Institute of Policy Studies

Redefining Ageing

Yap Mui Teng and Chua Chun Ser
IPS Senior Research Fellow and
IPS Research Assistant

Background

Life expectancy has been rising in Singapore over the years. According to Sanderson and Scherbov (2008, 3), increases in life expectancy is associated with improvements in health. This article examines the trend of increasing life expectancy and the idea of re-defining old age. Sixty could be the new 50: elderly persons today may not be as physically "old" as society perceives them to be. This re-definition of old age based on the idea of "prospective age" proposed by Sanderson and Scherbov has implications for resource allocation and old age support.

Definitions of Old Age

Every society has its definition of old age that is influenced by its culture, economy, and public health (Sanderson & Scherbov, 2008, p.7). Most developed countries as well as international organisations such as the United Nations (UN) and the World Health Organization (WHO) define demographic groups aged 60 years and above or 65 years and above as "older persons" or the "elderly" (UN, 2002, p.41). In Singapore, the elderly are persons aged 65 years and above. As Table 1 shows, the elderly population has grown significantly over the last four decades.

Table 1: Number and Proportion of Resident Population Aged 65 and Over, Singapore, 1980-2010

	1980	1990	2000	2010
Number (000s)	111.9	164.3	235.2	338.3
Proportion (%)	4.9	6.0	7.2	9.0

Source: Population Trends 2011

Elderly Singaporeans are also living longer. The proportion aged 80 and older has grown from 0.5% to 1.8% over the same period. There are more centenarians (those aged 100 and over) in the population, with the number increasing more than three-fold, from 232 to 724, just over the 2000-2010 decade.

Trends in Life Expectancy

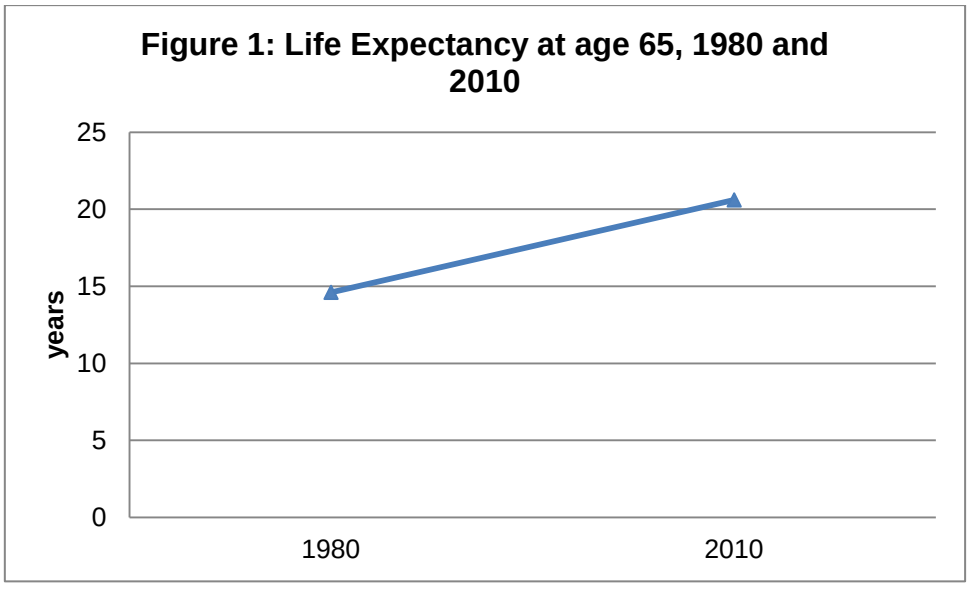
Table 2 (below) shows that there have been substantial declines in mortality among older persons in Singapore.

Table 2: Age-specific Mortality Rates, 1980-2010 (per '000 residents)

Age Group	1980	1990	2000	2010
65–69	33.4	24.2	19.6	12.5
70–74	48.3	38.4	29.1	20.7
75–79	74.1	56.2	50.8	34.9
80–84	109.0	86.0	81.3	60.4
85 and above	165.0	133.6	137.5	121.5

Source: Population Trends 2011

Accordingly, life expectancy at ages 65 and older has also risen. As Figure 1 (below) shows, a person aged 65 in 2010 can, on average, expect to live another 20.6 years. This compares to 14.6 years in 1980. In fact, the average 65 year-old in 2010 has the prospect of living almost as many years as the average 55 year-old did in 1980 (see Annex A). Based on this "remaining years of life" or "prospective age" concept introduced by Sanderson and Scherbov (2008), it may be argued said that 65 is the new 55 in Singapore!



Source: Abridged Life Tables computed by authors (Annex A).

Chronological Age and Prospective Age

According to Sanderson and Scherbov, "the concept of age has become more complicated because life expectancy has increased and people at each age have had progressively more remaining years of life" (p.3). Using prospective age instead of chronological age is a way to implement a population-based concept of old age that takes improvements in health and life expectancy into account. The conventional measure looks at ageing from the perspective of the number of years lived, while the new measure looks at ageing from the perspective of the number of years left to live (p.8). Today, a 40 year-old may be considered to be in the prime of his or her life. The death of a 60 year-old may also be considered to be premature.

