

ABOUT MORTALITY DATA FOR IRELAND

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DATA QUALITY ISSUES

For a description of the original data used to estimate the mortality surface for Ireland, see Appendix 1.

Due to limited availability of data on population counts and deaths and serious quality issues related to the data before 1950, the current series for Ireland start in 1950.

There is a strong evidence of age heaping problems in both deaths and census counts for the period 1950-1985 (Appendix 2). For this period, we would advise using the life tables by 5-year (or 10-year) age groups, which smooth out the age heaping, rather than using the life tables by single year of age.

The newly released official data on revised deaths by occurrence replaced previously published deaths by occurrence for the period 2007-2022. The official adjustment was substantial and lead to notable increases in numbers of deaths and death rates for this period (see an example comparing new and previously published male death rates in the Appendix 3). The new HMD series of life expectancy based on revised deaths are substantially lower than those based on unadjusted death data. The differences between the old and new series of male life expectancy at birth range from 0.3-0.4 years for 2007-2013 to 0.5-0.6 years for 2014-2020. The corresponding differences for females range from 0.2-0.3 years to about 0.4 years during the same periods. It should be noted that the observed gaps during the period 2017-2020 are also partially attributable to using new inter-censal population estimates based on the 2022 census data.

The effect of adjustments in official deaths was more significant for males, especially for newborns and at working ages. As described in the official notes by the CSO Ireland, this adjustment was implemented in order to account for the substantial number of deaths with delayed registrations (previously unaccounted for even in the occurrence data). The previously used death counts were up to the highest attained age, whereas the new revised series are only up to the last open-ended interval 100+. This change had a notable impact on newly derived death rates above the age 80 because according to the HMD Methods protocol, population estimates for these ages are derived using the extinct cohort and survivor ratio methods (see the only HMD Methods protocol v6).

REVISION HISTORY

Changes with the June 2019 revision:

- **Life tables:** All life tables have been recalculated using a modified methods protocol. The revised protocol (Version 6) includes two changes: 1) a more precise way to calculate a_0 , the mean age at death for children dying during the first year of life and 2) the use of birth-by-month data (where and when available) to more accurately estimate population exposures. These changes have been

implemented simultaneously for ALL HMD series/countries. For more details about these changes, see the revised Methods Protocol (at <http://www.mortality.org/Public/Docs/MethodsProtocol.pdf>), particularly section 7.1 on Period life tables and section 6 and Appendix E, on death rates. The life tables calculated under the prior methods (Version 5) remain available at v5.mortality.org but they have not been, and will not be, updated.

Changes with the January 2025 revision:

- **Deaths:** Revised counts of deaths by occurrence for years 2007-2022 have been substituted to the previous counts.
- **Population estimates:** New inter-censal (2017-2021) and post-censal (2022-2023) population estimates have been substituted to the previously published post-censal estimates based on the 2016 census.

APPENDIX 1: DESCRIPTION OF DATA USED FOR LEXIS DATABASE

DEATHS

Period	Type of Data	Age grouping	Comments	RefCode(s)
1950-1959, 1960-1963	Annual number of deaths by sex and single year of age (Lexis square)	0, 1, ..., 99, 100+, unknown		7, 8
1964-2004	Annual number of deaths by sex and single year of age (Lexis square)	0, 1, ..., up the highest attained age		8, 9, 10, 11, 12, 14
2005	Annual number of deaths by sex and single year of age (Lexis square)	0, 1, ..., 99, 100+, unknown		24
2006	Annual number of deaths by sex and single year of age (Lexis square)	0, 1, ..., up the highest attained age		13
2007-2022	Annual number of deaths by sex and single year of age (Lexis square)	0, 1, ..., 99, 105+, unknown	Newly revised data by occurrence	40

POPULATION

Period	Type of Data	Age grouping	Comments	RefCode(s)
1951, 1961, 1966, 1971, 1979, 1981, 1986	Census counts by sex and single year of age. Census dates: April 08, 1951 April 09, 1961 April 17, 1966 April 18, 1971 April 01, 1979 April 05, 1981 April 13, 1986	0, 1, ..., 99, 100+, unknown		1
1987-1995	Annual January 1 st population estimates by sex and single year of age	0, 1, ..., 98, 99+, unknown		20

POPULATION (CONTINUED)

