

26 September 2019

Life Table
2016 - 2018

Highest life expectancy at birth in the norte region and at 65 years in the Área Metropolitana de Lisboa

Life expectancy at birth in Portugal was estimated at 80.80 years for total population in the period 2016-2018, 77.78 years for men and 83.43 years for women.

At birth, life expectancy continues to be higher for women, but the difference for men has been declining and is now 5.65 years (compared to 6.02 in 2008-2010).

By regions **NUTS 2**, the Norte recorded the highest values of life expectancy at birth for total population (81.18 years), for men (78.25 years) and women (83,77).

The greatest differences in longevity between men and women were observed in Região Autónoma da Madeira, while the lowest were observed in Área Metropolitana de Lisboa.

By regions **NUTS 3**, the highest life expectancies at birth were recorded in Cávado (81.81 years), Região de Leiria (81,50 years) and Região de Coimbra (81,47 years).

Life expectancy at age 65 in Portugal reached 19.49 years.

Men aged 65 may expect to live on average 17.58 years more and women 20.88 years more.

By regions **NUTS 2**, the highest values of life expectancy at age 65 were recorded in Norte for men (17.92) and in Área Metropolitana de Lisboa for women (21.37).

By **NUTS 3**, Terras de Trás-os-Montes (20.14), Região de Coimbra (20.13), and Região de Leiria (20.10 years) recorded the highest longevity at age 65.

Statistics Portugal releases the complete life tables 2016-2018 for NUTS 2 regions, by sex and both sexes, and life expectancy at birth and at age 65 for NUTS 3 regions for both sexes. The analysis is carried out in comparison with the 2008-2010 results, the first period for which life expectancies at birth and at age 65 are available for the regions NUTS 3, version of NUTS 2013.

In the 2016-2018 period, life expectancy at birth for Portugal was estimated at 80.80 years for both sexes, 77.78 years for men and 83.43 years for women, which accounted for a gain of 1.61 and 1.24 years respectively, in comparison with the values estimated for 2008-2010. The gap between male and female life expectancy at birth narrowed by 0.37 years, from 6.02 to 5.65 years.

Life expectancy at age 65 reached, in the 2016-2018 period, 19.49 years for both sexes. Men aged 65 may expect to live on average 17.58 years more and women 20.88 years more, which accounted for gains of 0.84 and 0.85, respectively, vis-à-vis 2008-2010. The gap between male and female longevity at age 65 was of 3.30 years.

Figure 1. Life expectancy at birth and at age 65, Portugal, 2008-2010 to 2016-2018

	Portugal					
	Life expectancy at birth (years)			Life expectancy at age 65 (years)		
	Both sexes	Males	Females	Both sexes	Males	Females
2008 - 2010	79.29	76.17	82.19	18.59	16.74	20.03
2009 - 2011	79.55	76.47	82.43	18.75	16.92	20.20
2010 - 2012	79.78	76.67	82.59	18.84	16.94	20.27
2011 - 2013	80.00	76.91	82.79	18.97	17.07	20.40
2012 - 2014	80.24	77.16	83.03	19.12	17.23	20.55
2013 - 2015	80.41	77.36	83.23	19.19	17.32	20.67
2014 - 2016	80.62	77.61	83.33	19.31	17.44	20.73
2015 - 2017	80.78	77.74	83.41	19.45	17.55	20.81
2016 - 2018	80.80	77.78	83.43	19.49	17.58	20.88

Life expectancy at birth in NUTS 2 regions

Life expectancy at birth recorded increases in all regions between 2008-2010 and 2016-2018; largest increase recorded in Região Autónoma da Madeira

The region Norte recorded the highest values of life expectancy at birth for total population, for men and women. By contrast, Região Autónoma da Madeira and Região Autónoma dos Açores recorded the lowest values for life expectancy at birth, for total population and for men and women.

In the last eight years, life expectancy at birth improved in all regions. However, the biggest rise occurred in Região Autónoma da Madeira. In this region, life expectancy at birth went up from 76.13 years to 78.30 years, which means that in the 2016-2018 period people could expect to live at birth, on average, 2.17 years more than in 2008-2010.

