to implement EPHFs in Viet Nam, which will be used as a basis to develop capacity-building initiatives and to monitor progress.

The Viet Nam case study is one of three carried out in the WHO Western Pacific Region to develop and pilot instruments to be used for future research to fully implement the essential functions of public health. It is imperative that the concepts and content relating to public health in the health care system be made clear. This clarification is also essential to facilitate conditions for improving primary health care (PHC) services through health education strategies, public health training, developing the model and level of training (secondary, graduate and post-graduate) in the public health system, and improving the management capacity of PHC for all levels of the health system of Viet Nam.

7. ACKNOWLEDGEMENTS

Project Advisory Group

Professor Do Nguyen Phuong, Minister of Health (chairman)

Professor Nguyen Van Thuong, Vice-Minister of Health.

Professor Le Ngoc Trong, Vice-Minister of Health.

Professor Pham Manh Hung, Vice-Minister of Health.

Professor Nguyen Van Dip, Director, Department of Science and Training, Ministry of Health.

Professor Dao Ngoc Phong, Ha Noi Medical School.

Dr Trinh Quan Huan, Director, Department of Preventive Medicine, Ministry of Health.

Dr Duong Huy Lieu, Director, Department of Planning, Ministry of Health.

Dr Ngo Toan Dinh, Director, Department of Personnel, Ministry of Health.

Le Thi Thu Ha, Deputy Director, Department of International Co-operation, Ministry of Health.

Viet Nam Research Team

Dr Le Vu Anh, Dean (field of specialization: epidemiology) (Principal Investigator for the project)

Dr Vu Xuan Phu, Faculty member (Health Economics) (coordinator for the project)

Dr Phan Van Tuong, Deputy Head of Department (Health Management) (coordinator for the project)

Dr Nguyen Van Man, Head, Training and Research Department (Training and Management)

Dr Pham Tri Dung, Deputy Head of Department (Pharmaceutical Management)

Nguyen Thanh Huong, Faculty member (health policy and pharmaceutical management)

Dr Le Nhan Phuong, Development fellow (Paediatrics, Public Health)

Pham Viet Cuong, Faculty member (biostatistics and computers)

(All members of the research team are based at the Hanoi School of Public Health.)

8. REFERENCES

1. General Statistical Office. *Statistical Yearbook 1994*. Ha Noi, Statistical Publishing House, 1995.
2. General Statistical Office. *Figures on social development in 1990s in Vietnam*. Ha Noi, Statistical Publishing House, 2000.
3. United Nations Development Programme. *Human Development Report 2000*. New York, Oxford University Press, 2000.
4. General Statistical Office. *Health Statistic Yearbook 1989*. Ha Noi, Statistical Publishing House, 1990.
5. General Statistical Office. *Health Statistic Yearbook 1999*. Ha Noi, Statistical Publishing House, 2000.
6. *The World Health Report 2000. Health systems: improving performance*. Geneva, World Health Organization, 2000.
7. *The World Health Report 1999: Making a difference*. Geneva, World Health Organization, 1999.

8. *Country Health Information Profile: Viet Nam, Socialist Republic of*. World Health Organization Regional Office for the Western Pacific, 2000. Accessed 14 September 2000, from <http://www.wpro.who.int>
9. WHO Programme on Tobacco or Health. Tobacco consumption. *Tobacco alert*, 1996, World No Tobacco Day (Special Issue):7-12.
10. General Statistical Office. *Health Statistics Yearbook 1998*. Ha Noi, Statistical Publishing House, 1999.
11. *Pham Huy Dung*. [Viet Nam health manpower]. Unpublished raw data. Ha Noi, Ministry of Health, 1998.
12. Fritzen S. *Health sector decentralization in a transition economy: The case of Vietnam*. Unpublished report, 1996.
13. Turnock B. *Public health - What it is and how it works*. Maryland, Aspen Publisher, 1997.
14. *Viet Nam: A situation analysis 1994*. Ha Noi, UNICEF, 1994.

CHAPTER 6

DISCUSSION and CONCLUSIONS

This concluding chapter considers comparisons that can be made between the three case studies and their relevance to the Western Pacific Region, and discusses and summarizes the lessons that can be learned from them for the structure and sustainable delivery of essential public health functions (EPHFs).

