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Healthy life expectancy changes in Thailand, 2002–2007

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ABSTRACT

We investigate links between increasing longevity and health status in Thailand. Using data from 2002 and 2007 national surveys of the elderly, healthy life expectancies at older ages were estimated. Change depended on health indicator, gender and age. Self-reported health and self-care disability showed expansion of morbidity. Mobility disability change indicated compression but a wording change means this may be an artefact. We compare these findings with the 1990 and 2010 results of the Global Burden of Disease study. Using HLE based on disease prevalence, the GBD found that Thailand experienced small longevity gains and morbidity compression. Our findings suggest these results should be treated with caution, as, since 2000, Thailand has introduced universal health care.

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1. Introduction and review

Virtually all countries in the world are embarked upon the first demographic transition which sees populations move from regimes of high fertility and mortality to regimes of low fertility and mortality (Bongaarts and Bulateo, 1999). The transition leads inevitably to population ageing, driven at first by fertility decline which shrinks the population at younger ages but at a later stage by mortality decline, particularly at older ages (Bongaarts, 2006). These mortality declines mean continuing increases in life expectancy.

With increasing longevity comes a penalty: older people are at a higher risk of ill-health, disability and frailty. A key question facing societies and governments, therefore, is whether the further years of life are healthy or not. Table 1 indicates that years lost to disability in the 187 countries covered in the Global Burden of Disease study (Salomon et al., 2012) have increased by 0.8 years between 1990 and 2010, with healthy life expectancy increasing less than total life expectancy. A slightly higher percentage of life was spent in disability in 2010 than in 1990. So, the world as a whole is experiencing morbidity expansion.

In this paper we are interested in the situation in Thailand, which differs from the world average in several respects. Both life expectancy and healthy life expectancy are higher, as would be expected for a country experiencing fast economic growth under a relatively stable and democratic government. However, these

gains are lower than in most developed and emerging economies. Years lost to disability (YLD) are close to the world average both absolutely and as a percentage of life expectancy. However, the YLD measure decreases by a small amount so that we can say that Thailand experienced morbidity compression between 1990 and 2010. These somewhat contradictory results from the GBD international study suggest that it is of interest to examine the nature of recent healthy life expectancy change in Thailand, using national data sources.

The research question we wish to pose is as follows: has the increase in life expectancy in Thailand been accompanied by an increase or decrease in health problems? In order to answer the question, we investigate changes in healthy life expectancy in Thailand between 2002 and 2007 when national surveys of the activities of daily living (ADLs) and self-rated health of the Thai elderly population are available. In order to achieve the aim, this paper is organized into four sections. In this first section we review for Thailand the impacts of the demographic transition, population ageing and trends in healthy life expectancy. The methodology of healthy life expectancy computation is discussed. In the second section we describe the data and methods used in the analysis. The results from our healthy life expectancy calculations are presented in a third section. The paper finishes with discussion of the findings, a further review of Thailand's position compared with other countries and some observations about the policy implications of our research results.

1.1. The demographic transition and population ageing

During the past forty years, Thailand has experienced significant fertility decline. The total fertility rate has declined from over

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6 births per woman in the mid-1960s to 1.8 births per woman in the period 2005–2010 (United Nations, 2008). In the coming decades, besides the lowering of the growth rate, a major demographic consequence of this rapid fertility reduction will be an inevitable relative ageing of the population.

However, the size of the elderly population will increase even more dramatically than implied by recent fertility falls and mortality decreases, because of the transition to old age of past high birth cohorts. The proportion of the population in their elderly years (60+) is anticipated to increase from 9 per cent in 2000 to 26 per cent in the year 2050 (United Nations, 2008).

In 2000–2005, the life expectancies of Thai men and women at age 65 were 13.5 and 15.6 years and at age 80 were 5.7 years and 6.4 years respectively. Women live longer than men in old age and form a majority among the elderly. Life expectancy gains at old age have continued in the last decade. Table 2 shows the life expectancies for Thailand computed from mortality and population statistics for 2002 and 2007 for ages 60 to 80+. Both men and women improve their remaining life expectancy, with women experience more favorable trends than men. Another important feature of population ageing in Thailand is the increasing proportion of the oldest old, the population aged 80 years and over (UNFPA, 2006). Lower mortality rates up to age 80 mean that more elderly persons will live to age 80 and beyond.

How do we reconcile these impressive gains in 2002–2007 in the life expectancy of Thailand's older population with the more modest gains for life expectancy at birth between 1990 and 2010 (Table 1)? We suggest that the mortality experience at younger ages has been poor compared with that at older ages. Thailand

Table 1

Life expectancy indicators, 1990 and 2010, World and Thailand.
Source: computed from results in Salomon et al. (2012), pp. 2149–2152.