The greatest differences in longevity between men and women were recorded in Região Autónoma da Madeira and Região Autónoma dos Açores, where women could expect to live, on average, 7.10 and 7.05 years more than men respectively. The Área Metropolitana de Lisboa and Norte showed the lowest differences in longevity between the two sexes (5.50 and 5.52 years respectively).

Figure 2. Life expectancy at birth, NUTS 2, 2008-2010 to 2016-2018

	Norte	Centro	A. M. Lisboa	Alentejo	Algarve	R. A. Açores	R. A. Madeira
Life expectancy at birth (years) - Both sexes							
2008 - 2010	79.64	79.59	79.29	78.58	78.90	75.86	76.13
2009 - 2011	79.97	79.90	79.52	79.01	79.43	76.01	76.54
2010 - 2012	80.14	80.09	79.65	79.26	79.67	76.32	77.03
2011 - 2013	80.32	80.24	80.00	79.45	80.02	76.49	77.49
2012 - 2014	80.55	80.55	80.32	79.81	80.22	76.82	77.68
2013 - 2015	80.69	80.80	80.50	80.03	80.38	77.15	77.76
2014 - 2016	80.99	80.98	80.71	80.04	80.34	77.28	78.02
2015 - 2017	81.13	81.07	80.85	80.19	80.17	77.48	78.18
2016 - 2018	81.18	81.11	80.94	80.24	79.93	77.85	78.30
Life expectancy at birth (years) - Males							
2008 - 2010	76.65	76.52	75.92	75.47	75.62	72.21	71.85
2009 - 2011	76.94	76.84	76.21	75.95	76.05	72.28	72.67
2010 - 2012	77.05	77.05	76.53	76.40	76.36	72.80	73.19
2011 - 2013	77.36	77.12	76.85	76.29	76.74	72.80	73.41
2012 - 2014	77.52	77.42	77.14	76.91	77.17	73.05	73.62
2013 - 2015	77.70	77.71	77.43	77.05	77.19	73.38	73.65
2014 - 2016	78.07	78.05	77.65	77.07	76.99	73.72	73.96
2015 - 2017	78.21	78.15	77.95	77.27	76.72	73.89	74.25
2016 - 2018	78.25	78.16	77.99	77.31	76.46	74.26	74.34
Life expectancy at birth (years) - Females							
2008 - 2010	82.43	82.43	82.34	81.49	82.22	79.41	79.68
2009 - 2011	82.82	82.71	82.38	81.89	82.59	79.73	79.74
2010 - 2012	82.90	82.94	82.54	82.02	82.90	79.88	80.27
2011 - 2013	83.01	83.07	82.77	82.24	83.01	79.99	80.91
2012 - 2014	83.24	83.37	83.10	82.57	83.03	80.27	81.12
2013 - 2015	83.42	83.54	83.19	82.70	83.31	80.65	81.19
2014 - 2016	83.64	83.66	83.30	82.72	83.48	80.75	81.41
2015 - 2017	83.74	83.74	83.42	82.83	83.37	81.00	81.43
2016 - 2018	83.77	83.74	83.49	82.90	83.14	81.31	81.44

Life expectancy at age 65 in NUTS 2 regions

Norte with the highest values for men and Área Metropolitana de Lisboa with the highest values for women; greatest increases in Região Autónoma da Madeira

The Área Metropolitana de Lisboa region recorded the highest values of life expectancy at age 65 for both the total population and women (19.81 and 21.37 years, respectively, in 2016-2018). The highest longevity at age 65 for men was recorded in region Norte (17.92 years).

However, Região Autónoma da Madeira recorded the greatest increase in the last eight years both for men and women, from 13.86 to 15.04 years and from 18.05 to 19.37 years, respectively.