1. COMPARISONS BETWEEN THE CASE STUDIES

Countries considering embarking on an analysis of EPHFs in their health systems may find it useful to compare the methodologies used in the three case studies in Fiji, Malaysia and Viet Nam to determine which would best meet their needs. A country may develop its own unique set of methods, drawing on aspects of the experience of one or more of the case-study countries, and matching the methods that may be of value in the country with the resources that are available to conduct the analysis.

Each case-study country established a project advisory group consisting of senior health sector representatives. The project advisory groups played a key role in the development of the country-specific aspects of the methodology, quality control, and uptake of the research findings. Other countries may draw on the membership of the project advisory groups in the case-study countries to assist decisions on representation in groups they may establish to assist with comparable projects. The membership of the group in each case study is listed in chapters 3 to 5.

It is important to recognize, however, that the findings of the case studies should not be compared in terms of adequacy of the implementation of EPHFs. While following the project operating guideline (POG), each country research team developed country-specific methods that were applied in their distinctive (and internally diverse) cultures. Even when data were collected in the three case studies to answer common questions (for example, self-reported competence in implementing each function), the milieu in which the questions were answered differed in terms of the expectations and values that respondents may have been using implicitly to calibrate the scale for performance of each function.

Other useful points of comparison are the potential changes in the health sector and beyond that each case study country reviewed to ensure protection of their proposals for the structure and sustainable delivery of EPHFs from threats during their implementation. Both core and country-specific threats were reviewed.

2. RELEVANCE OF THE THREE CASE STUDIES TO THE WESTERN PACIFIC REGION

As discussed in chapter 2, the three countries invited by the World Health Organization Regional Office of the Western Pacific to participate in the project have different health systems that are directly relevant to countries in the Asia-Pacific. Key demographic, health status and economic information is shown in Table 6.1.

Table 6.1: Key demographic, health status and economic indicators of the case-study countries¹

Indicator	Fiji	Malaysia	Viet Nam
Population	806 000	21 830 000	76 327 919
GDP per capita (USD)	2416	4251	331
Total health expenditure per capita (international dollars)	214	202	65
Human Development Index (global rank)	0.769 (66 th)	0.772 (51 st)	0.671 (118 th)
Infant mortality rate/1000 live births	19	9	31
Life expectancy at birth (male, female)	64, 69	68, 70	65, 69

While infectious diseases are still the dominant causes of mortality and morbidity in Viet Nam, the populations of Fiji and Malaysia are suffering from noncommunicable diseases and injuries.

The health systems of the three countries are configured differently, as described in chapters 3 to 5. In each country, however, the Government, through the Ministry of Health, is the dominant provider of health services, and primary health care is a very significant part of health service delivery. As the previous Director-General of Health in Malaysia said, while laying out the vision for the Malaysian health system in 2020, “Primary health care shall continue to be the engine and the thrust of the country’s health care system.” (1). The three countries have the EPHFs already in place to varying degrees, and they are largely integrated into their primary health care delivery systems.

The case-study countries are at different stages in terms of health reforms, but all have either embarked on a reform process or are anticipating one. For example, Fiji was facing many reform issues while undertaking the research. Decentralization and corporatization are high on the reform agendas of all three countries. As discussed in chapter 1, the private health sector is increasing in size and complexity in each country, as it is globally. The three case studies are thus relevant to the study of the structure and sustainable delivery of EPHFs in the Western Pacific Region.

3. SCOPE, METHODS AND TIMING

The scope of the project extended right across the health system (not just the national level) in the three countries, and, in the case of Fiji, included the community’s perceptions of EPHFs.

The country-specific methods, consistent with the POG, were developed to reflect the social, cultural, political and geographical situation in each country, and were also influenced by the time and resources available. The methodologies were constrained by time and resources, but each country developed innovative methods to complete the project on time and within the available resources. There is always a balance between quality and rigour on the one hand, and timeliness to influence major decision-making on the other hand. The most rigorous study may produce results too late to use a window of opportunity to influence a major decision. This project, therefore, has aimed to balance rigour and timeliness.

