

Gender Differences in Active Life Expectancy in Singapore 2009

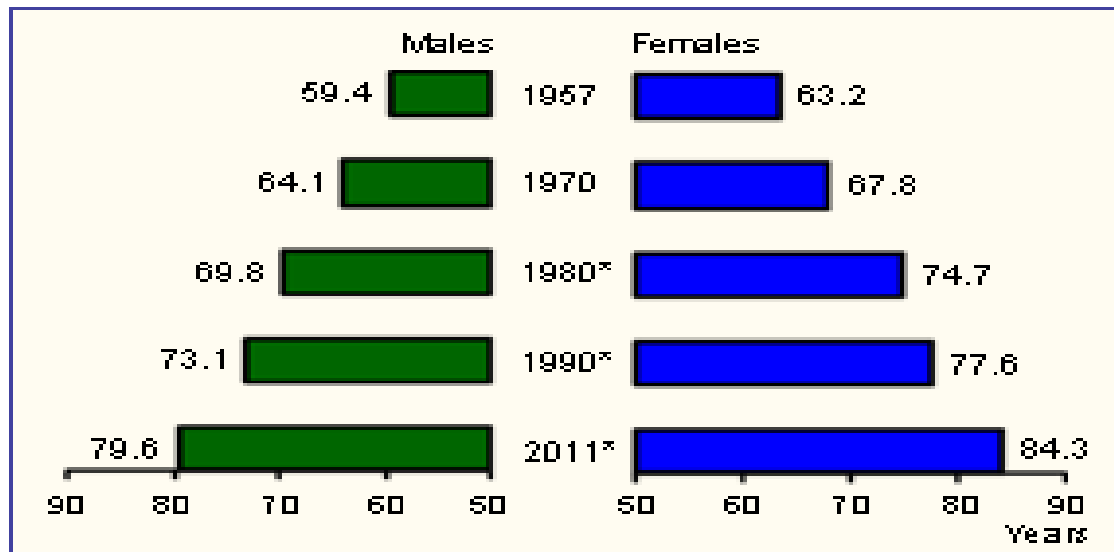
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Research Objectives

- Examines how the definition of prevalence can influence the reporting of healthy life expectancy
- To examine the possible changes to active life expectancy by gender for Singapore
- To examine active life expectancy by ethnicity for Singapore

Background

- Life Expectancy in Singapore
 - 79.6, Males at birth; 84.3, Females at birth
 - 18.2, Males at 65; 21.8, Females at 65



Previous Work

- “Measuring Old Age Health Expectancy in Singapore”, *Statistics Singapore Newsletter*, (July 2000)
- “Changes in the Prevalence of Mobility Limitations and Mobile Life Expectancy of Older Adults in Singapore, 1995-2005”, *J of Aging and Health*, (2010)
- “Gender Differences in Health and Health Expectancies of Older Adults in Singapore: An Examination of Diseases, Impairments, and Functional Disabilities”, *J Cross Cultural Gerontology*, (2011)

Data and Methodology

- Prevalence rates were calculated from Social Isolation, Health and Lifestyles Survey 2009
 - Activities of Daily Living
 - Instrumental Activities of Daily Living
- Mortality schedule by ethnicity for the Singapore resident population in 2009 was utilized
- Calculation of Active Life Expectancy based on Sullivan Method

ADLs with at least one difficulty

Age	Males			Females		
	Total Life Expectancy	Expected life free of limitation, ADLs	Expected life with at least one difficulty, ADLs	Total Life Expectancy	Expected life free of limitation, ADLs	Expected life with at least one difficulty, ADLs
60-64	21.8	19.9 (19.7-20.2)	1.9 (1.6-2.2)	25.5	20.6 (20.2-20.9)	5.0 (4.6-5.3)
65-69	17.8	16.0 (15.7-16.3)	1.8 (1.6-2.1)	21.2	16.2 (15.8-16.6)	5.0 (4.6-5.3)
70-74	14.2	12.4 (12.1-12.7)	1.8 (1.5-2.1)	17.1	12.2 (11.8-12.5)	4.9 (4.6-5.3)
75-79	11.0	9.2 (8.9-9.5)	1.8 (1.6-2.1)	13.4	8.5 (8.1-8.8)	4.9 (4.5-5.3)
80-84	8.3	6.6 (6.2-6.9)	1.8 (1.4-2.1)	10.2	5.4 (5.0-5.8)	4.7 (4.3-5.1)
85 and older	6.1	4.4 (4.0-4.8)	1.7 (1.3-2.1)	7.4	3.2 (2.8-3.6)	4.2 (3.8-4.6)

