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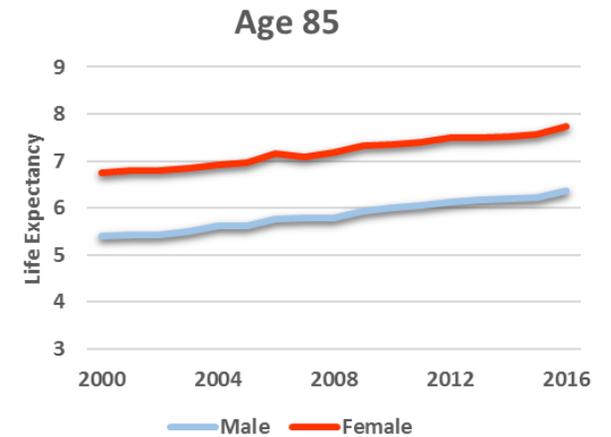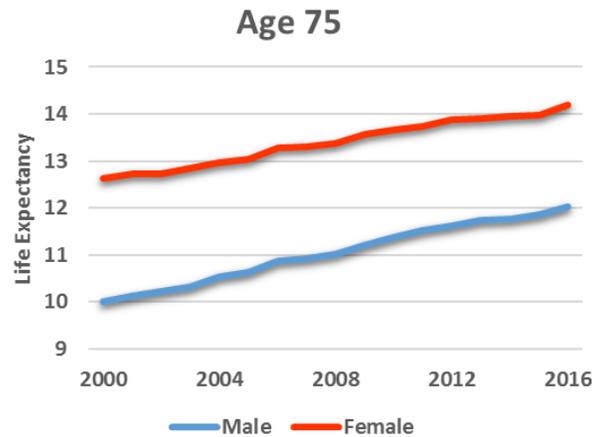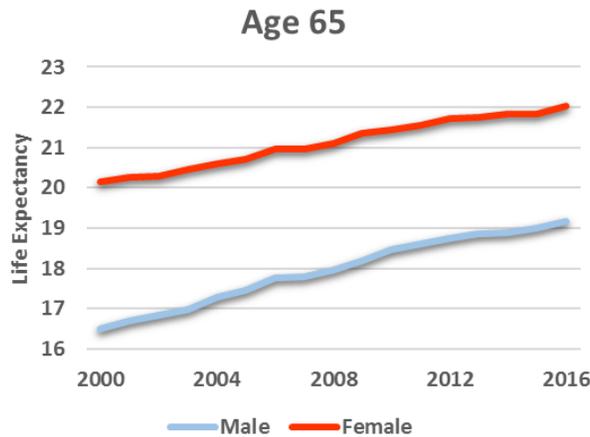
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# Old Age Security (OAS) Program Mortality Experience Fact Sheet

## Life Expectancy at Ages 65, 75 and 85

For both male and female OAS beneficiaries, life expectancy has continually increased since 2000. For males age 65, 75 and 85, life expectancy has increased from 16.5 years, 10.0 years and 5.4 years in 2000 to 19.2 years, 12.0 years and 6.4 years in 2016, respectively. Similarly, for female OAS beneficiaries age 65, 75 and 85, life expectancy has increased from 20.1 years, 12.6 years and 6.7 years in 2000 to 22.0 years, 14.2 years, and 7.7 years in 2016, respectively.

**Life Expectancy of OAS Beneficiaries (without future mortality improvements)**

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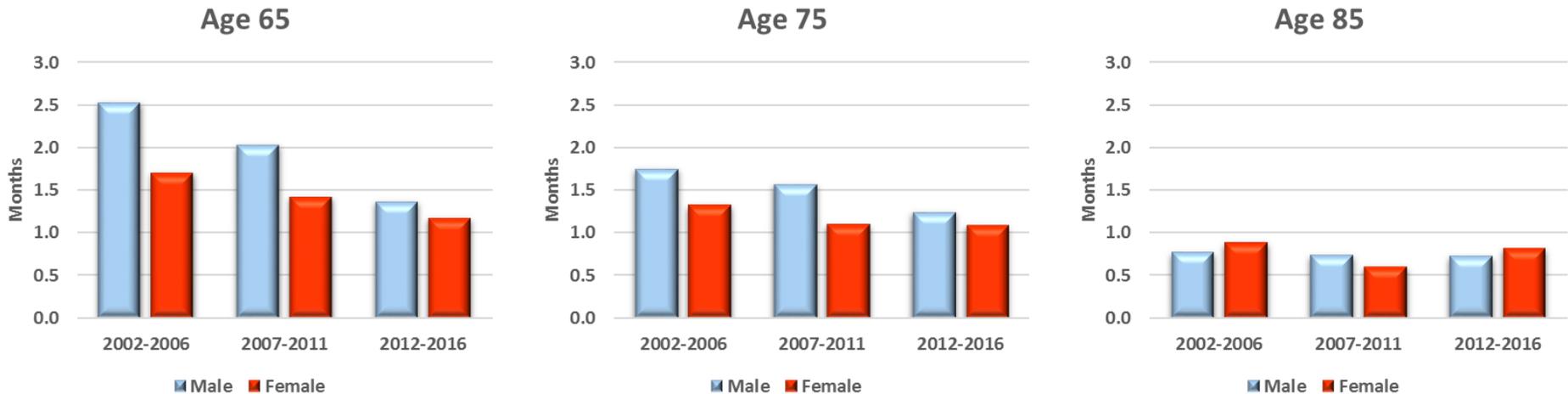
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**Change in Life Expectancy at Ages 65, 75 and 85**