The framework for essential public health functions, described in chapter 2, provides for increasing levels of detail. For each function, an outcome is described, and a set of tasks that contribute to the outcome of that function is listed. Each task requires the implementation of a set of practices. Fiji did not use practices in its methods because the country research team found that practices did not adequately discriminate between the functions. Malaysia, however, found that the different levels of the

¹ For more details, including year and data source, see chapters 3 to 5.

health system could relate to the practices and they assisted their understanding of the functions and tasks. In Viet Nam, tasks were found to be more meaningful for their informants. Other countries may find that comparing the different methods developed by each country research team may be of use if they are planning to embark on an analysis of EPHFs.

Table 6.2 provides a comparison of the country-specific methods used in each case study. Viet Nam's data collection took four months. Malaysia's approach of using three three-day workshops looks superficially to be the most efficient, but from the perspective of the country research team, the Malaysian method required intensive preparation prior to the first workshop, and considerable compilation of information after each workshop in preparation for the next one. Fiji's approach of taking one month for site visits and a two-day workshop placed similar burdens on the country research team. The burden imposed on the informants to the study in each of the three case-study countries was probably about comparable.

Each country research team used multiple methods and sources of evidence to establish construct validity (2), as shown in Table 6.2. The project advisory groups, consisting of senior health sector representatives

established by each country, played a critical role. The inclusion of senior health sector representatives with policy, education, training and research perspectives, was valuable in ensuring the relevance and validity of the research, the conduct of the research, and the uptake of the research findings.

The country research teams recommended that, if further countries are considering doing this research, clusters of countries should embark on the research together, with periodic meetings and establishment of an international project team for mutual support and shared learning. Clusters of countries are useful for peer pressure and motivation. Within a cluster, a mix of Asian and Pacific countries should be considered.

The teams found that appointment of a central project coordinator, who may be a consultant, was also helpful. It was also useful to work with the World Health Organization country representatives to identify the most appropriate resources in countries to conduct the research.

Table 6.2: Methods used in the case studies

Methodological issue	Fiji	Malaysia	Viet Nam
Focus	Level of the health system and occupational group	Level of the health system	Level of the health system
Data collection method	Undertook surveys, conducted site visits to interview key informants and brought them together at a workshop/focus groups in central location	Brought key informants together in workshops/focus groups in central location, conducted surveys among the key informants	Visited each study province sequentially to interview key informants on site, conducted focus groups, and directly observed practice
Starting point for stocktake	Functions	Practices	Tasks
Data analysis	By occupational group, function, and locality (urban/rural)	By level	By function, then aggregated
Validity checks	Advisory group and multiple methods of data collection	Advisory group and multiple methods of data collection	Advisory group and multiple methods of data collection

4. THE EXTENT OF EPHFs AND THEIR GOVERNANCE AND STEWARDSHIP

The three case studies demonstrate that many of the EPHFs are well established in Fiji, Malaysia and Viet Nam. However, some common threads arose from the analysis of governance and stewardship, some of which are impeding the sustainable delivery of EPHFs.

4.1 Extent of EPHFs

In this concluding chapter, it is not possible to quantify the coverage of EPHFs in each of the case studies, but each case study provides some markers of coverage.

In Fiji, for example, the function that least staff perform, Function 9 (Research, development, and implementation of innovative public health solutions), is still being carried out by 36% of the public health workforce. The lowest overall level of competence, on a scale of 1 (no competence in area/task) to 5 (very competent in area/task), is 3.2, for Function 8 (Ensuring the quality of personal and population-based health service). At the upper end of the scale, 82% of staff are performing Function 1 (Health situation monitoring and analysis), and the function with the highest overall level of competence, at 3.7, is Function 4 (Strategic management of health systems and services for population health gain).

In Malaysia, the lowest average perceived level of competency in all of the functions at all levels in the health system is 5.93 (at the district level of the health system) for Function 3 (Development of policies and planning in public health), on a scale of 1 (least perceived confidence in performing the function) to 10 (very confident in performing the function). This compares with the highest average level of perceived competency, 9.25, at the state level for Function 6 (Human resources development and planning in public health).

Viet Nam chose a scale of 0 (low) to 4 (high) for assessment of implementation of EPHFs. The function that is least implemented is Function 9 (Research, development, and implementation of innovative public health solutions at the provincial level), at just over 1. The function that is being most fully implemented is Function 1 (Health situation monitoring and analysis), at just over 3 at the provincial level.

