

MORTALITY BY CAUSE IN ITALY IN THE YEAR 2000

Luciano Petrioli

ISTAT has published the data on Italian mortality identified by cause, shortly after occurrence, only during the past few years, while before the end of the last century the relative statistics appeared very late.

From the most significant data of the ISTAT Volume: “Causes of death. Year 2000”⁽¹⁾, Yearbook n. 16, published in 2004, let us summarize the data of deaths according to 17 areas⁽²⁾ derived from the International Classification of Diseases (ICD), IX Revision – 1975, and their elaboration, aimed at calculating the respective probabilities of death by sex and five year age classifications.

During 100 years of the history of the Italian population, there were profound changes in this phenomenon. The death rate has passed from 23.7 per 1000 registered during the year 1900 to 9.7 per 1000 during the year 2000. From the tables of survival, one also learns that, for example, between 1881 and 2000, the value of expectation of life at birth increased from 35.16 to 76.54 years for men and from 35.65 to 82.51 years for women.

(1) ISTAT notes that in the same volume, all of the deaths that occurred in Italy during the year 2000 were published in the same volume, and for this reason they refer to the present population in that time .

(2) Areas of the causes of death:

- 1 001-139 Certain infectious and parasitic diseases;
- 2 140-239 Malignant neoplasms;
- 3 240-279 Endocrine, nutritional and metabolic diseases, and immunity disorders;
- 4 280-289 Diseases of the blood & blood – forming organs;
- 5 290-315 Psychiatric disorders;
- 6 320-389 Diseases of nervous system and sens organs;
- 7 390-458 Diseases of the circulatory system;
- 8 460-519 Diseases of the respiratory system;
- 9 520-577 Diseases of the digestive system;
- 10 580-629 Diseases of the genitourinary system;
- 11 630-678 Complications of pregnancy, childbirth and the puerperium;
- 12 680-709 Diseases of the skin and subcutaneous tissue;
- 13 710-738 Diseases of musculoskeletal system and connective tissue;
- 14 740-759 Congenital malformations;
- 15 760-779 Certain conditions arising in the perinatal period;
- 16 780-796 Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified;
- 17 800-999 Injury, poisoning and certain other consequences of external causes.

The data regarding deaths can refer both to cases in which death was due to natural causes and to violent causes, still with respect to the rules of coding established by the OMS. In each of these two aspects, the deaths are classified according to a single cause of death. Possible intermediary causes and the terminal causes that immediately preceded the death are also listed in the chart.

Considering the same time interval, we observe that in the year 1900 ⁽³⁾, about 769,000 deaths were recorded in a population of 32.5 million inhabitants.

A fifth of the deaths were listed as *Diseases of the respiratory system* (influenza, pneumonia and bronchitis), followed by the *Gastroenteritis and colitis* group with 15 per cent of the total.

Infectious diseases were also important: *Tuberculosis, Typhoid fever and Malaria* alone reached 12 per cent, while *Diseases of the circulatory system* were responsible for 8.4 per cent and *Malignant tumors* for only 2.2 per cent.

Keeping in mind the probable shortages that, at that time, could characterize the data listed above, as well as their insufficient comparability with more recent data, as the ICD underwent various revisions in 1951, the preceding percentages could be believed to be indicative enough for examining the variations of the incidence of causes of death in general mortality.

We will now complete a transfer of 100 years, in order to demonstrate how the improvement in living conditions of the Italian population, and progress in medicine, have influenced both the total number of deaths and their subdivision into groups of causes.

In the year 2000, about 560,122 deaths were recorded out of a population of around 57.5 million, divided into nearly equal measurement between men and women, as was done in the year 1900. Although there is a notable difference in numbers, the relationship between deaths in the age classification between 0 and 4 years is almost the same. In the year 1900, deaths in this age classification were 41.4 of the total and 56 per cent were mainly due to *Gastroenteritis and colitis, Bronchitis, Pneumonia, Tuberculosis, Meningitis and Malaria*.

Year	Age group	Males	%	Females	%	Total	%
1900	1) all ages	387,938	50,5	380,979	49,5	768,917	100,0
	2) 0 to 4 years	166,585	52,3	151,834	47,7	318,419	100,0
	3) over 75 years	51,640	48,8	54,253	51,2	105,893	100,0
2000	1) all ages	280,714	50,1	279,407	49,9	560,121	100,0
	2) 0 to 4 years	1,525	53,8	1,308	46,2	2,833	100,0
	3) over 75 years	150,312	42,1	206,754	57,9	357,066	100,0

Table. 1 Number of deaths in 1900 and 2000.