ADLs with at least one, lot of and unable to perform

Age	Males			Females		
	Total Life Expectancy	Expected life free of severe limitation, ADLs	Expected life with severe limitation, ADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs	Expected life with severe limitation, ADLs
60-64	21.8	20.8 (20.6-21.0)	1.0 (0.8-1.2)	25.5	23.2 (22.9-23.5)	2.3 (2.1-2.6)
65-69	17.8	16.8 (16.6-17.0)	1.0 (0.8-1.2)	21.2	18.8 (18.5-19.1)	2.3 (2.0-2.6)
70-74	14.2	13.2 (13.0-13.4)	1.0 (0.8-1.2)	17.1	14.8 (14.5-15.1)	2.3 (2.0-2.6)
75-79	11.0	10.0 (9.8-10.3)	1.0 (0.7-1.2)	13.4	11.1 (10.8-11.4)	2.3 (2.0-2.6)
80-84	8.3	7.3 (7.0-7.6)	1.0 (0.7-1.3)	10.2	7.9 (7.5-8.2)	2.3 (2.0-2.6)
85 and older	6.1	5.1 (4.7-5.5)	1.0 (0.6-1.3)	7.4	5.3 (4.9-5.7)	2.1 (1.7-2.5)

ADLs and IADLs with at least one difficulty

Age	Males			Females		
	Total Life Expectancy	Expected life free of limitation, ADLs and IADLs	Expected life with at least one difficulty, ADLs and IADLs	Total Life Expectancy	Expected life free of limitation, ADLs and IADLs	Expected life with at least one difficulty, ADLs and IADLs
60-64	21.8	19.4 (19.1-19.6)	2.5 (2.2-2.7)	25.5	18.2 (17.8-18.6)	7.3 (7.0-7.7)
65-69	17.8	15.4 (15.1-15.7)	2.4 (2.1-2.7)	21.2	13.9 (13.5-14.2)	7.3 (6.9-7.7)
70-74	14.2	11.8 (11.5-12.1)	2.4 (2.1-2.7)	17.1	9.9 (9.6-10.3)	7.2 (6.8-7.5)
75-79	11.0	8.6 (8.3-8.9)	2.4 (2.1-2.7)	13.4	6.4 (6.0-6.7)	7.0 (6.7-7.4)
80-84	8.3	6.0 (5.6-6.3)	2.4 (2.0-2.8)	10.2	3.5 (3.2-3.9)	6.6 (6.3-7.0)
85 and older	6.1	3.9 (3.4-4.3)	2.2 (1.8-2.7)	7.4	1.7 (1.3-2.0)	5.7 (5.4-6.1)

ADLs and IADLs with at least one, lot of and unable to perform

Age	Males			Females		
	Total Life Expectancy	Expected life free of severe limitation, ADLs and IADLs	Expected life with severe limitation, ADLs and IADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs and IADLs	Expected life with severe limitation, ADLs and IADLs
60-64	21.8	20.5 (20.2-20.7)	1.3 (1.1-1.5)	25.5	22.1 (21.8-22.4)	3.4 (3.1-3.8)
65-69	17.8	16.5 (16.3-16.7)	1.3 (1.1-1.6)	21.2	17.8 (17.4-18.1)	3.4 (3.1-3.8)
70-74	14.2	12.9 (12.6-13.1)	1.3 (1.1-1.6)	17.1	13.7 (13.4-14.1)	3.4 (3.0-3.7)
75-79	11.0	9.7 (9.4-10.0)	1.3 (1.1-1.6)	13.4	10.0 (9.7-10.4)	3.4 (3.0-3.7)
80-84	8.3	7.0 (6.7-7.3)	1.3 (1.0-1.6)	10.2	6.9 (6.5-7.3)	3.3 (2.9-3.6)
85 and older	6.1	4.8 (4.4-5.2)	1.3 (0.9-1.6)	7.4	4.5 (4.1-5.0)	2.9 (2.4-3.3)

Active Life Expectancy and Ethnicity

- Examines the possibility of ethnic differences among the age group 60 and older
- Life tables by ethnicity are not available, the life expectancies were calculated using the mortality schedule for 2009.
- Analysis ends at age 84 as the life expectancies generated after 85 were not useful for the analysis here.

