CHAPTER III

PROPOSAL ON PRIORITIZATION OF DISEASES BY PREMATURE MORTALITY CASES IN MYANMAR

3.1. Introduction

3.1.1 Rationale

During this decade, many developing countries including Myanmar achieved its goals of good economy and improvement in living standards. Like other countries, Myanmar also experienced Health Transition and changes in pattern of prevailing diseases. On the other hand, better technology in health care facilities appeared in the world, including Health Management Information Systems (HMIS). Therefore, in parallel with growing economy and other conditions, a study of diseases by other indicators to put information in HMIS has become an immediate necessity. (specific indicators = refer appendix A)

Previously, the health status of a community was usually measured by mortality and morbidity and problems were prioritized for health planning by the magnitude of the problem, by the feasibility of intervention, and by the nature of the population affected. Actions were taken mainly based on the number of people affected(i.e death and sickness), because these data are relatively easy to collect and are available in most countries (Park & Park, 1991).

The definition of morbidity is "any departure, subjective or objectve, from a state of physiological well-being " (Park & Park, 1991). Although morbidity data are very relevant to include in describing the burden of diseases, these data are very difficult to obtain correctly and completely. Collection of morbidity data can only be done by population surveys.

Also, mortality data have some defects. Often they are unable to describe entire story of temporal changes in mortality. Because most deaths are in old age groups, as a consequence, crude and age-adjusted mortality data are dominated by the underlying disease process of the elderly (Centre for Disease Control [CDC], 1986).

The indicator of potential years of life lost (PYLL) is measured up to age 65 by the CDC in United States. This method is relatively easy and often applied with the primary objective being to rank the major causes of mortality, especially among the young.

Since Myanmar has no PYLL study up to now, and due to the low requirement of resources, calculation of PYLL will be beneficial for the country. This information can be submitted to the health planners to be considered as one of the tools in defining health priorities, particularly with respect to finding intervention measures for the prevention of premature mortality in the country.

Due to the demographic and epidemiological transitions (see operational definitions) in the world, health transition is taking place and there are increasing

numbers of non-communicable diseases (Jamison, 1994). But global distribution of deaths associated with communicable diseases still ranks first (WHO, 1995). Remaining causes largely include: injuries, violence, accidents and some non-communicable diseases.

Also, evidence of emerging and re-emerging communicable diseases is found in epidemiological studies in many places (Hughes, 1995). Therefore, a trend study of all diseases is necessary to realize the status of both communicable and non-communicable diseases in the present.

So, it is necessary to collect, compile and analyze cause-specific mortality rates for different diseases in a trend study using an indicator (PYLL) which would take into account the mortality for different diseases to formulate a better tool in deciding priority health problems for subsequent actions. Planning for resource allocation, estimation of burden (magnitude) of diseases, evaluation of cost effectiveness of interventions, identification of required research areas, etc. will, hopefully, be improved by this study in the Union of Myanmar.

3.2. Literature Review

Prohmo and Guest(1994) said, "data from the registration of deaths, including the number, timing and cause of death are still essential in monitoring the health situation of the Thai population". It is the same for Myanmar because of the similar weaknesses in recording.

> Haculinen, Hansluwka, Lopez, and Naika (1986), said that "statistics on causes of death are important and widely used for a number of purposes. They may be employed in explaining trends and differentials in overall mortality, in deciding on priorities for health and the allocation of resources, in designing intervention programs, and in the assessment and monitoring of public health problems and programs". [emphasis added] (p.12).

In this study, the burden of disease is measured by PYLL. It is the determination of years of life lost by each death occurring before a predetermined end point (National Epidemiology Board of Thailand [NEBD], 1987).

A joint paper developed by Kinney and Baker (1993), emphasized the importance of using international comparisons, and the use of years of life lost analysis to highlight the importance of the particular problem as a public health issue.