In 2000, deaths between the ages of 0 and 4 were reduced to 2,833, or 5 per cent of the total, mainly divided among the groups of causes “*Certain conditions arising in the perinatal period*” with 1,328 deaths and “*Congenital malformations*” with 750 deaths, while the cases of death due to diseases that strongly influenced the statistics of the beginning of the last century have nearly disappeared.

Regarding the age group of over 75 years, we see that in the year 1900 deaths among the two sexes were slightly higher for females, that presented an expectation of life at birth of 43.0 years, slightly higher than that for males which was 42.59 years.

In 2000, the relationships between deaths in the two sexes over 75 years of age is decidedly in favor of females: 57.9 per cent compared to 42.1 per cent for males. Here, evidently, the expectation of life at birth plays an important role, at 82.51 years for women and 76.54 for men that, in lower numbers, reach the age of 75 years.

(3) This information is included in the volume: *Istat, (1958), "Cause di morte. 1887-1955", Roma*, where it is noted that the items and relative data refer to the ICD approved in 1948, and which was adopted in Italy in 1951.

In the tables of mortality of the Italian population for the year 2000, which ISTAT published in 2004 ⁽⁴⁾, the surviving males were 64,074, while females were 80,588 out of 100,000 births.

The analysis could continue on track of the numerousness of deaths, or calculating the reports with respect to 10,000 or 100,000 inhabitants, also for large age groups (for example, 5-24, 25-54, etc. years), which are often seen in the reports which accompany this type of data.

Other measurements which examine narrower age groups, or at least conform to those which are noted in the data, are, however, more significant. For this purpose, we can determine the probability of dying for one cause, or groups of causes of death that give more appropriate information than the simple quotients between deaths and often very heterogeneous groups of inhabitants.

The data on deaths for cause of death related to the year 2000 are reported in Appendix (Tables 5-a, 6-a and 7-a), for classes 0-01; 01-04; 05-09; ...; 85-89; 90> ω , for each of the 17 groups indicated in note n.2 on page 1 and according to sex. Together with the number of deaths, in Appendix (Tables 8-a and 9-a) we also report the values of $q(x) = {}_{dx}q_x$, or rather the probability of dying between age x and age $x+dx$, again for the year 2000, that refer to mortality for all causes.

From this probability, we can however calculate the probability of dying for each group in Tables 8-a and 9-a. We would have that:

$${}_{dx}q_x = \frac{d_{x,x+dx}}{S_x} = \frac{d_{x,x+dx}^\alpha}{S_x} + \frac{d_{x,x+dx}^\beta}{S_x} + \dots + \frac{d_{x,x+dx}^\tau}{S_x} \quad [1]$$

where the total of deaths $d_{x,x+dx}$ has been subdivided into deaths of each group of causes α , β , ..., τ .

From [1] it results, therefore, that the total probability that an individual of age x has of dying before reaching the age of $x+dx$ is given by the sum of the probability of dying of the single groups of causes in the same age classification.

For any of the groups, which we generically indicate with k , we have that the probability of dying is:

$${}_{dx}q_x^k = \frac{d_{x,x+dx}^k}{S_x} \quad [2]$$

from which we obtain:

$${}_{dx}q_x^k = {}_{dx}q_x \cdot \frac{d_{x,x+dx}^k}{d_{x,x+dx}} \quad [3]$$

Expression [3] shows that the probability of dying for cause k is given by the product among the total probability of dying, and the relationship between the deaths for cause k and the deaths for all causes.

The probabilities calculated according to [3], with which we determine the risk of dying for a given cause, taking into account the simultaneous actions of all of the other causes, are found in Tables 8-a and 9-a, reported in the Appendix.

(4) Istat, (2004), "Tavole di mortalità della popolazione italiana – Regioni, province e grandi comuni", Series Informazioni n.28, Roma.

