# ABOUT MORTALITY DATA FOR SCOTLAND

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We are still working on the *Background and Documentation* file for Scotland. For a description of the original data used to estimate the mortality surface for Scotland, see Appendix 1.

## DATA QUALITY ISSUES

For the period around the two world wars, population estimates and death counts provided by the General Register Office cover the civilian population only. During World War I and World War II, the male population exhibits a sudden decline because the military is not included. There is a corresponding increase in the male population during the first post-war years due to demobilization.

Population estimates for the period around World War I are available by five‑year age groups only. Unfortunately, the standard HMD method for splitting such data into single years of age does not work well due to the irregular implicit migration pattern. The following special procedure has been applied. First, the standard HMD method was applied to split the 1911 and 1921 census data into single years of age data. Next, a modified spline method was used to split population estimates data for the periods 1911-1921, 1921-1931, and 1931-1938. The same method has been used for England & Wales. For a detailed description of the method, see the *Background & Documentation* file for the Civilian Population of England & Wales (Appendix 2).

Population estimates for the period 1855-1860 are pre-censal population estimates calculated according to the HMD methodology (assuming zero net‑migration). In addition, life expectancies at ages 65 and 80 seem to be unreasonably high (if compared to Sweden) at least until the mid-1870s (Appendix 2, Figure 1).

The population estimates for 2001-2011 are post-censal estimates based on the 2001 census data. For the years 2003-2006, these post-censal population estimates were adjusted by the General Register Office for Scotland to include unregistered immigration using special methods and data sources. During the period 2001-2011 the U.K. experienced large immigration flows which were partly unaccounted for by the official statistics (see *Background and Documentation file for England and Wales Total population*). At the time of the current update, the GRO Scotland and the ONS have not published revised inter-censal population estimates based on the 2011 census.

The compulsory registration of births began on July 1st, 1837. However, according to the U.K. Office for National Statistics (ONS) birth registration was incomplete until 1874.

Therefore, the quality of the data for 1855-1875 is assumed to be lower than in later years and should be used with caution.

## ACKNOWLEDGEMENTS

We would like to thank Frank Dixon and Ian Brown at the General Register Office for Scotland for their assistance in compiling these data. We are also very grateful to James Oeppen (Max Planck Institute for Demographic Research) for his expert advice on the data for Scotland

# APPENDIX 1:

# DESCRIPTION OF DATA USED FOR LEXIS DATABASE

## DEATHS

|  |  |  |  |
| --- | --- | --- | --- |
| **Period** | **Type of Data** | **Age grouping** | **RefCode** |
| 1855-1962 | Annual number of deaths to the *de facto* population, by sex and age groups (*n*x1 rectangles) | 0, 1, 2, 3, 4, 5-9, …, 100+, unknown | 2 |
| 1963-2011 | Annual number of deaths to the *de facto* population, by sex and age groups (1x1 rectangles) | 0, 1, 2, …, maximum age attained, unknown | 3, 4, 5, 6, 7, 8, 18, 21 |

## POPULATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Type of Data** | **Age grouping** | **Comments** | **RefCode** |
| 1861, 1871, 1881, 1891, 1901 | Census counts | 0, 1, 2, 3, 4, 5-9, …, 105+, unknown | *de facto* population | 9, 10, 11, |
| 1911, 1921 | Census counts | 0, 1, 2, 3, 4, 5-9, …, 95-99, 100+, unknown | *de facto* population | 12 |
| 1931 | Census counts | 0, 1, 2, 3, …, 100+, unknown | *de facto* population | 13 |
| 1912-1938 | Annual mid-year population estimates (of permanent residents) | 0-4, 5-9, …., 85+, unknown | The data for 1912-20 exclude the military population | 14 |
| 1939-1970 | Annual mid-year population estimates (of permanent residents) | 0,1,2,3,….,85+, unknown | The data for 1939-50 exclude the military population | 15 |
| 1971-2011 | Annual mid-year population estimates (of permanent residents) | 0,1,2,3,….,90+, unknown |  | 15, 16, 19, 22 |

## BIRTHS

|  |  |  |
| --- | --- | --- |
| **Period** | **Type of Data** | **RefCode** |
| 1855-2011 | Annual live birth counts, by sex | 1, 17, 20 |

# APPENDIX 2:

Figure 1. Female life expectancy at ages 65 and 80 in Scotland and Sweden, 1855-2011.



