

## 8.L. Population health patterns

### The decomposition of life expectancy for age and cause of death in Tuscany, Italy

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#### Introduction:

Changing of life expectancy at birth (LE) over time reflects variations of mortality rates of a certain population. Italy is amongst the countries with the highest LE, Tuscany ranks fifth at the national level. The aim of the present work was to evaluate the impact of various causes of death in different age groups on the change in LE in the Tuscany region (Italy) during period 1987-2015.

#### Material and methods:

Mortality data relative to residents that died during the period between 1987/1989 and 2013/2015 were provided by the Tuscan Regional Mortality Registry. The causes of death taken into consideration were cardiovascular (CVS), respiratory (RESP) and infective (INF) diseases and cancer (TUM). The decomposition of LE gain was realized with software Epidat, using the Pollard's method.

#### Results:

The overall LE gain during the period between two three-years periods was 6.7 years for males, with a major gain between 65-89, and 4.5 years for females, mainly improved between 75-89, <1 year for both sexes. The major gain (2.6 years) was attributable to the reduction of mortality for CVS, followed by TUM (1.76 in males and 0.83 in females) and RESP (0.4 in males; 0.1 in females). The major loss of years of LE was attributable to INF (-0.15 in females; -0.07 in males) and lung cancer in females (-0.13), for which the opposite result was observed for males (gain of 0.62 years of LE).

#### Conclusions:

During the study period (1987-2015) the gain in LE was major for males. To the reduction of mortality for CVS have contributed to the tempestuous treatment of acute CVS events and secondary CVS prevention. For TUM the result is attributable to the adherence of population to oncologic screening programmes. The excess of mortality for INF that lead to the loss of LE can be attributed to the passage from ICD-9 to ICD-10 in 2003 (higher sensibility of ICD-10) and to the diffusion of multi-drug resistant bacteria, which lead to elevated mortality in these years.

#### Key messages:

- The gain in LE during the period the 1987-2015 was higher in males.
- The major contribution to gain in LE was due to a reduction of mortality for CVS diseases.