4.2 Governance

The experience of the three case-study countries is comparable to many member states in the Western Pacific Region in that the mandate for the core business of public health is well established in national planning documents and policies. Public health leadership is vested in the Ministry of Health and its officers at lower levels in the health system. Professional bodies and other nongovernmental organizations are currently relatively inactive in the leadership of public health in Fiji and Viet Nam, whereas in Malaysia, a number of public health professional organizations, associations or societies are taking on a public health leadership role. Academia are important players in all three countries.

All three countries identified problems with their legal frameworks for public health, including gaps in appropriate coverage of EPHFs in legislation, outdated laws still on the statute books, complexity, and inadequate enforcement. Gostin (3) argues that a sound public health law infrastructure is important because it establishes the powers and duties of government to prevent injury and disease and to promote the population's health. Statutes, regulations and litigation are valuable tools for creating the conditions for people to lead healthier and safer lives. Good, up-to-date and appropriate public health legislation, adequately enforced, is a key factor in the governance of EPHFs that needs strengthening in the case-study countries, and many others in the Western Pacific Region.

Steps to improve accountability and transparency are being undertaken. In Malaysia, the Quality Assurance Programme and the promotion of integrity are the vehicles that are being used. Viet Nam used the opportunity provided by the project to review the instruments for monitoring quality and found them to be not very effective and inconsistently applied. The review occurred within the context of a policy to move towards a more accountable, transparent and participatory government.

All three countries have well developed methods to encourage the effective participation of civil society throughout their health systems. For example, the Grassroots Democracy Decree, promulgated in 1998 in Viet Nam, assigned to commune-level administrations the task of ensuring that the citizenry exercises its rights. Malaysia and Fiji have Village Committees.

Investment in information infrastructure, education and communication to improve access to knowledge, information and education has taken place in the three countries. For example, telecommunication facilities in Fiji are widely available, are efficient and enable communication between many of the inhabited islands. Malaysia's Future Health System will use communication and information technology extensively, building on the platform of investment that is already underway.

4.3 Stewardship

The World Health Report 2000 (4) describes stewardship as a “function of government responsible for the welfare of the population, and concerned with trust and legitimacy with which its activities are viewed by the citizenry”.

In the context of EPHFs, stewardship has two perspectives. On the one hand, many of the tasks of the EPHFs are inherently stewardship functions of each government. On the other, there must also be stewardship of the EPHFs themselves. It was the latter perspective that was examined as part of the project. For the purposes of the project, the International Project Team (IPT), therefore, interpreted the definition of stewardship as assuring adequate resources and effective functioning of:

- the workforce;
- funding mechanisms;
- support – information, institutions/organizations and their links and relationships, laboratories, and pharmaceuticals;
- services; and
- programme priorities.

In this context, the key feature of EPHF stewardship, that all countries identified as a threat to their sustainable delivery, is the public health workforce, in terms of sufficiency and self-assessed competency in the practices and/or tasks required for the optimum implementation of the functions. The stocktake methods used by Fiji provided for the assessment of competency by occupational group and differentiation by urban/rural location (overall urban competence 16% higher than rural), thus enabling targeting of education courses and training programmes. Doctors perform the most EPHFs and nurses the least. A number of areas in the analyses conducted in Malaysia and Viet Nam show education

and training could play an important role. Gaps in competencies to undertake specific tasks and practices were also identified, such as health inspection in Viet Nam and economic analysis in Fiji. Malaysia emphasized the need for flexible learning approaches.

The IPT recognized the critical importance of the development of norms for public health activities, based on the EPHFs, that would form the basis of education and training programmes, and could also be used for future stocktakes and continuous quality improvement, and considered that WHO could undertake a catalytic and brokerage role to shift public health education and training from an association with vertical programmes to a focus on developing competencies in the EPHFs. The finding of gaps in public health competencies to implement EPHFs, identified by the case-study countries, is comparable to the experience of other countries using core or essential public health functions (or services in the case of the USA) as a framework for developing their public health infrastructure, although the gaps found vary between countries (5, 6). It is encouraging that the case studies identified developments in the public health training system in each country, with courses leading to the Master of Public Health. The most recent developments are probably in Viet Nam, where there are now four institutions offering such courses.