Sanderson and Scherbov also suggest the possibility of using a remaining life expectancy (ReLE) of either 10 or 15 years to demarcate the boundary of old age (p 9). Taking the upper limit of ReLE as 15 years, old age in 1980 could be said to have begun at about age 65 whereas in 2010, it is close to 75 years.

Limitations

Future research could examine changes in the life expectancy and prospective ages by using complete life tables computed for single years of age instead of five-year age groups as in the abridged life tables shown in Annex A. At the moment, information on complete life tables are only available from the Department of Statistics for the years 2003 to 2010. Further, the final age category could be extended to 100 years and over instead of 85.

Considerations

Trends of higher life expectancy and a different definition of ageing suggests a need to change the perception of older persons, aside from considering the implications on health care, labour force and the economy. In re-examining the conventional benchmark of 65 years and considering the implication of prospective ages, issues that arise from an ageing population may be postponed to a future date when a substantial proportion of the population are 75 years and older. This could possibly be ten years hence, when the generation of baby boomers, a substantial proportion of the Singapore's resident population, reach age 75 years.

If old age is defined as 75 years and above, resources could also be re-allocated to meet other needs by the population. Resources could be re-allocated to meet higher future demands for step-down care and medical treatment for other diseases.

As there will be fewer dependents for the working population to support, demographic indicators such as dependency ratios and potential support ratios will also need to be changed.

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References

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United Nations (UN). (2002). *Methods for Estimating Adult Mortality*. Population Division. Department of Economic and Social Affairs. United Nations Secretariat. Accessed via http://www.un.org/esa/population/publications/adultmort/Complete.pdf. 2 September 2011.

ANNEX

1980 Abridged Life Table

	Probability of dying between ages x and x+n	Number of survivors at exact age x	Number of deaths between ages x and x+n	Average number of years lived between ages x and x+n	Total person-years lived at age x and over	Expectation of life from age x
Age	Nqx	lx	ndx	nLx	Tx	ex
under 1*	0.0080	100,000	797	99,442	7,274,344	72.7
1-4	0.0024	99,203	238	396,337	7,174,902	72.3
5-9	0.0010	98,965	99	494,580	6,778,564	68.5
10-14	0.0015	98,866	148	493,962	6,283,985	63.6
15-19	0.0030	98,718	296	492,852	5,790,023	58.7
20-24	0.0045	98,423	442	491,008	5,297,171	53.8
25-29	0.0045	97,981	440	488,804	4,806,163	49.1
30-34	0.0055	97,541	535	486,366	4,317,359	44.3
35-39	0.0065	97,006	628	483,457	3,830,993	39.5
40-44	0.0114	96,377	1102	479,131	3,347,536	34.7
45-49	0.0222	95,275	2120	471,077	2,868,404	30.1
50-54	0.0363	93,155	3384	457,317	2,397,328	25.7
55-59	0.0620	89,771	5567	434,938	1,940,011	21.6
60-64	0.0989	84,204	8324	400,209	1,505,073	17.9
65-69	0.1541	75,880	11695	350,160	1,104,864	14.6
70-74	0.2155	64,184	13830	286,345	754,704	11.8
75-79	0.3126	50,354	15740	212,419	468,358	9.3
80-84	0.4283	34,614	14825	136,006	255,939	7.4
85+	1	19,789	19789	119,933	119,933	6.1

*Calculations based on data sourced from Population Trends 2011 by the Singapore Department of Statistics. Published figures were rounded up to the nearest decimal point.

2010 Abridged Life Table

	Probability of dying between ages x and x+n	Number of survivors at exact age x	Number of deaths between ages x and x+n	Average number of years lived between ages x and x+n	Total person-years lived at age x and over	Expectation of life from age x
Age	nqx	lx	ndx	nLx	Tx	ex
under 1*	0.00200	100,000	200	99,860	8,247,602	82.5
1-4	0.00040	99,800	40	399,121	8,147,742	81.6
5-9	0.00050	99,760	50	498,677	7,748,621	77.7
10-14	0.00050	99,710	50	498,427	7,249,944	72.7
15-19	0.00100	99,661	100	498,054	6,751,517	67.7
20-24	0.00150	99,561	149	497,432	6,253,463	62.8
25-29	0.00150	99,412	149	496,686	5,756,031	57.9
30-34	0.00150	99,263	149	495,942	5,259,345	53.0
35-39	0.00300	99,114	297	494,828	4,763,403	48.1
40-44	0.00499	98,817	493	492,853	4,268,576	43.2
45-49	0.00846	98,324	832	489,540	3,775,723	38.4
50-54	0.01489	97,492	1451	483,831	3,286,182	33.7
55-59	0.02225	96,040	2137	474,860	2,802,351	29.2
60-64	0.03585	93,904	3366	461,103	2,327,491	24.8
65-69	0.06061	90,538	5487	438,970	1,866,388	20.6
70-74	0.09841	85,050	8370	404,328	1,427,418	16.8
75-79	0.16050	76,681	12307	352,637	1,023,089	13.3
80-84	0.26238	64,374	16890	279,643	670,453	10.4
85+	1	47,483	47483	390,810	390,810	8.2

*Calculations based on data sourced from Population Trends 2011 by the Singapore Department of Statistics. Published figures were rounded up to the nearest decimal point.

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If you have comments or feedback, please email ips.enews@nus.edu.sg