The biggest differences in longevity at age 65 between men and women were recorded in Região Autónoma da Madeira and Algarve, where women could expect to live, on average, 4.33 and 3.86 years more than men respectively. The region Norte experienced the lowest differences in longevity at age 65 between the two sexes (3.09 years).

Figure 3. Life expectancy at age 65, NUTS 2, 2008-2010 to 2016-2018

	Norte	Centro	A. M. Lisboa	Alentejo	Algarve	R. A. Açores	R. A. Madeira
Life expectancy at age 65 (years) - Both sexes							
2008 - 2010	18.61	18.63	18.83	18.20	18.79	16.18	16.40
2009 - 2011	18.88	18.89	18.91	18.32	19.03	16.07	16.65
2010 - 2012	18.95	19.03	18.86	18.48	19.09	16.30	17.11
2011 - 2013	19.04	19.08	19.11	18.65	19.17	16.62	17.45
2012 - 2014	19.21	19.32	19.35	18.74	19.33	16.66	17.53
2013 - 2015	19.25	19.45	19.43	18.87	19.66	16.84	17.67
2014 - 2016	19.45	19.55	19.52	19.05	19.66	17.06	17.67
2015 - 2017	19.65	19.61	19.66	19.18	19.46	17.12	17.75
2016 - 2018	19.71	19.75	19.81	19.20	19.08	17.24	17.69
Life expectancy at age 65 (years) - Males							
2008 - 2010	16.84	16.74	16.74	16.33	16.89	14.22	13.86
2009 - 2011	17.12	16.94	16.85	16.45	16.87	13.99	14.11
2010 - 2012	17.08	17.08	16.97	16.69	17.03	14.19	14.97
2011 - 2013	17.24	17.16	17.16	16.77	17.31	14.37	15.07
2012 - 2014	17.38	17.33	17.36	16.84	17.34	14.44	15.08
2013 - 2015	17.48	17.43	17.49	16.99	17.66	14.76	15.15
2014 - 2016	17.70	17.60	17.57	17.26	17.67	14.98	14.99
2015 - 2017	17.89	17.78	17.85	17.28	17.34	14.92	15.12
2016 - 2018	17.92	17.82	17.91	17.35	16.92	15.07	15.04
Life expectancy at age 65 (years) - Females							
2008 - 2010	20.08	20.15	20.39	19.68	20.44	17.71	18.05
2009 - 2011	20.31	20.41	20.38	19.83	20.69	17.67	18.24
2010 - 2012	20.42	20.58	20.34	19.98	20.82	18.06	18.51
2011 - 2013	20.46	20.56	20.63	20.14	20.75	18.23	18.89
2012 - 2014	20.55	20.81	20.81	20.2	20.89	18.29	18.99
2013 - 2015	20.64	20.95	20.86	20.28	20.99	18.41	19.17
2014 - 2016	20.83	20.99	21.03	20.48	21.04	18.69	19.35
2015 - 2017	21.00	21.03	21.11	20.69	21.06	18.84	19.40
2016 - 2018	21.01	21.14	21.37	20.70	21.09	18.93	19.37

Life expectancy at birth in NUTS 3 regions

Nine regions NUTS 3 exceeded the national value (80.80 years); Região de Leiria recorded the highest increase in the last eight years.

Results for the 2016-2018 period showed that, out of the 25 NUTS 3 sub-regions, nine exceeded the national life expectancy at birth (80.80 years).

Seven regions NUTS 3 (Cávado, Região de Leiria, Região de Coimbra, Viseu Dão-Lafões, Ave, Área Metropolitana do Porto, and Região de Aveiro) recorded values of life expectancy at birth above 81 years. By contrast, the lowest life expectancies at birth were recorded in Região Autónoma da Madeira, Região Autónoma dos Açores, and Baixo Alentejo, with the expected longevity below 79 years.

In the last eight years, life expectancy at birth improved in all regions NUTS 3. The highest gains in longevity at birth occurred in the Região de Leiria (2.34 years) and the lowest were recorded in Terras de Trás-os-Montes (0.68 years).