The ability to identify the funding allocated specifically to the implementation of EPHFs was variable between the three case studies, mainly because the functions are largely integrated into the delivery of primary health care. Funding of some EPHFs is reliant on external sources for some vertical programmes, and in some instances the external priorities are inconsistent with national and local priorities, making it difficult to programme efficiently, and to achieve balanced implementation of the EPHFs. Both the Fiji and Viet Nam case studies found that funding is differentially allocated to personal health curative services, to the detriment of EPHFs.

For all three countries, improvement of data and information management was identified as a priority. For Fiji and Viet Nam, the poor development of laboratory services at the lower levels of the health system (that is, the provincial and district levels) is a problem.

Programme priorities were found to be well developed in all three of the case studies, although externally funded vertical programmes sometimes cut across the nationally determined priorities, such as in

Fiji and Viet Nam. High quality implementation of the priorities is a challenge, particularly when the research infrastructure is relatively weak, as in the case of Viet Nam.

All three case studies identified the need to strengthen links and relationships to improve the implementation of EPHFs, as broadly described in Table 1.1 of chapter 1. Malaysia has an explicit policy on smart partnership to encourage the development of relationships, and these will support the sustainable delivery of EPHFs. Fiji identified the lack of coordination of government primary care functions with general practice in urban areas as a priority. For Viet Nam, there are too few opportunities for staff and communities to contribute ideas to planning and policy development.

5. THE STRUCTURE AND SUSTAINABLE DELIVERY OF EPHFs

5.1 EPHFs and primary health care

The key structural approach for delivering EPHFs in the three case studies was integration into primary health care, which is appropriate given that primary health care is a very significant part of health service delivery in the three case-study countries. Unfortunately, such integration does not mean that the sustainability of EPHFs can be guaranteed, as discussed in chapter 1.

The development of the project model and framework, described in chapter 2, drew on a considerable body of international research. Based on that research, the EPHFs may be identified as a vehicle for achieving the public health outcomes of improved health status and quality of life, reduced health inequalities, improved safeguards for the public's health, and reductions in the acute and chronic disease burden. As such, the functions are crucially related to the objectives of primary health care (7, 8). Some of the weaknesses identified as part of the SWOT analysis of EPHFs in the three case-study countries have also been found to be constraints in achieving the objectives of primary health care, such as (8):

- tension between externally funded vertical programmes and the balanced implementation of EPHFs at the country level;
- inadequate capacity in research, development and implementation of innovative public health solutions; and
- inadequate funding as planning processes and subsequent allocation are dominated by hospital practitioners.

For these reasons, strengthening primary health care was identified as essential, but not sufficient for strengthening EPHFs in Fiji and Viet Nam. Strengthening primary health care is also important to incorporate those EPHFs that have not been adequately delivered in primary health care systems to date, such as Function 8 (Ensuring the quality of personal and population-based health services) in Fiji, and Function 9 (Research, development and implementation of innovative public health solutions) in Viet Nam. Malaysia already has a strong primary health care system, and its proposal for strengthening EPHFs assumes the continuation of their strong system into the future.

5.2 Key features of the proposals to strengthen EPHFs

The case studies identified some common approaches in the proposals each country developed to strengthen EPHFs and to protect their implementation in possible future health reforms and other threats.

For Fiji and Viet Nam, which are more dependent on overseas development assistance (ODA) than Malaysia (see chapters 3 – 5 for details. Fiji, Malaysia and Viet Nam ODA per capita, 1998 - US\$ 44.1, US\$ 9.1, US\$ 15, respectively), the integration of vertical programmes is regarded as important in their proposals. Integration would make it possible to move from projects to sustained programme funding or other approaches for funding EPHFs, especially with development partners. Viet Nam recognizes that integration would require strengthening of the relationships with those international agencies that support public health at the country level and also strong advocacy by Viet Nam's Department of International Cooperation.

Integration of vertical programmes would also have implications for training and continuing education of the workforce. That would ensure a focus on competence in undertaking the practices that underpin implementation

of the EPHFs, which could be applied to all vertical programmes, rather than on the content of vertical programmes (for example, sexually transmissible infections or immunization).