Period	Type of Data	Age grouping	Comments	RefCode(s)
1996-2011	Annual April 15th population estimates by sex and single year of age	0, 1, ..., 98, 99+, unknown	Inter-censal population estimates	4, 17
2012-2016	Annual April 15th population estimates by sex and single year of age	0, 1, ..., 98, 99+, unknown	Inter-censal population estimates	23, 30
2017-2021	Annual April 15th population estimates by sex and single year of age	0, 1, ..., 98, 99+, unknown	Inter-censal population estimates based on the 2022 census.	42
2022-2023	Annual April 15th population estimates by sex and single year of age	0, 1, ..., 98, 99+, unknown	Post-censal population estimates based on the 2022 census.	43

BIRTHS BY SEX

Period	Type of Data	Comments	RefCode(s)
1950-2011	Annual counts of births by sex		6
2012-2016	Annual counts of births by sex		21
2017-2022	Annual counts of births by sex	Final data by occurrence.	34, 35, 39

BIRTHS BY MONTH

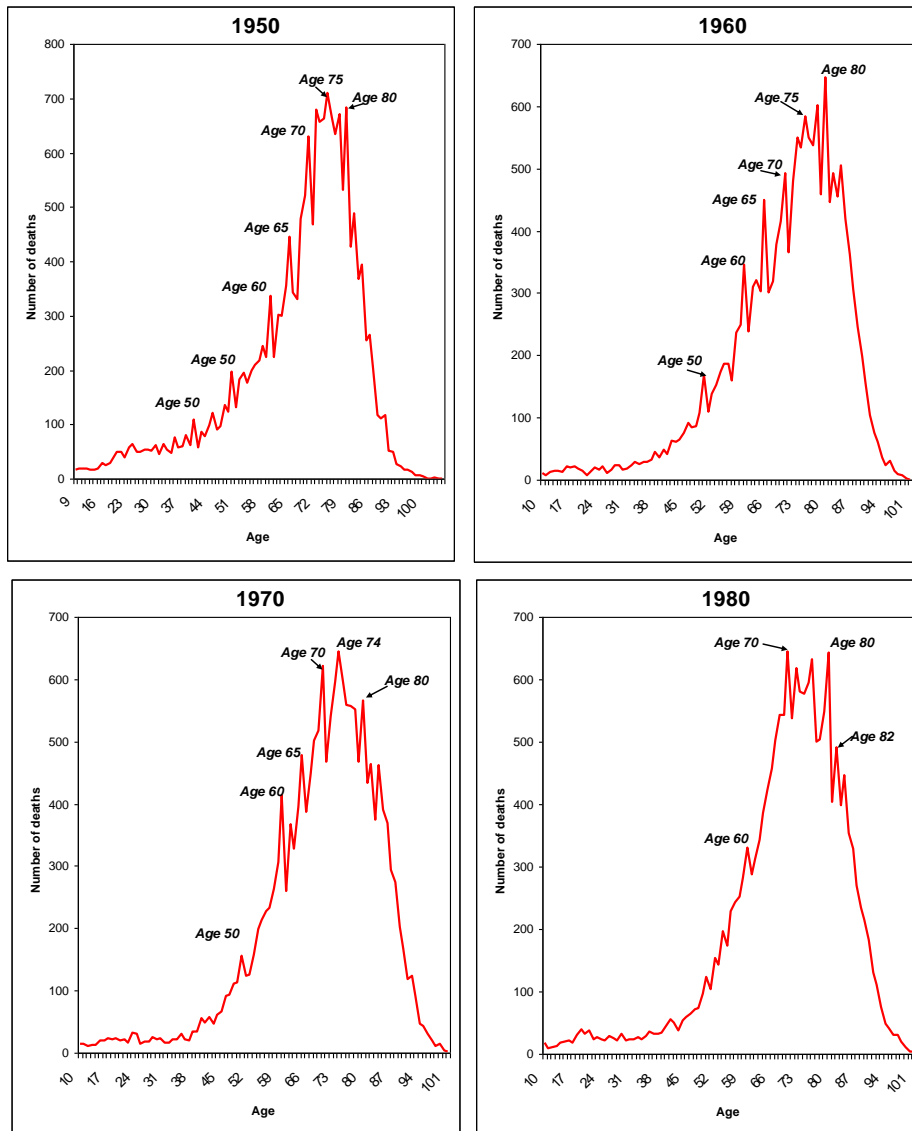
Type of data: Annual live birth counts by month.