ADLs with at least one difficulty

Age	Chinese			Malay			Indian		
	Total Life Expectancy	Expected life free of limitation, ADLs	Expected life with at least one difficulty, ADLs	Total Life Expectancy	Expected life free of limitation, ADLs	Expected life with at least one difficulty, ADLs	Total Life Expectancy	Expected life free of limitation, ADLs	Expected life with at least one difficulty, ADLs
60-64	20.6	18.8 (18.6-19.0)	1.8 (1.6-2.0)	18.4	15.9 (15.5-16.3)	2.5 (2.1-2.9)	19.8	17.2 (16.7-17.8)	2.6 (2.0-3.1)
65-69	16.3	14.5 (14.4-14.7)	1.7 (1.5-1.9)	14.4	11.9 (11.5-12.3)	2.5 (2.1-2.9)	15.8	13.3 (12.7-13.9)	2.5 (1.9-3.1)
70-74	12.2	10.5 (10.4-10.7)	1.6 (1.4-1.8)	10.8	8.3 (7.9-8.8)	2.5 (2.1-2.9)	11.9	9.8 (9.3-10.3)	2.1 (1.6-2.7)
75-79	8.2	6.7 (6.5-6.9)	1.5 (1.3-1.7)	7.5	5.4 (5.0-5.8)	2.1 (1.7-2.5)	8.1	6.4 (5.9-6.8)	1.7 (1.3-2.2)
80-84	4.4	3.3 (3.1-3.5)	1.1 (0.9-1.3)	4.1	2.6 (2.2-3.0)	1.5 (1.2-1.9)	4.3	3.2 (2.8-3.6)	1.1 (0.6-1.5)

ADLs with at least one, lot of and unable to perform

Age	Chinese			Malay			Indian		
	Total Life Expectancy	Expected life free of severe limitation, ADLs	Expected life with severe limitation, ADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs	Expected life with severe limitation, ADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs	Expected life with severe limitation, ADLs
60-64	20.6	19.8 (19.7-20.0)	0.8 (0.7-0.9)	18.4	16.8 (16.5-17.2)	1.5 (1.2-1.9)	19.8	18.6 (18.2-19.1)	1.2 (0.7-1.6)
65-69	16.3	15.5 (15.4-15.6)	0.8 (0.6-0.9)	14.4	12.9 (12.6-13.3)	1.5 (1.1-1.8)	15.8	14.6 (14.2-15.1)	1.2 (0.7-1.6)
70-74	12.2	11.4 (11.3-11.6)	0.7 (0.6-0.9)	10.8	9.3 (9.0-9.7)	1.5 (1.1-1.8)	11.9	11.0 (10.6-11.4)	0.9 (0.5-1.3)
75-79	8.2	7.5 (7.4-7.7)	0.7 (0.5-0.8)	7.5	6.3 (6.0-6.6)	1.2 (0.9-1.5)	8.1	7.5 (7.1-7.8)	0.7 (0.3-1.0)
80-84	4.4	3.3 (3.1-3.5)	1.1 (0.9-1.3)	4.1	2.6 (2.2-3.0)	1.5 (1.2-1.9)	4.3	3.2 (2.8-3.6)	1.1 (0.6-1.5)

ADLs and IADLs with at least one difficulty

Age	Chinese			Malay			Indian		
	Total Life Expectancy	Expected life free of limitation, ADLs and IADLs	Expected life with at least one difficulty, ADLs and IADLs	Total Life Expectancy	Expected life free of limitation, ADLs and IADLs	Expected life with at least one difficulty, ADLs and IADLs	Total Life Expectancy	Expected life free of limitation, ADLs and IADLs	Expected life with at least one difficulty, ADLs and IADLs
60-64	20.6	18.8 (18.6-19.0)	1.8 (1.6-2.0)	18.4	15.9 (15.5-16.3)	2.5 (2.1-2.9)	19.8	17.2 (16.6-17.8)	2.6 (2.0-3.2)
65-69	16.3	14.5 (14.3-14.7)	1.8 (1.6-2.0)	14.4	11.9 (11.5-12.3)	2.5 (2.1-2.9)	15.8	13.3 (12.7-13.9)	2.5 (1.9-3.1)
70-74	12.2	10.5 (10.3-10.7)	1.7 (1.5-1.9)	10.8	8.3 (7.9-8.7)	2.5 (2.1-2.9)	11.9	9.8 (9.3-10.3)	2.1 (1.6-2.6)
75-79	8.2	6.7 (6.5-6.9)	1.5 (1.3-1.7)	7.5	5.4 (5.0-5.8)	2.1 (1.7-2.5)	8.1	6.4 (5.9-6.9)	1.7 (1.2-2.2)
80-84	4.4	3.3 (3.1-3.5)	1.1 (0.9-1.3)	4.1	2.6 (2.2-3.0)	1.5 (1.1-1.9)	4.3	3.2 (2.8-3.6)	1.1 (0.7-1.5)