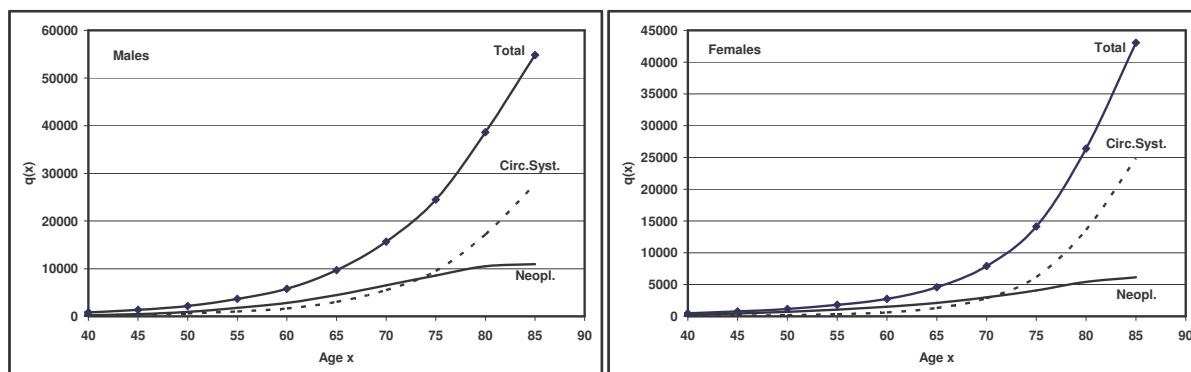


Fig. 1 and 2 Trend of the probability of dying for the *total* groups of causes, malignant neoplasm (*neopl.*) and diseases of the circulatory system (*circ.syst.*). Females and males, Italy, year 2000. Data multiplied for 100000.

As already shown, the distribution of deaths, the highest probabilities, are principally those of *Diseases of the circulatory system*, followed by *Malignant neoplasms* which, in both sexes, beginning at around 40 years of age and up to 70-75, present the highest values, and then are stabilized in the oldest ages (See Fig. 1, 2). The probability of dying due to *Diseases of the circulatory system* strongly increases in both males and females, however, after the age of 70 years, with a trend similar to that of total probability.

It is also interesting to follow the evolution over time of the probability of death for the two large groups indicated above, for certain years: 1960-62, 1977, 1984 and 2000. ⁽⁵⁾

F E M A L E S					M A L E S				
Age (year)	1960-62	1977	1984	2000	Age (year)	1960-62	1977	1984	2000
0-1	5	4	3	4	0-1	6	6	5	5
1-4	17	26	29	14	1-4	21	35	37	14
5-9	12	28	27	24	5-9	19	43	36	26
10-14	14	27	23	19	10-14	15	37	38	26
15-19	17	29	26	26	15-19	24	45	40	36
20-24	24	35	29	27	20-24	32	52	42	43
25-29	39	57	55	42	25-29	45	65	55	43
30-34	93	109	95	71	30-34	75	104	91	63
35-39	198	201	190	133	35-39	144	188	179	105
40-44	357	339	334	265	40-44	273	366	384	227
45-49	575	553	583	455	45-49	540	792	744	470
50-54	839	862	877	715	50-54	1,037	1,444	1,494	923
55-59	1,221	1,266	1,290	1,076	55-59	1,828	2,262	2,615	1,779
60-64	1,632	1,790	1,844	1,523	60-64	2,736	3,435	3,919	2,829
65-69	2,181	2,255	2,441	2,111	65-69	3,512	4,579	5,374	4,485
70-74	2,880	2,910	3,464	2,995	70-74	4,186	5,825	7,086	6,500
75-79	3,531	3,720	4,508	4,083	75-79	4,878	6,620	8,810	8,575
80-84	3,570	4,471	5,214	5,419	80-84	4,558	7,005	9,299	10,506
85-89	3,256	4,436	5,323	6,145	85-89	3,744	6,691	8,417	10,973
90-∞	2,769	4,487	6,026	8,693	90-∞	3,246	5,188	7,120	12,948

Table 2. Probability of dying for *malignant neoplasm*. Females and males, Italy, years: 1960-62, 1977, 1984, 2000. Data multiplied for 100,000.

(5) - Petrioli, L. (1968), "Evoluzione della mortalità per cause in Italia dal 1899 al 1962, con previsioni fino al 1980", in *Rivista Italiana di Economia Demografia e Statistica*, Vol.XXII, Fasc.1-4. pag.213-312.