For all three countries, developing the public health workforce is a key ingredient of their proposals, including changes to the number, type and distribution of the workforce, as well as training and continuing education. For example, Malaysia identifies the need for a master plan for human resources for the health sector. The development of flexible learning approaches is identified as an approach to public health workforce development.

A key feature of the proposals of all three countries is strengthening health policy development and legislative frameworks. For Fiji, that would mean changing legislation to meet newer environmental challenges. Malaysia focuses on the need to develop policies that bring together different sectors that can contribute to health, for example Healthy Agriculture Policies, and to review legislation in response to the changing socio-economic environment and threats of globalisation. Viet Nam focuses on the process and content of policy development. Viet Nam's proposal emphasizes the importance of reversing the current top-down approach to the development of health policy, with more effective involvement of the PHC Network in health policy development. In addition, existing legislation and decisions need to be updated; regulation of the private sector needs to be improved; and policy to ensure equitable coverage of the PHC network to remote areas, and equity in delivery of EPHFs, needs to be developed.

Improving data sources, collection, collation, analysis and dissemination is a challenge for all three case-study countries in strengthening EPHFs. This includes sharing of data between the private, NGO and the public health sector, as well as other sectors, and ensuring information flows between hospitals and primary care.

Malaysia has already invested heavily in improving information technology (IT) and the Malaysian team's proposal assumes that this investment would continue into the future. Increasing computer-based facilities in rural settings is a priority in Fiji's proposal. Viet Nam considers that a strong focus on IT in a strengthened PHC Network would assist in overcoming inadequacies in the number and quality of the PHC workforce more efficiently.

Strengthening health management is an important component of the proposals in all three case-study countries. In Fiji, it is proposed to integrate the management of primary care and public health with that of hospitals and other services, at the divisional and lower levels of the health system. In the Malaysian proposal, some functions could move to autonomous bodies to allow the Ministry of Health to focus on strategic management and legislative functions. The Viet Nam proposal considers that improved training in health management would assist a shift from input controls to accountability for outputs and outcomes. This shift would result in managers at the provincial, district or commune levels of the health system having the flexibility to develop and implement a system of incentives to recruit and retain appropriate staff to meet the needs of the population they serve.

Further strengthening quality improvement is also identified in each of the proposals. The Fiji proposal promotes a structured approach to quality across the sector and the development of robust mechanisms for evaluation of technology. Malaysia emphasizes an evidence-based approach, while Viet Nam proposes some changes to the institutional arrangements to support quality improvement by the development of a quality assurance system with strong leadership (for example, a unit) at the Ministry of Health.

Adequate funding and transparency of financial management and accountability are fundamental to the Fiji and Viet Nam proposals to strengthen EPHFs. The Fiji proposal recommends, not only an increase in the amount of funding, but also ring-fencing public health funding to ensure the allocation of the additional resource to the implementation of EPHFs, rather than to high technology curative personal health care services that have little or no impact on population health. Viet Nam takes a similar approach, but proposes linking public expenditure on health to GDP. In the Fiji proposal, the role of the private sector in the funding/provision of public health activities would also be explored if the proposal were implemented, including 'polluter pays' types of mechanism. The funding mechanisms would be associated with changes in allocation to improve geographical equity, and changes in financial management to shift locus of responsibility to the appropriate level. The Fiji proposal also suggests increasing opportunities for generation of income locally, and enabling locally generated income to be retained

locally. Malaysia emphasizes the need to institute a health-financing mechanism that would ensure universal coverage with an appropriate basic health care package to maintain and improve health.

All the case-study countries identify the importance of strengthening research capability and capacity in their proposals to strengthen EPHFs. Fiji focuses on increasing operational health research activity as a means of strengthening quality, monitoring and evaluation. Malaysia considers strategies to inculcate a research culture with improved sharing of research information, better coordination of research activities, greater research utilization and the use of research to support national development. For Viet Nam, education and training to develop research skills to improve the collection and utilization of evidence is a priority. Innovative ways to improve health status and the quality of life, to reduce health inequalities, to safeguard the public's health, and to reduce the burden of disease would be researched and evaluated.