Life expectancy at age 65 in NUTS 3 regions

Sixteen regions exceeded the national value (19.49 years); Região de Leiria recorded the highest increase in the last eight years.

Results for the 2016-2018 period showed that the three regions NUTS 3 with the highest values, above twenty years, were: Terras de Trás-os-Montes (20.14 years), Região de Coimbra (20.13 years), and Região de Leiria (20.10 years).

The lowest life expectancies at age 65, below nineteen years, were recorded in the Região Autónoma da Madeira, Região Autónoma dos Açores, Baixo Alentejo and Oeste.

Between the 2008-2010 and the 2016-2018, life expectancy at age 65 improved in all regions NUTS 3. The highest increase in longevity at age 65 occurred in the Alentejo Litoral (1.56 years) while the lowest was recorded in Algarve (0.29 years).

Figure 4. Life expectancy at birth, NUTS 3, 2016-2018

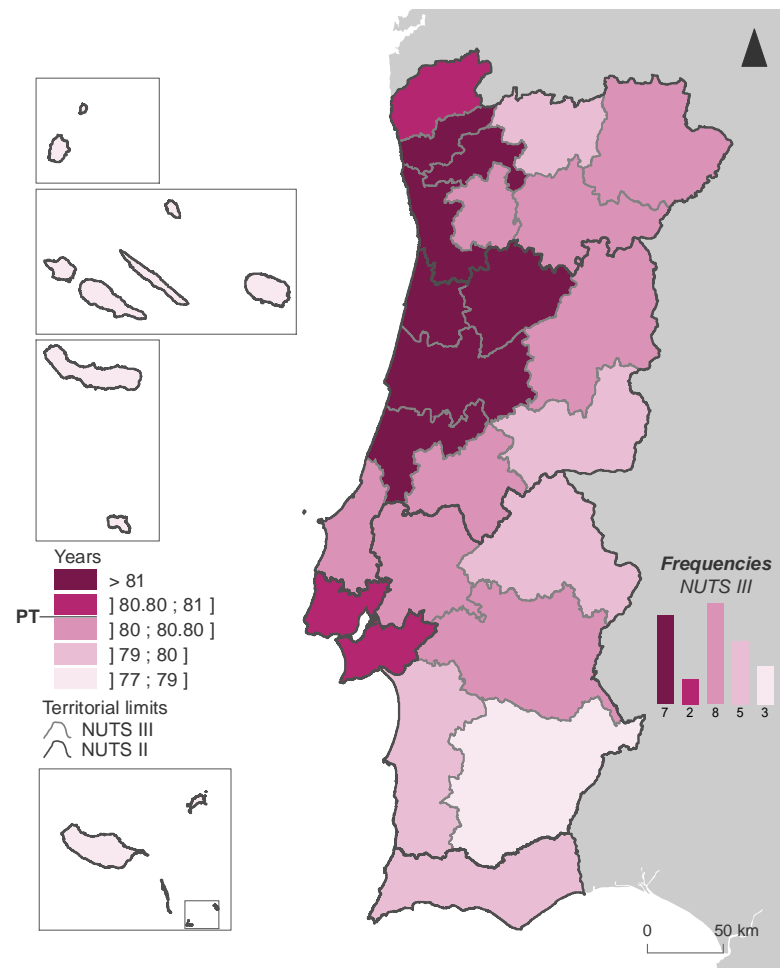
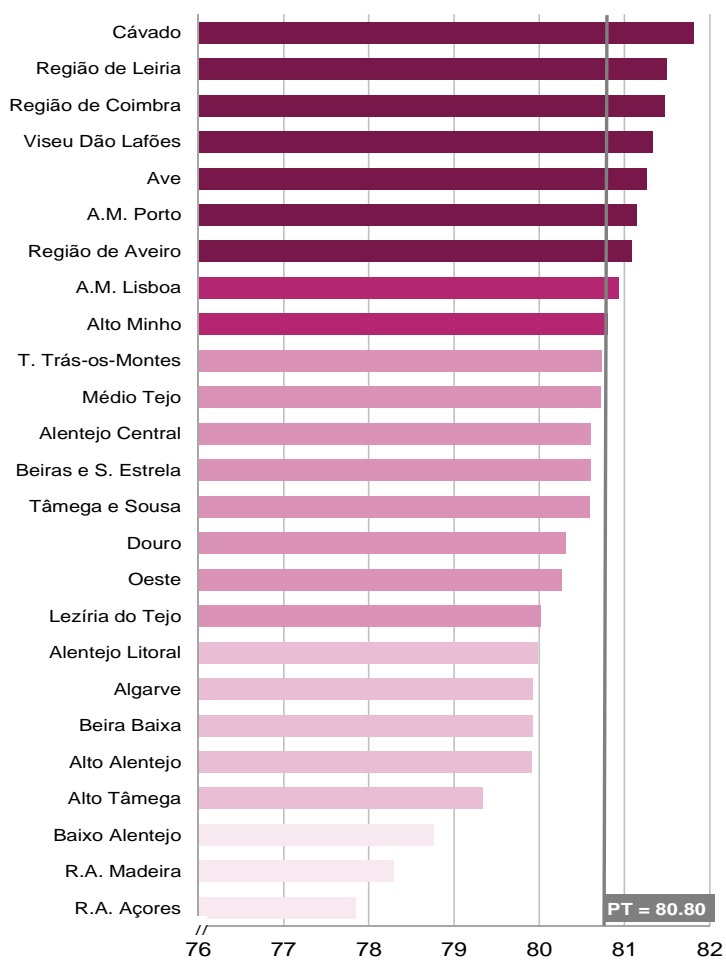