- Petrioli, L.; G. Francini; R. Petrioli, (1992), "La mortalità per tumori maligni in Italia negli anni 1977-1984"; in *Acta Oncologica, Rivista Italiana di Oncologia*, n.13 (1), Ed. Piccin, Bologna.

As well shown in Fig. 4 and 5, the probability of dying from *Malignant neoplasms* shows, in both sexes, a growing trend with the increase in age for the years 1960-62, 1977 and 1984, at least up to 75-80 years, and then it decreases. The male probability remains constantly higher than that for females, and it is almost double during the last two periods, 1977 and 2000.

In the year 2000, and at least up until around the age of 65 years, these probabilities assume the lowest values of the three preceding periods, but then they tend to grow, especially after 80 years of age in both sexes.

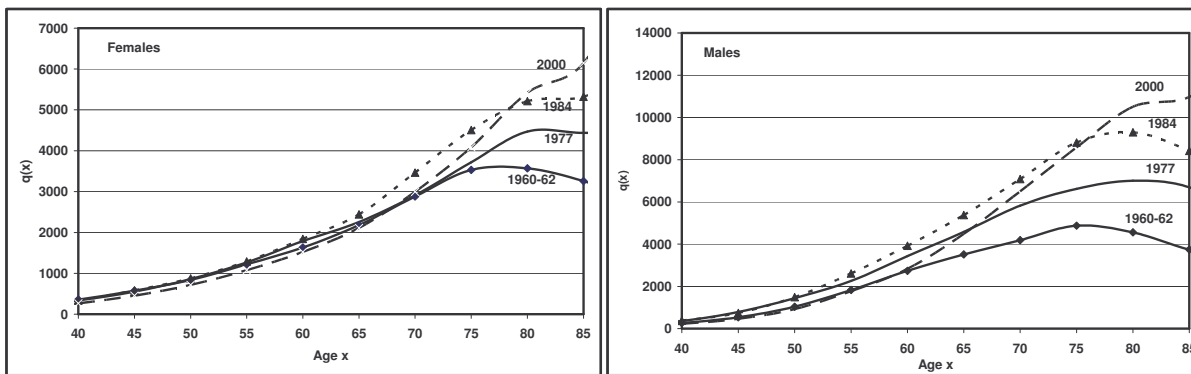


Fig. 4 and 5. Trend of the probability of dying for *Malignant neoplasm*. Females and males, Italy, years: 1960-62, 1977, 1984, 2000. Data multiplied for 100,000.

From the level of 1960-62, the probabilities of dying from *Disease of the circulatory system* (Table 3) show a strong increase in the year 1977. They decrease slightly in 1984, and then very, very strongly in 2000, with values that are even half of those of the 1977.

After the age of 85 years, the probabilities of 2000 then increase slightly, up until reaching the level that was reached in the years of 1977 and 1984.

F E M A L E S					M A L E S				
Age (year)	1960-62	1977	1984	2000	Age (year)	1960-62	1977	1984	2000
0-1	6	5	3	6	0-1	6	3	5	9
1-4	12	5	11	8	1-4	12	5	11	10
5-9	18	6	9	5	5-9	17	6	7	5
10-14	32	11	8	9	10-14	25	10	14	10
15-19	34	13	14	7	15-19	40	23	24	17
20-24	49	24	19	10	20-24	47	35	32	21
25-29	68	36	28	18	25-29	68	55	59	37
30-34	92	51	42	24	30-34	114	106	85	60
35-39	139	74	68	40	35-39	207	178	168	85
40-44	220	150	116	71	40-44	351	372	330	193
45-49	344	284	230	121	45-49	619	754	628	382
50-54	560	540	393	196	50-54	1,083	1,453	1,214	616
55-59	979	934	725	350	55-59	1,884	2,326	2,066	1,036
60-64	1,801	1,853	1,436	621	60-64	3,169	4,107	3,442	1,664
65-69	3,551	3,570	2,839	1,314	65-69	4,984	6,482	5,676	3,051
70-74	6,812	7,252	5,980	2,852	70-74	7,931	10,990	10,024	5,514
75-79	12,539	14,185	12,820	6,205	75-79	13,001	17,927	17,064	9,520
80-84	20,005	26,073	22,857	13,602	80-84	20,206	28,598	26,626	17,176
85-89	27,826	38,683	35,629	24,853	85-89	27,559	41,141	37,891	27,708
90-∞	41,680	63,000	64,490	62,335	90-∞	38,010	59,136	59,275	55,747

Table. 3 Probability of dying for *Diseases of the circulatory system*. Females and males, Italy, years 1960-62, 1977, 1984, 2000. Data multiplied for 100,000.