Population, Indicator	1990	2010	Change
World			
Life expectancy (LE)	65.8	71.1	5.3
Healthy life expectancy (HLE)	56.3	60.7	4.5
Years lost to disability (YLD)	9.6	10.4	0.8
YLD as % of LE	14.5	14.6	0.1
Thailand			
Life expectancy (LE)	72.5	74.2	1.8
Healthy life expectancy (HLE)	62.0	64.1	2.1
Years lost to disability (YLD)	10.5	10.2	–0.4
YLD as % of LE	14.5	13.7	–0.8

Note: World = 187 countries (including Thailand).

Table 2

Life expectancies for Thailand, 2002 and 2007.

Sex, Ages	Life Expectancy 2002	Life Expectancy 2007	Change in Life Expectancy
Males			
60	19.4	20.2	0.8
65	15.8	16.8	0.9
70	12.6	13.7	1.1
75	9.8	10.9	1.1
80+	7.4	8.5	1.1
Females			
60	21.1	22.8	1.7
65	17.1	18.9	1.9
70	13.3	15.3	2.0
75	10.2	12.0	1.8
80+	7.6	9.2	1.6

Note: computed using mortality and population statistics produced by National Economic and Social Development Board, Thailand, Bangkok. Details of the computation are given in Karcharnubarn (2011). LE=life expectancy at birth.

experienced a serious HIV/AIDS epidemic in the 1980s and 1990s (Gould, 1993), which increased mortality among the age group 20–39. As the epidemic is controlled through public health campaigns changing risky behaviors and as mortality is reduced through use of anti-retroviral drugs, we would expect life expectancy gains in the 2000s to be better than in the 1990s.

Increasing longevity can also result in rising medical costs and increasing demands for health services, since older people are typically more vulnerable to chronic diseases and disability (World Health Organization, 1998; Breakwell and Bajekal, 2006). Moreover, population ageing in developing countries is taking place at much lower levels of socio-economic development than was the case in developed countries (Knodel et al., 1999). The continuing growth of the elderly population has made it a matter of increasing urgency to look for ways to maintain their health and to help them cope independently, retaining their quality of their life. It is important to know whether increased survival chances and longer life are associated with continuing good health and longer healthier life or not.

1.2. Healthy life expectancy

Healthy life expectancy has become a key indicator in studying health status at older ages (Breakwell and Bajekal, 2006; Crimmins et al., 1989). However, good health implies not only survival, but also a certain quality of life. While life expectancy quantifies average length of life in a stationary population, with the influence of current age structure removed, healthy life expectancy represents the average lifetime in different health states and makes possible evaluation of the quality of life with respect to health (Jagger et al., 2007). Longer life at older ages may involve more healthy years as well as more unhealthy years.

Health is a multidimensional phenomenon which needs several indicators to describe. Different indicators show varying levels and trends in health. To understand the dynamics of health, self-rated health has been used as a general health indicator (Van Oyen et al., 2008). It captures the broad concept of health and quality of life. It also covers some health states, such as depression, that cannot be measured without using a specific battery of questions. Self-rated health is also easy to use because it can be obtained using one question which is easy to interpret. Other survey questions measure different disabilities in the elderly population. Disability measures are useful because they relate to the need for social care services (Cambois et al., 2008; Jitapunkul and Chayovan, 2000). Most researchers measure disability by asking questions about activities in daily living (ADL), which include the ability to dress, use the toilet, eat and bathe, and also about instrumental ADLs which refer to the ability to clean house, prepare food and shop (Reynolds and Silverstein, 2003).

Discussion about the consequences of increasing life expectancy for older people is linked to uncertainty about the future burden of morbidity. There are three different hypotheses that describe changes in health status. Fries (1980) has proposed that if the onset of health problems, morbidity or disability is postponed and the postponement is greater than the increase in life expectancy, then cumulative life time with morbidity will decrease. This is known as the compression of morbidity hypothesis. Gruenberg (1977), on the other hand, suggested that the fall in mortality has not been accompanied by a decline in morbidity but is a result of increases in the life expectancy of people with poor health. This assumption is known as the expansion of morbidity hypothesis. A third hypothesis, proposed by Manton (1982), is that there is a dynamic equilibrium, in which the increase in morbidity is counterbalanced by a decrease in severity. These health hypotheses can be represented as different relative shifts in the prevalence and survival curves by age of the population studied.

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