Figure 5. Life expectancy at age 65, NUTS 3, 2016-2018

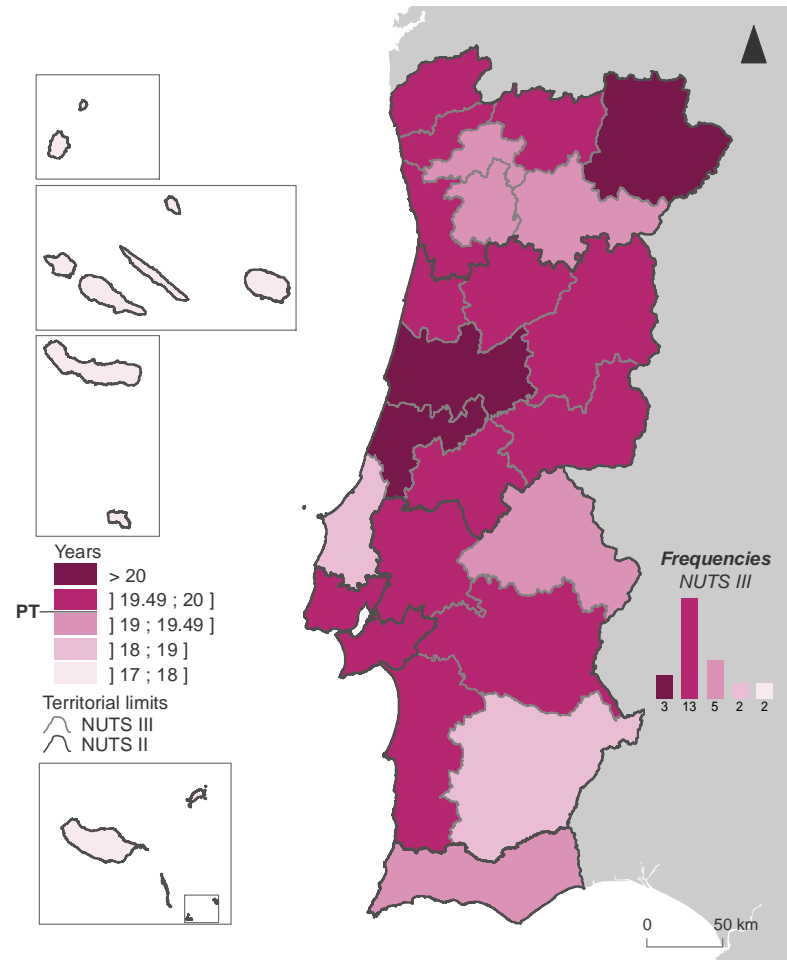
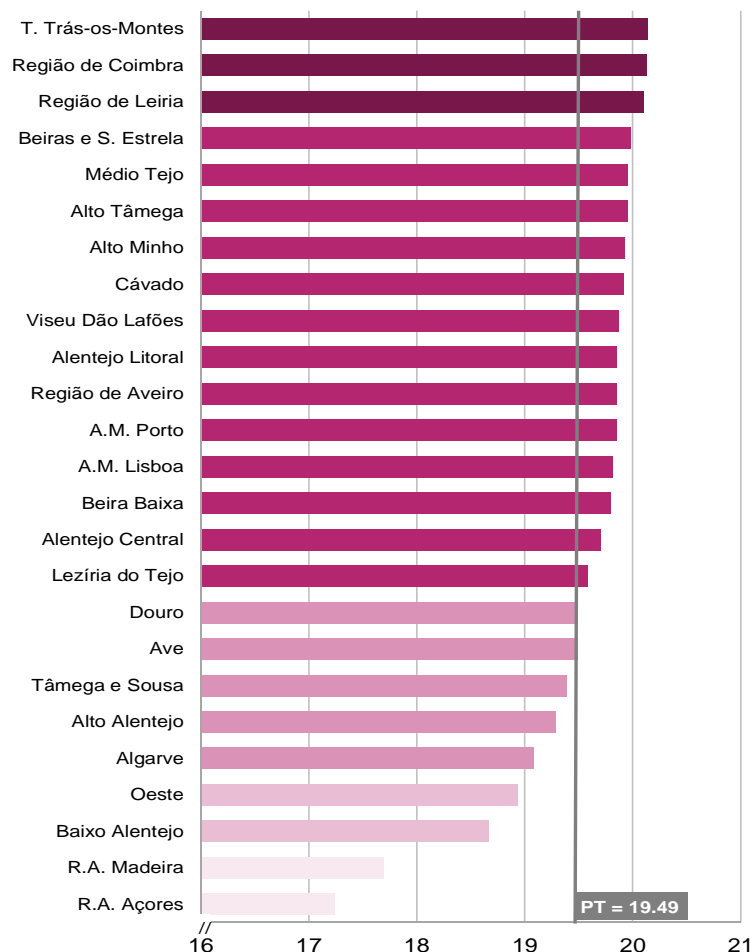


Figure 6. Life expectancy at birth and at age 65, Portugal NUTS 1, 2 and 3, 2008-2010 and 2016-2018

	Life expectancy at birth (years)		Life expectancy at age 65 (years)	
	2008-2010	2016-2018	2008-2010	2016-2018
Portugal	79.29	80.80	18.59	19.49
Continente	79.38	80.99	18.60	19.66
Norte	79.64	81.18	18.61	19.71
Alto Minho	79.37	80.81	18.75	19.93
Cávado	80.07	81.81	18.71	19.92
Ave	79.49	81.26	18.44	19.49
Área Metropolitana do Porto	79.72	81.15	18.79	19.85
Alto Tâmega	78.09	79.34	18.55	19.95
Tâmega e Sousa	78.90	80.59	18.23	19.39
Douro	78.79	80.31	18.38	19.49
Terras de Trás-os-Montes	80.06	80.74	19.42	20.14
Centro	79.59	81.11	18.63	19.75
Oeste	78.79	80.26	17.78	18.93
Região de Aveiro	79.64	81.09	19.00	19.85
Região de Coimbra	79.87	81.47	18.83	20.13