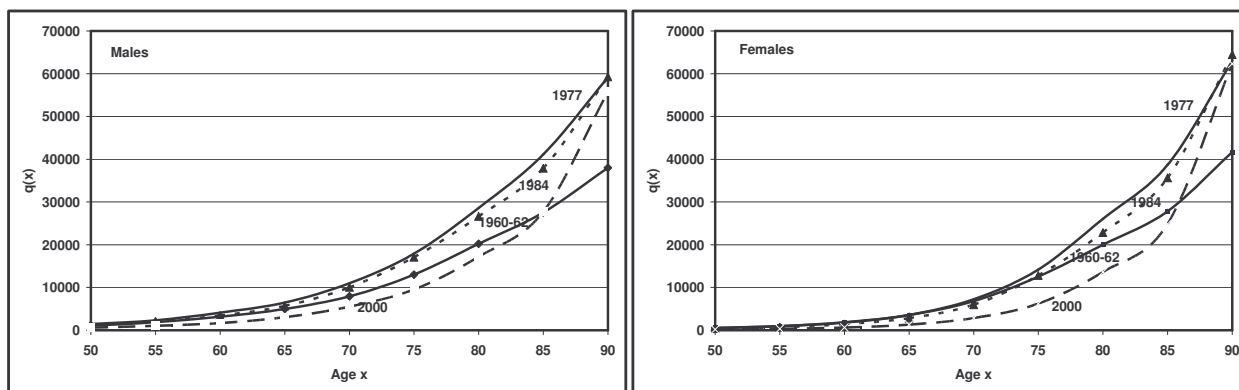


Fig.5 and 6. Trend of the probability of dying for *Diseases of the circulatory system*. Females and males, Italy, years:1960-62, 1977, 1984, 2000. Data multiplied for 100,000.

In these comparisons, we must consider the influence of at least three factors which could have a certain importance in the calculations relative to probability, or rather the aging of the population, medical progress and with it the improvement in health services and more exact diagnoses (See footnote n.2).

M A L E S						F E M A L E S					
Age Classes (years)	1950-53	1960-62	1977	1984	2000	Age Classes (years)	1950-53	1960-62	1977	1984	2000
70-74	924	283	220	148	83	70-74	1,077	334	159	99	44
75-79	3,617	1,243	597	369	136	75-79	3,948	1,346	481	314	79
80-84	11,312	4,695	1,847	1,256	269	80-84	11,480	4,712	1,870	1,136	209
85-89	23,298	10,699	5,157	3,420	605	85-89	22,445	10,961	4,820	3,235	599
90 +	45,123	26,864	14,670	11,299	2,781	90 +	45,303	27,071	15,299	11,655	3,044

Table 4 Probability of dying for *Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*. Males and females, Italy from 1950 to 2000. Data multiplied for 100,000.

Regarding this last aspect, we again focus on the deaths of the sixteenth group (*Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*) and on the relative probability of dying, reported in Table 4.

During the 50 year time period considered, from 1950-53 to 2000, one observes a slight decrease in the probability of dying for these causes which, on the average and in both sexes, are reduced by 95 per cent.

Particularly in the past classifications this could have contributed in part to underestimating the probabilities calculated in groups of higher incidences of death, such as *Tumors* and *Heart diseases*, for generic attribution to *Senility* when, possibly, attribution to a death for a more precise cause was not possible.

In the year 1950, deaths due to senility were around 33,000, or rather 7 per cent of the total which was some 452,000 deaths.

In 2000, for both sexes together, the cases of death attributed to *Senility* amounted to 3,030 (5 per 1,000 of the total), of which 2,694 were for badly defined or unknown causes, while deaths with symptoms relative to the *Cardiovascular system* were 1,140, of which around 80 per cent occurred after 60-64 years of age.

APPENDIX (Tables: 5-a; 6-a; 7-a; 8-a; 9-a).

