# INTRODUCTION

The age pattern of mortality in a population encapsulates that population's history of death and disease during the previous three or four generations. It is a reflection of past levels, cohort age patterns, and trends of illness and consequent recovery or death. To the extent that various societies inhabit similar environments, are composed of similar genetic structures and undergo similar sectoral and cultural transformations, they may have related histories of disease and death and therefore similar age patterns of mortality. In their analysis of empirical life tables recorded in developed societies over the past 150 years, Ansley Coale and Paul Demeny identified four distinct patterns of mortality corresponding to geographical areas of Europe: one pattern corresponding to Northern European countries, a second to Southern European countries, a third to Eastern European countries, and a fourth, more heterogeneous, group consisting mainly of Western European countries and oversea populations of Western European stock.[1]

Samuel Preston later demonstrated[2] that these four patterns of mortality are associated with different patterns of causes of death within each geographical region and identified a fifth "non-Western" pattern, consisting almost entirely of Latin American countries, with a different cause of death structure and resultant age pattern of mortality.

Studies of age patterns of mortality in developing countries have been hindered by the lack of reliable data collection systems. In the past 10 years, however, there have been increasing numbers of demographic surveys in developing countries as well as often noticeable improvements in vital registration systems. In addition, new techniques have been developed for estimating childhood mortality and for evaluating the completeness of registration of adult deaths by age and sex, usually in conjunction with census age distributions and/or rates of population growth. Consequently, greater possibility exists for careful analysis of age patterns of mortality in developing countries with the aim of identifying distinct age patterns

and constructing new model life tables which embody those patterns.

Model life tables are not constructed solely for study of age patterns of mortality or disease processes. They are primarily an aid to the estimation of demographic parameters for countries with limited data and for preparation of population projections. Many of the most useful methods for estimating birth and death rates in countries with poor data rely on knowledge of, or assumptions about, the age pattern of mortality. Population projections call for knowledge of base-year age-specific mortality rates as well as assumptions of how mortality might change by age and sex. Models provide examples of typical age patterns of mortality change. The most commonly used set of model life tables at present, those of Coale and Demeny, were based almost exclusively on European populations. Recent evidence that age patterns of death may differ systematically from those of Coale and Demeny's four groups suggests the need for a new set of model life tables which will be more applicable to demographic analysis in developing countries.

In this publication, such model age patterns of mortality for developing countries are presented. The models have been constructed after careful analysis and evaluation of available data on deaths and population by age and sex, application of various demographic techniques for evaluating such data, checks for internal and external consistency, rejection of data for populations in which reliability cannot be verified, and study of age patterns for all populations in which the data appear to be accurate or for which reliable adjustments can be made. The life tables constructed from this "reliable" data are of course not fully representative of developing country experience. However, with the exception of sub-Saharan Africa, there are inputs from all major regions and from a relatively wide range of mortality levels. The chapters which follow describe the sources of data, the methodology for construction of the new tables, the age patterns themselves and approaches to their use. The five annexes present the model life tables, single-year mortality under age 5, useful for application of Brass-type procedures for estimation of early-age mortality, five- and 10-year life table survival rates, and methodological descriptions of the input data.

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[1] A. J. Coale and P. Demeny, *Regional Model Life Tables and Stable Populations* (Princeton, N. J., Princeton University Press, 1966).

[2] S. H. Preston, *Mortality Patterns in National Populations* (New York, Academic Press, 1976).