Região de Leiria	79.16	81.50	18.66	20.10
Viseu Dão Lafões	79.87	81.33	19.08	19.87
Beira Baixa	77.72	79.93	18.98	19.80
Médio Tejo	79.47	80.72	18.96	19.95
Beiras e Serra da Estrela	79.11	80.61	18.81	19.98
Área Metropolitana de Lisboa	79.29	80.94	18.83	19.81
Área Metropolitana de Lisboa	79.29	80.94	18.83	19.81
Alentejo	78.58	80.24	18.20	19.20
Alentejo Litoral	78.36	79.99	18.29	19.85
Baixo Alentejo	77.12	78.76	17.43	18.67
Lezíria do Tejo	78.62	80.02	18.04	19.58
Alto Alentejo	77.97	79.91	18.67	19.29
Alentejo Central	79.10	80.61	18.91	19.70
Algarve	78.90	79.93	18.79	19.08
Algarve	78.90	79.93	18.79	19.08
Região Autónoma dos Açores	75.86	77.85	16.18	17.24
Região Autónoma dos Açores	75.86	77.85	16.18	17.24
Região Autónoma dos Açores	75.86	77.85	16.18	17.24
Região Autónoma da Madeira	76.13	78.30	16.40	17.69
Região Autónoma da Madeira	76.13	78.30	16.40	17.69
Região Autónoma da Madeira	76.13	78.30	16.40	17.69