Age Classes (years)	Total deaths	Groups of the causes of death (See footnote n.1)																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
00-01	2429	13	22	39	7	0	58	37	37	17	1	0	0	0	750	1328	85	35
01-04	405	14	70	22	10	1	42	46	22	3	3	0	0	1	70	0	19	82
05-09	344	5	142	12	5	1	31	28	10	2	0	0	1	3	17	0	5	82
10-14	427	4	119	15	5	0	35	51	14	7	1	0	1	1	28	0	12	134
15-19	1267	10	181	24	10	16	53	71	25	5	1	0	0	2	31	0	47	791
20-24	2216	11	249	19	18	74	61	108	33	9	8	0	1	2	28	0	108	1487
25-29	2862	22	390	64	26	173	73	254	63	39	15	2	2	5	32	0	186	1516
30-34	3258	33	613	189	30	234	81	383	68	117	15	5	0	14	34	0	190	1252
35-39	4350	68	1116	376	32	193	116	600	106	266	20	7	4	15	28	0	223	1180
40-44	5403	76	2020	327	21	104	132	1077	137	358	28	2	1	19	27	0	135	939
45-49	7835	67	3385	267	27	61	186	1848	190	553	59	0	6	29	40	0	143	974
50-54	13257	124	6519	406	28	55	245	3221	351	875	106	0	4	33	38	0	145	1107
55-59	18381	165	9558	585	48	54	316	4618	514	1146	144	0	4	43	44	0	170	972
60-64	29685	254	15146	1022	84	112	543	7903	1002	1803	260	0	13	77	33	0	222	1211
65-69	44724	405	20655	1801	157	207	943	13638	2021	2600	502	0	21	148	35	0	285	1306
70-74	66213	531	26524	2753	253	522	1557	23515	3877	3416	846	0	47	239	39	0	358	1736
75-79	91063	687	29353	3911	376	1267	2592	37517	6526	4230	1313	0	88	309	59	0	505	2330
80-84	77179	403	18233	3246	361	1535	2211	37263	6179	3221	1195	0	112	316	27	0	577	2300
85-89	106615	471	17612	3903	534	2641	2566	58556	9068	3863	1775	0	196	414	32	0	1363	3621
90>ω	82209	246	8147	2339	437	2303	1497	49696	7539	2509	1380	0	250	362	18	0	2441	3045
Total	560122	3609	160054	21320	2469	9553	13338	240430	37782	25039	7672	16	751	2032	1410	1328	7219	26100

Table 5-a. Total deaths for groups of causes and age classes. Italy - Females and males, year 2000.

Age Classes (years)	Q(x) *	Total deaths	Groups of the causes of death (See footnote n.1)																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
00-01	0.00521	1325	5	13	22	5	0	34	22	19	7	0	0	0	0	416	717	51	14
01-04	0.00083	201	6	33	10	6	0	21	25	13	2	3	0	0	0	34	0	8	40
05-09	0.00062	202	1	80	6	2	1	21	17	4	1	0	0	0	2	11	0	4	52
10-14	0.00096	250	2	67	7	2	0	18	27	9	6	0	0	0	0	10	0	6	96
15-19	0.00307	921	4	108	14	6	16	42	51	18	2	0	0	0	0	16	0	41	603
20-24	0.00483	1709	10	156	13	14	64	45	74	23	3	2	0	1	1	17	0	87	1199
25-29	0.00461	2167	13	200	37	18	156	43	169	44	23	7	0	2	0	20	0	157	1278
30-34	0.00504	2322	18	290	134	14	203	47	276	43	77	10	0	0	5	20	0	157	1028
35-39	0.00614	2978	51	511	294	17	175	77	411	75	198	11	0	1	6	17	0	182	952
40-44	0.00846	3444	62	926	240	9	85	88	786	90	272	16	0	0	8	11	0	113	738
45-49	0.01362	5040	46	1741	200	15	45	91	1415	125	407	36	0	4	6	27	0	117	765
50-54	0.02167	8554	85	3644	287	14	41	136	2432	222	629	67	0	0	8	23	0	112	854
55-59	0.03677	12134	104	5871	380	31	30	163	3419	358	790	84	0	3	12	25	0	121	743
60-64	0.05792	19625	152	9586	617	40	76	301	5638	704	1227	154	0	7	21	17	0	163	922
65-69	0.09693	29013	245	13423	957	92	114	516	9135	1448	1634	278	0	11	48	11	0	201	900
70-74	0.15678	40518	278	16798	1324	133	258	798	14251	2786	1966	473	0	22	63	26	0	215	1127
75-79	0.24469	49415	324	17317	1625	184	539	1199	19226	4474	2117	725	0	30	97	27	0	272	1259
80-84	0.38608	35706	163	9716	1087	162	542	953	15885	3783	1435	571	0	41	74	6	0	249	1039
85-89	0.54818	41674	161	8342	1193	208	760	978	21064	4731	1452	817	0	58	98	13	0	460	1339
90> ω	1.00000	23517	70	3045	503	152	436	385	13110	2954	739	530	0	39	53	7	0	654	840
TOTALE		280715	1800	91866	8950	1124	3541	5956	107433	21923	12987	3784	0	219	502	754	717	3370	15788