This measurement has been applied by many persons to different aspects in the past. It has been found that it fits well in the category of social indicators and can help health planners define priorities for the prevention of premature deaths. The ease of calculation and comprehension should facilitate its use, especially in developing countries("National Epidemiological Board of Thailand [NEBD]," 1987).

Due to its advantages, this indicator is also used as an alternative approach to measure effectiveness of interventions. It has medium applicability and a very low cost of calculation. It is regularly used by the CDC to

assess the burden of disease in the United States(Jamison, 1994).

CDC (1986) reported "PYLL and PYLL rates can assist in the performance of three basic public health functions: the establishment of research and resource priorities, the surveillance of temporal trends in premature mortality, and the evaluation of the effectiveness of program interventions." Therefore, we should carry out PYLL measures derived from cause specific mortality data for our health management information system.

3.3 Objectives

3.3.1 General Objective

To find the burden of disease using PYLL as an indicator based on recent best available data as one source of information for the ranking of priorities by health planners.

3.3.2 Specific Objectives

1. To determine the burden of individual disease by a specific indicator (PYLL) depending on best available data.
2. To develop a priority list of diseases, to be used as a source of information in the allocation of resources and choice of research.

3. To determine the vulnerable age groups in the population for prevention of leading causes of mortality.
4. To determine the trend of diseases by cause specific mortality, focusing on two major groups of diseases (Communicable and Non-communicable) .