Country-specific approaches to strengthening EPHFs are also identified in the case studies. For example, improving the availability of laboratory services at the provincial and district level, and sample collection by the Commune Health Stations, are important mechanisms for Viet Nam to strengthen EPHFs. In Malaysia, exploring new approaches for mass and electronic media to reach out to the spectrum of target groups, is important

for Function 7 (Health promotion, social participation and empowerment).

The country research teams evaluated their proposals in terms of whether there was adequate justification for the changes proposed, the feasibility, the resource implications, education/training requirements, value for money, and likelihood of success. The proposals build on the strengths of the health systems currently in place in the case-study countries and allow for phased implementation. The proposals would require amendment of the current health delivery paradigm in each of the case-study countries, but the required changes are considered feasible. An important feature of all the proposals is the empowerment of staff at lower levels in the health system, which would enhance local activity and action.

The country research teams then reviewed the proposals in the light of potential changes in the health sector and beyond in order to ensure EPHFs were protected from threats to their implementation. The proposals were found to be robust to potential changes that could reduce the country's capacity to implement EPHFs, and an improvement on the status quo. Potential changes investigated were those considered relevant to each country, although some initial core possible and known threats were identified by the IPT. The potential changes chosen for review in each of the case studies is shown in Table 6.3.

Table 6.3: Potential changes reviewed, that could impact on EPHFs

Potential change	Fiji	Malaysia	Viet Nam
Corporatization	●		●
Privatization	●	●	●
Centralization		●	
Decentralization	●	●	●
Increased competition			●
Privatization	●		●
Technological innovation	●		●
Globalization	●		●
Political situation	●		
Changing disease patterns and demographic trends	●		
Environmental degradation	●		

The Fiji and Viet Nam analyses are presented in table form in chapters 3 and 5. In the Malaysia proposal, three future changes – centralization, decentralization, and privatization – are analysed in depth for their impact on the sustainable delivery of EPHFs should the changes materialize, as presented in chapter 4. Various institutional arrangements are proposed in the different scenarios. The conclusion of the Malaysia case study is that, no matter what institutional or financing arrangements eventuate, EPHFs are sustainable in Malaysia providing the proposal to strengthen them is implemented.

6. LESSONS LEARNED

Undertaking the process (that is, defining EPHFs and practices) was of value to the three countries. The research promoted a common understanding of EPHFs and enabled wide-ranging discussion of health sector challenges across a broad spectrum of the workforce. Each country has considered mechanisms for integrating the outcomes of the project into their health system.

The research funding by WHO enabled the involvement of junior researchers in health systems research. There are usually limited opportunities for younger researchers to get involved in this area of research. However, this is not the case in Malaysia, where health systems research is quite extensively carried out at various levels of management, particularly in the Ministry of Health.

The small group meeting to initiate the project, the IPT, was particularly valuable in planning the project, establishing relationships between the country research teams, and developing a common understanding and shared vision for the project. The support and co-ordination provided by the WHO Western Pacific Regional Office was invaluable to the project.

The project is timely for many countries in relation to the health status and health reform challenges they are facing. The project outcome provides a useful platform for the consideration of public health activity that could be incorporated in any discussion of health sector reform. The project highlights the need for intersectoral, collaborative effort, specifically geared towards improving the delivery of EPHFs.

The following lessons have been learned as a result of the project:

- A coordinator is needed to support countries (and to visit). Not only did this assist with interpreting the generic POG for application to the country situation, but it also added an external view to discussions, which helped to bring ideas and broader perspectives to research teams focused within a country. An aim of this study was to draw together the different country experiences, so it was important that consistency with the POG was maintained as far as possible and as appropriate.
- The project needs both a common structure (the POG should be as clear as possible) and also flexibility for country-specific variations to reflect different health systems.
- Maximum use should be made of information technology, including emails between the country teams and the WHO Western Pacific Regional Office or the coordinator being copied to all members of the IPT, where appropriate. The use of electronic methods for tracking changes and inserting comments proved particularly useful in finalizing the reports.
- A clear understanding of how to translate the research into action is needed from the outset.
- The opportunity to share and discuss issues during the development and implementation of the project is essential.
- A partnership between researchers and those at the policy level is important to improve the relevance of the project and to give it priority.
- The ability to share the work and instruments (for example, questionnaires) of the different country research teams during the conduct of the research was helpful.
- Time constraints are a limiting factor in achieving a comprehensive outcome from projects such as this.