TECHNICAL NOTE:

Following the release in May 2019 of the 2016-2018 complete life table for Portugal, Statistics Portugal releases the complete life tables for NUTS 2 regions for the same period for the total population and by sex, and life expectancy at birth and at age 65 for NUTS 3 (NUTS 2013) sub-regions for the total population.

The **life table** is a mathematical model of demographic analysis composed by a set of basic functions which provide a basis for measuring longevity in a given population. Statistics Portugal calculates complete, that is, by single years of age, life tables for Portugal, NUTS 1, 2 and 3 regions with a reference period of three consecutive years. With regard to NUTS 3 from the mainland ('Continente'), only life expectancy at birth and at age 65 are released.

In the construction of complete life table for Portugal and NUTS 1 the probabilities of dying are estimated based on the observed number of deaths for a period of three consecutive years and on the respective estimates for the population exposed-to-the risk of death. Due to the variability in the probabilities of dying at advanced ages (over 85 years) the method proposed by Denuit and Goderniaux (2005) is applied for smoothing and extrapolation to the last applicable age (closing age of the life table).

Given the rarity of mortality at some ages in small regions, the complete life tables for NUTS 2 regions are calculated by applying graduation and smoothing methods to mortality rates. For the 'Continente' NUTS 3 sub-regions the Brass relational model (1971, 1974) is applied for obtaining these rates. In both cases, the same method of closing and extrapolating old age mortality rates is applied.

Values for life expectancy and other life table functions correspond to estimates calculated from statistical data and models, and should not be interpreted as deterministic indicators. However, assuming that the empirical mortality conditions observed in the reference period for the life table remain constant, it is possible, in a given population, to make probabilistic judgments on the evolution of mortality. In this sense, slight movements in these indicators between different periods should be interpreted in the methodological context explained, especially when analysing indicators with higher regional detail.

References:

Brass, W. (1971). On the scale of mortality. In: Biological Aspects of Demography, London Taylor and Francis.

Brass, W. (1974). Mortality models and their uses in demography. Transactions of the Faculty of Actuaries, 33, 123-132.

Denuit, M. and Goderniaux, A. (2005). Closing and projecting life tables using log-linear models. Bulletin de l'Association Suisse des Actuaries, 1, 29-49.

Definitions:

Life expectancy at birth: The mean number of years that a newborn child can expect to live if subjected throughout his life to the current mortality conditions (age specific probabilities of dying).

Life expectancy at age 65: The mean number of years still to be lived by a person who has reached the exact age 65, if subjected throughout the rest of his life to the current age specific probabilities of dying.

Methodological information (only Portuguese version) can be found at:

<http://smi.ine.pt/DocumentacaoMetodologica/Detalhes/1239>.

Detailed statistical information available at:

www.ine.pt > Statistical data > Population > Mortality and life expectancy