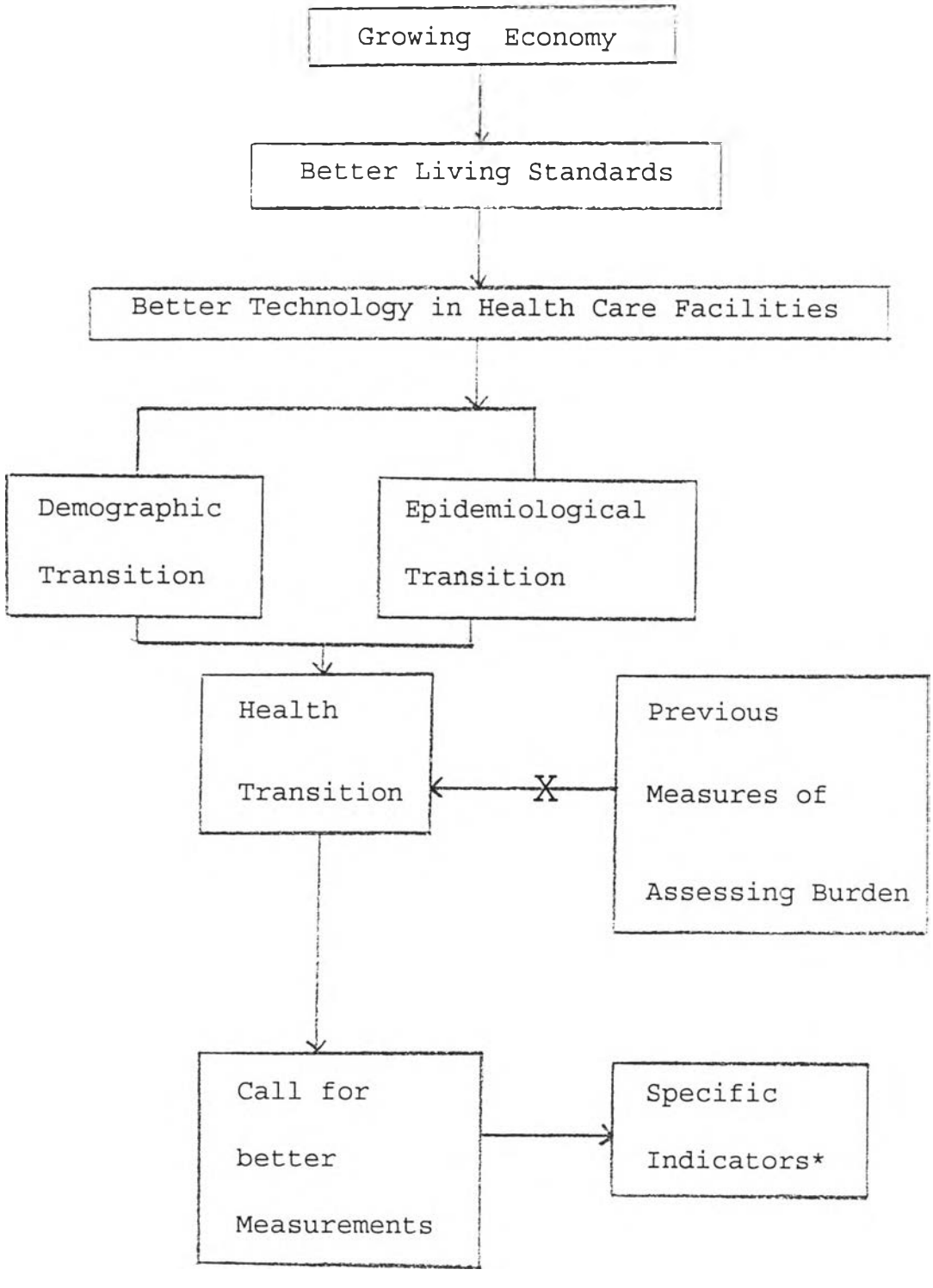
3.4. Research Questions

1. Measurement of the burden of diseases by specific indicators are better than a mere description of the number of deaths, which neglects the importance of age at each death ?

2. Is there an association between the occurrence of diseases in specific community and changes in the demographic pattern ?

3.5. Conceptual Framework

Figure 1.



3.6. Research Methodology

3.6.1 Study Design

Descriptive study with retrospective (Historical) cross sectional design with consideration of incidence (death) cases for data analysis. There is no manipulation on any factor.

3.6.2 Sources of Data

Exhaustive information on cause specific mortality (1987-1993) will be obtained from the published papers of the Ministry of Health and related Ministries.

3.6.3 Study Population

Population of the country from 1987 to 1993.

3.6.4 Data Collection and Instrument

Data collection will be done by the research team with appropriate dummy tables. All available data sources will be explored (e.g. general population and sample surveys, specific disease studies).

Necessary opinion will be sought from experts in the field of demography, economic and vital statistics. CDC criteria of age 0 to 65 will be used in calculation of PYLL.

3.6.5 Data Compilation and Adjustment

It will be done by specific burden of disease model software (Havard Disease Model), epidemiological estimates and all methods relevant to local conditions.

3.6.6 Data Processing

Data processing will be carried out with specific formula in Microsoft Excel.

3.6.7 Dummy Tables

All necessary data will be collected in suitable dummy tables described in Appendix C.

3.6.8 Operational Definitions

Potential Years of Life Lost

It is defined as the number of years of potential life lost by each death occurring before a predetermined end point.

Premature Death

Death occurring before a predetermined end point (life expectancy at birth).

Epidemiological Transition

Jamison (1994) described that Omran (1971) defined, as mortality declines, there is a major shift in the pattern of causes of death from infectious and parasitic diseases to non-communicable diseases.(Jamison, 1994)

Demographic Transition

It is defined as, when mortality from infectious disease declines and partly as a result, fertility decreases

as well. Therefore a major shift occur in the population structure from younger populations to aging ones.

Health Transition

It is defined as changes in health of the community that occur along with demographic and epidemiological transitions.

3.7 Limitations and Practicability

PYLL study is depending on the availability of the age and cause specific deaths in the country. Threre were certain limitations in data collection and compilation due to deficiency of some data bases. "(see chapter 4)"

But development of epidemiological disease models (e.g Havard Global Burden of Disease Model) for different countries solved some problems of data deficiency in Thailand. "(see chapter 2)" Still I need to adjust the data to prevent over or under estimation. "(see chapter 3)"