There is a slowing trend in the pace of increases in life expectancy at age 65 and 75 for both males and females. However, this trend is more pronounced for males. Life expectancy for male OAS beneficiaries age 65 increased by an average of 2.5 months, 2.0 months and 1.4 months per year over 5-year periods 2002-2006, 2007-2011 and 2012-2016, respectively. Similarly, male OAS beneficiaries age 75 experienced an average increase in life expectancy of 1.2 months per year for the 5-year period 2012-2016 which is lower than the average annual increase of 1.7 months for the 5-year period 2002-2006. From 2002 to 2006, female OAS beneficiaries experienced average increases in life expectancy of 1.7 months and 1.3 months per year for ages 65 and 75, respectively. In the more recent period 2012-2016, these annual average increases reduced to 1.2 months and 1.1 months.

At age 85, the average increases in life expectancy ranged between 0.7 and 0.8 of a month per year for male OAS beneficiaries, and between 0.6 and 0.9 of a month per year for female OAS beneficiaries.

**Average Annual Increase in Life Expectancy of OAS Beneficiaries (in months)**

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**Mortality Improvement Rates**

Historical average annual mortality improvement rates (MIRs) measure the pace of change in mortality over time. The "improvement in mortality" indicates that mortality rates have decreased over time, which in turn has led to increased longevity. There is a decreasing trend in the annual MIRs for all age groups under age 80. This trend is especially pronounced for male OAS beneficiaries in the 65-69 age group: average MIRs were 3.2% from 2001 to 2006, 2.5% from 2006 to 2011, and 0.3% from 2011 to 2016. Similarly, the average annual MIRs for female OAS beneficiaries age 65-69 were 2.3% from 2001 to 2006, 2.0% from 2006 to 2011, and 0.9% from 2011 to 2016.

On the other hand, MIRs for ages over 80 remain relatively stable with time. The average annual MIRs for both male and female OAS beneficiaries age 85-89 were 1.8% from 2001 to 2006, about 1.7% from 2006 to 2011 and 1.4% from 2011 to 2016.

**Mortality Improvement Rates for OAS Beneficiaries**

| Male | | | | | Female | | | |
|------|------|------|------|---|--------|------|------|------|
| Age | 2001-2006 | 2006-2011 | 2011-2016 | | Age | 2001-2006 | 2006-2011 | 2011-2016 |
| 65-69 | 3.2% | 2.5% | 0.3% | | 65-69 | 2.3% | 2.0% | 0.9% |
| 70-74 | 3.4% | 2.7% | 1.8% | | 70-74 | 1.9% | 2.0% | 0.6% |
| 75-79 | 3.1% | 2.9% | 1.7% | | 75-79 | 1.7% | 2.0% | 1.0% |
| 80-84 | 2.5% | 2.3% | 1.9% | | 80-84 | 2.1% | 1.6% | 1.3% |
| 85-89 | 1.8% | 1.7% | 1.4% | | 85-89 | 1.8% | 1.6% | 1.4% |
| 90+ | 0.9% | 1.3% | 0.8% | | 90+ | 1.1% | 1.0% | 0.9% |

**Number of Monthly Deaths**

The following graph shows the monthly number of deaths of OAS beneficiaries (age 65 and over) from July 1999 to May 2017. There are seasonal variations in monthly deaths with the least deaths occuring in the summer months and the most deaths occuring during the winter months. In particular, the maximum number of deaths occurred in December or January every year except for 2008 when it was in March. Overall, due to ageing of the Canadian population, the number of deaths has increased from 1999 to 2017.