Period covered: 1978-2020.

RefCode(s): 18, 36, 41.

APPENDIX 2:

Figure 1. Raw death counts for males in 1950, 1960, 1970, and 1980



APPENDIX 2 (continued):

Figure 2. Raw census counts for females in 1951, 1961, 1971, 1981, and 1986

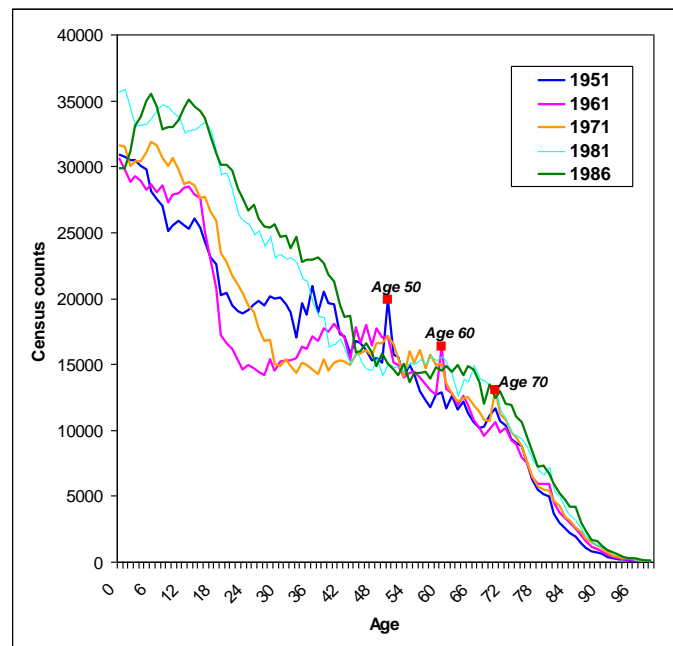
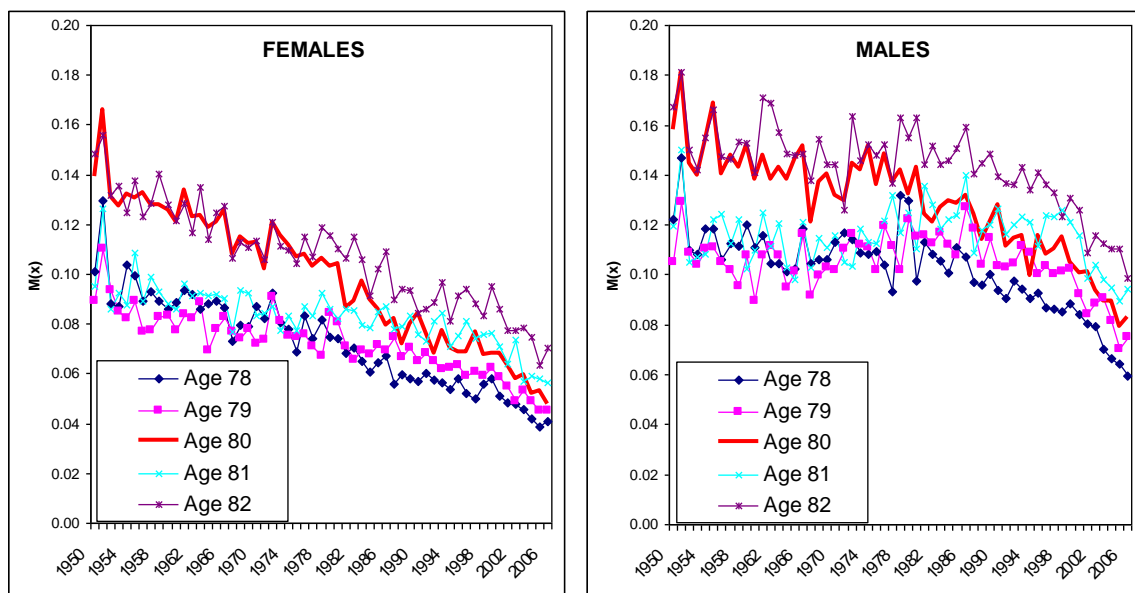
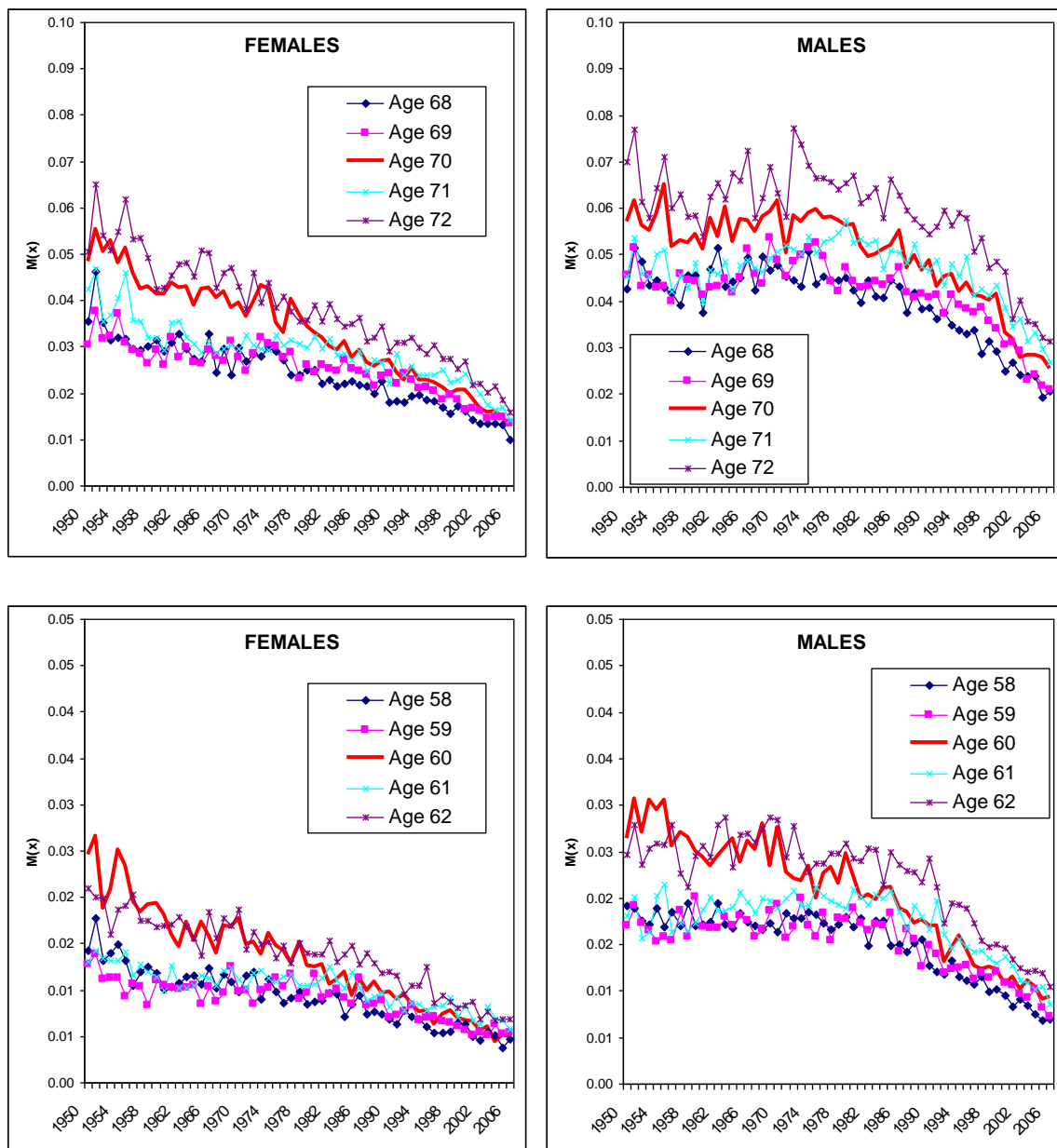


Figure 3. Mortality rates for age 78, 79, 80, 81, and 82. Irish females and males, 1950-2006.



APPENDIX 2 (continued):

Figure 3 (continued). Mortality rates for selected ages. Ireland, females and males, 1950-2006.



APPENDIX 3:

Figure 4. Ratio of new revised death rates for males to previously published death rates, 1950-2020.