ADLs and IADLS with at least one, lot of and unable to perform

Age	Chinese			Malay			Indian		
	Total Life Expectancy	Expected life free of severe limitation, ADLs and IADLs	Expected life with severe limitation, ADLs and IADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs and IADLs	Expected life with severe limitation, ADLs and IADLs	Total Life Expectancy	Expected life free of severe limitation, ADLs and IADLs	Expected life with severe limitation, ADLs and IADLs
60-64	20.6	18.8 (18.6-19.0)	1.8 (1.6-2.0)	18.4	15.9 (15.5-16.3)	2.5 (2.1-2.9)	19.8	17.2 (16.6-17.8)	2.6 (2.0-3.2)
65-69	16.3	14.5 (14.3-14.7)	1.8 (1.6-2.0)	14.4	11.9 (11.5-12.3)	2.5 (2.1-2.9)	15.8	13.3 (12.7-13.9)	2.5 (1.9-3.0)
70-74	12.2	10.5 (10.3-10.7)	1.7 (1.5-1.9)	10.8	8.3 (7.9-8.8)	2.5 (2.0-2.9)	11.9	9.8 (9.3-10.3)	2.1 (1.6-2.6)
75-79	8.2	6.7 (6.5-6.9)	1.5 (1.3-1.7)	7.5	5.4 (5.0-5.8)	2.1 (1.7-2.5)	8.1	6.4 (5.9-6.9)	1.7 (1.2-2.2)
80-84	4.4	3.3 (3.1-3.5)	1.1 (0.9-1.3)	4.1	2.6 (2.2-3.0)	1.5 (1.1-1.9)	4.3	3.2 (2.8-3.6)	1.1 (0.7-1.5)

Proportions, ADLs

ADL have at least one difficulty

Age	Proportion Expected life free of limitation, ADLs (Chinese)	Proportion Expected life free of limitation, ADLs (Malay)	Proportion Expected life free of limitation, ADLs (Indian)
60-64	91.2	86.3	87.1
65-69	89.4	82.5	84.1
70-74	86.7	77.1	82.2
75-79	81.5	71.5	78.5
80-84	75.2	63.0	75.1

ADL have at least one, lot of and unable to perform

Age	Proportion Expected life free of severe limitation ADLs (Chinese)	Proportion Expected life free of severe limitation ADLs (Malay)	Proportion Expected life free of severe limitation ADLs (Indian)
60-64	96.1	91.7	94.0
65-69	95.2	89.8	92.7
70-74	94.0	86.4	92.3
75-79	91.7	83.9	91.9
80-84	75.2	63.0	75.1

Proportions, ADLs and IADLs

ADLs and IADLs have at least one difficulty

Age	Proportion Expected life free of difficulty ADLs and IADLs (Chinese)	Proportion Expected life free of difficulty ADLs and IADLs (Malay)	Proportion Expected life free of difficulty ADLs and IADLs (Indian)
60-64	91.3	86.4	86.9
65-69	89.0	82.6	84.2
70-74	86.1	76.9	82.4
75-79	81.7	72.0	79.0
80-84	75.0	63.4	74.4

ADLs and IADLs have at least one, lot of and unable to perform

Age	Proportion Expected life free of severe limitation ADLs and IADLs (Chinese)	Proportion Expected life free of severe limitation ADLs and IADLs (Malay)	Proportion Expected life free of severe limitation ADLs and IADLs (Indian)
60-64	91.3	86.2	86.9
65-69	89.0	82.7	84.2
70-74	86.1	77.2	82.4
75-79	81.7	71.5	79.0
80-84	75.0	63.5	74.4

Policy Implications

- Continual employment after 62
 - Likelihood and success of uptake of opportunities
- Provision of care resources in Singapore
- Gender and Ethnic Differences suggest the need for continue surveillance of these trends