7. CONCLUSIONS

The three case studies achieved the overall objectives of the project:

- (1) to describe the extent of essential public health functions, and their governance and stewardship;
- (2) to identify a proposal(s) for structuring and ensuring the sustainable delivery of essential public health functions in the Western Pacific Region, including the role of primary health care; and
- (3) to identify the impact on the proposal(s) from potential changes in the health sector and beyond.

The development of reasonable, optimal standards for EPHFs that can be used by countries as the basis for developing country-specific norms/standards would assist other countries in the Western Pacific Region to undertake similar analyses of EPHFs. The EPHF framework would also enable countries to monitor their progress in strengthening EPHFs, as has occurred elsewhere (5). The WHO Western Pacific Regional Office could draw on the experience of other regions and organizations, such as the Pan American Health Organization (9), in developing standards/norms for EPHFs. Significant consultation within the Western Pacific Region would also be required.

While the case-study countries benefited in terms of the process of conducting the study, and the empowerment that resulted, the extent to which the proposals for strengthening EPHFs are acted upon in the three countries will be an important indicator of success. Other countries considering using the EPHF framework may wish to follow up on progress in implementing the proposals with the research teams in each of the case-study countries.

The ten approaches to strengthening EPHFs identified in the case-study countries are entirely consistent with the literature reviewed in chapter 1. These approaches are:

- (1) Strengthening primary health care
- (2) Integrating vertical programmes
- (3) Developing the public health workforce, including training and continuing education
- (4) Strengthening health policy development and legislative frameworks
- (5) Improving data sources, collection, collation, analysis and dissemination
- (6) Improving information technology
- (7) Strengthening health management
- (8) Strengthening quality improvement
- (9) Adequate funding and transparency of financial management and accountability
- (10) Strengthening research capability and capacity

Development partners could usefully consider these ten approaches when structuring their assistance programmes. The challenge is applying the approaches within the context of the EPHF framework, so that countries are supported in their proposals to strengthen the delivery of EPHFs as a vehicle for achieving the public health outcomes of improved health status and quality of life, reduced health inequalities, improved safeguards for the public's health, and reductions in the acute and chronic disease burden.

In all three case-study countries, the central role of primary health care was found to be pivotal to the sustainable delivery of EPHFs.

8. REFERENCES

1. Abu Bakar Suleiman. Towards greater integration in health and the promotion of smart partnership. *Persidangan Rancangan Malaysia Ke Lapan*; 17 - 19 February 2000, Equatorial Hotel, Bangi. Ministry of Health Malaysia, 2000.
2. Pope C, Mays N. Using case studies in health services and policy research. In: Pope C, Mays N eds. *Qualitative research in health care*. Second ed. London, British Medical Journal Publishing Group, 1999. Electronic source accessed 8 June 2000.
3. Gostin L. Public health law in a new century. Part 1: Law as a tool to advance the community's health. *Journal of the American Medical Association*, 2000, 283(21):2837 - 2841.
4. *The World Health Report 2000. Health systems: improving performance*. Geneva, World Health Organization, 2000.
5. Corson L *et al*. Using the essential services as a foundation for performance measurement and assessment of local public health systems. *Journal of Public Health Management Practice*, 2000, 6(5):1 - 18.
6. University of Western Australia, Curtin University of Technology, Combined Universities Centre for Rural Health. *Innovation and cooperation in public health education and workforce development: strengthening the capacity of the rural public health workforce*. Geraldton, Combined Universities Centre for Rural Health. 2001.
7. World Health Organization and United Nations Children's Fund. *Primary health care: report of the International Conference on Primary Health Care*, Alma-Ata, USSR, 6-12 September 1978. Geneva, World Health Organization, 1978.
8. *Primary Health Care 21: "Everybody's business"*. 27-28 November 1998, Almaty, Kazakhstan. Consensus statement and conclusions of the meeting. Geneva, World Health Organization Headquarters and the WHO Regional Office for Europe, 1999.
9. *Public health in the Americas: Conceptual renewal, performance assessment, and bases for action*. Washington DC, Pan American Health Organization, 2002.