Table 6-a. Total deaths for groups of causes and age classes. Italy – Males, year 2000.

* q(x) = probability of dying into each age class.

Age Classes (years)	q(x) *	Total deaths	Groups of the causes of death (See footnote n.1)																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
00-00	0.00454	1104	8	9	17	2	0	24	15	18	10	1	0	0	0	334	611	34	21
01-04	0.00076	204	8	37	12	4	1	21	21	9	1	0	0	0	1	36	0	11	42
05-09	0.00052	142	4	62	6	3	0	10	11	6	1	0	0	1	1	6	0	1	30
10-14	0.00063	177	2	52	8	3	0	17	24	5	1	1	0	1	1	18	0	6	38
15-19	0.00121	346	6	73	10	4	0	11	20	7	3	1	0	0	2	15	0	6	188
20-24	0.00145	507	1	93	6	4	10	16	34	10	6	6	0	0	1	11	0	21	288
25-29	0.00154	695	9	190	27	8	17	30	85	19	16	8	2	0	5	12	0	29	238
30-34	0.00206	936	15	323	55	16	31	34	107	25	40	5	5	0	9	14	0	33	224
35-39	0.00301	1372	17	605	82	15	18	39	189	31	68	9	7	3	9	11	0	41	228
40-44	0.00475	1959	14	1094	87	12	19	44	291	47	86	12	2	1	11	16	0	22	201
45-49	0.00774	2795	21	1644	67	12	16	95	433	65	146	23	0	2	23	13	0	26	209
50-54	0.01169	4703	39	2875	119	14	14	109	789	129	246	39	0	4	25	15	0	33	253
55-59	0.01824	6247	61	3687	205	17	24	153	1199	156	356	60	0	1	31	19	0	49	229
60-64	0.02756	10060	102	5560	405	44	36	242	2265	298	576	106	0	6	56	16	0	59	289
65-69	0.04586	15711	160	7232	844	65	93	427	4503	573	966	224	0	10	100	24	0	84	406
70-74	0.07913	25695	253	9726	1429	120	264	759	9264	1091	1450	373	0	25	176	13	0	143	609
75-79	0.14129	41648	363	12036	2286	192	728	1393	18291	2052	2113	588	0	58	212	32	0	233	1071
80-84	0.26387	41473	240	8517	2159	199	993	1258	21378	2396	1786	624	0	71	242	21	0	328	1261
85-89	0.43048	64941	310	9270	2710	326	1881	1588	37492	4337	2411	958	0	138	316	19	0	903	2282
90> ω	1.00000	58692	176	5102	1836	285	1867	1112	36586	4585	1770	850	0	211	309	11	0	1787	2205
Total		279407	1809	68187	12370	1345	6012	7382	132997	15859	12052	3888	16	532	1530	656	611	3849	10312

Table 7-a. Total deaths for groups of causes and age classes. Italy – Females, year 2000.

* q(x) = probability of dying into each age class.