**Number of Deaths per Month for OAS Beneficiaries Age 65 and over – 1999 to 2017**
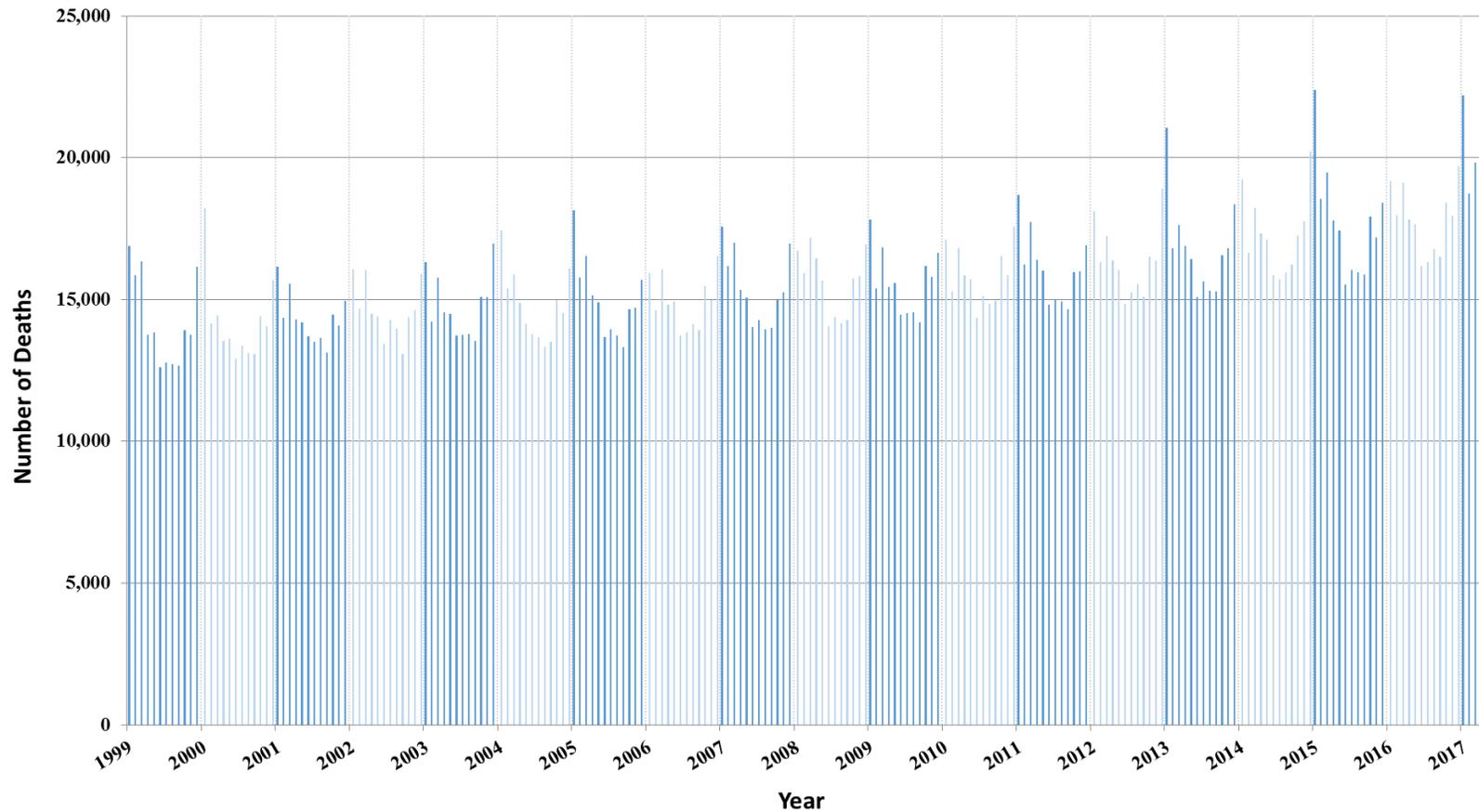


*Data and Methodology:*

*All calculations are based on the OAS program beneficiary database that was provided to the Office of the Chief Actuary by Service Canada which is the administrator of the OAS program. The historical mortality improvement rates are derived using the best-fit log-linear method. (see chapter 4 of the SOA RP-2000 Mortality Tables Report, found here: https://www.soa.org/experience-studies/2000-2004/research-rp-2000-mortality-tables/).*