Age classes (years)	$dx q_x$	Groups of the causes of death (See footnote n.1)																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
00-01	454	3	4	7	1	0	10	6	7	4	0	0	0	0	137	252	14	9
01-04	76	3	14	4	1	0	8	8	3	0	0	0	0	0	14	0	4	17
05-09	52	1	24	2	1	0	4	5	2	0	0	0	0	0	2	0	0	11
10-14	63	1	19	3	1	0	6	9	2	0	0	0	0	0	6	0	2	14
15-19	121	2	26	3	1	0	4	7	2	1	0	0	0	1	6	0	2	66
20-24	145	0	27	2	1	3	5	10	3	2	2	0	0	0	3	0	6	81
25-29	154	2	42	6	2	4	7	18	4	4	2	0	0	1	3	0	6	53
30-34	206	3	71	12	4	7	7	24	6	9	1	1	0	2	3	0	7	49
35-39	301	4	133	18	3	4	9	40	7	15	2	2	1	2	2	0	9	50
40-44	475	3	265	21	3	5	11	71	11	21	3	0	0	3	4	0	5	49
45-49	774	6	455	19	3	4	26	121	18	40	6	0	1	6	4	0	7	58
50-54	1169	10	715	30	3	3	27	196	32	61	10	0	1	6	4	0	8	63
55-59	1824	18	1076	60	5	7	45	350	46	103	18	0	0	9	6	0	14	67
60-64	2756	28	1523	111	12	10	66	621	82	158	29	0	2	15	4	0	16	79
65-69	4586	47	2111	246	19	27	125	1314	167	282	65	0	3	29	7	0	25	119
70-74	7913	78	2995	440	37	81	234	2852	336	447	115	0	8	54	4	0	44	188
75-79	14129	123	4083	776	65	247	473	6205	696	717	199	0	20	72	11	0	79	363
80-84	26387	153	5419	1374	127	632	800	13602	1524	1136	397	0	45	154	13	0	209	802
85-89	43048	205	6145	1796	216	1247	1053	24853	2875	1598	635	0	91	209	13	0	599	1513
90-w	100000	300	8693	3128	486	3181	1895	62335	7812	3016	1448	0	360	526	19	0	3044	3757

Table 8-a. Female probability of dying, total and for groups of causes. Italy, year 2000. (Data multiplied for 100,000).

Age classes (years)	$dx q_x$	Groups of causes of death (See footnote n.1)																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
00-01	521	2	5	9	2	0	13	9	7	3	0	0	0	0	164	281	20	6
01-04	83	2	14	4	2	0	9	10	5	1	1	0	0	0	15	0	3	17
05-09	62	0	26	2	1	0	6	5	1	0	0	0	0	1	3	0	1	16
10-14	96	1	26	3	1	0	7	10	3	2	0	0	0	0	4	0	2	37
15-19	307	1	36	5	2	5	14	17	6	1	0	0	0	0	5	0	14	201
20-24	483	3	43	4	4	18	13	21	7	1	1	0	0	0	5	0	25	338
25-29	461	3	43	8	4	33	9	37	10	5	1	0	0	0	4	0	33	271
30-34	504	4	63	29	3	44	10	60	9	17	2	0	0	1	4	0	34	224
35-39	614	11	105	61	4	36	16	85	15	40	2	0	0	1	4	0	38	196
40-44	846	15	227	59	2	21	22	193	22	67	4	0	0	2	3	0	28	181
45-49	1362	12	470	54	4	12	25	382	34	110	10	0	1	2	7	0	32	207
50-54	2167	22	923	73	4	10	34	616	56	160	17	0	0	2	6	0	28	216
55-59	3677	32	1779	115	9	9	49	1036	108	239	25	0	1	4	8	0	37	226
60-64	5792	45	2829	182	12	22	89	1664	208	362	46	0	2	6	5	0	48	272
65-69	9693	82	4485	320	31	38	172	3051	484	546	93	0	4	16	4	0	67	300
70-74	15678	108	6500	512	51	100	309	5514	1078	761	183	0	9	24	10	0	83	436
75-79	24469	160	8575	805	91	267	594	9520	2215	1048	359	0	15	48	13	0	136	623
80-84	38608	176	10506	1176	175	586	1030	17176	4090	1552	618	0	44	80	6	0	269	1124
85-89	54818	212	10973	1569	274	1000	1286	27708	6223	1910	1075	0	76	129	17	0	605	1761
90-w	100000	298	12948	2139	646	1854	1637	55747	12561	3142	2254	0	166	225	30	0	2781	3572

Table 9-a. Male probability of dying, total and for groups of causes. Italy, year 2000. (Data multiplied for 100,000).