Human Mortality Database
15 years of work for the international scientific community
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Introductory note

Vladimir M. Shkolnikov, Dmitri Jdanov, Magali Barbieri, Domantas Jasilionis, Carl Boe
New data requirements

Questions:
What are the prospects of the longevity rise and population aging?
What are the major components, determinants, and consequences of rising longevity and population aging?

Demography addresses these questions through in-depth analyses and modeling of longevity and survival in human populations with a special emphasis on advanced (frontier) ages.

Need for data that could reflect historical transformations of the mortality curve and the longevity revolution of the modern era by:
• providing long-term continuous series without gaps or ruptures;
• running up to the highest ages;
• providing fine details according to age, time, and cohort dimensions;
• ensuring sufficient quality and comparability across time and populations.

The international databases of the 1990s did not meet these criteria. HMD does.
Life expectancy divergence:
- unexpected health crisis in communist and post-communist countries of the former USSR and CEE;
- unexpected further progress in the established market economies (EME)

Success in fight with CVD and other “degenerative” diseases led to spread of mortality reduction toward very old ages.

Source: Timonin et al, 2015; Barbieri et al. 2015

Source: Built on HMD data
Väinö Kannisto produced two books documenting advances in survival and longevity on the basis of data from 28 developed countries. The books contained numerous and detailed data tables. In 1988-2001 Thatcher, Vaupel and Kannisto published important works on old-age survival, assessment of data quality, and re-estimation of populations aged 80+.
The Berkeley Mortality Database launched in 1997 by John R. Wilmoth (Dept. of Demography at UCB). Four countries. Data up to age 110. Single-year divide by age, time, year of birth. Variety of age x time format: 1x1, 5x1, 5x5, …

The Kannisto-Thatcher database launched in 2001 at MPIDR. 30 countries. Covers ages 80 to 110+. Use of the Kannisto quality checks. Re-estimation of populations at ages 80+.
HMD: General information

Collaboration
Max Planck Institute for Demographic Research (MPIDR)
Department of Demography at the University of California, Berkeley (UCB)

www.mortality.org

HMD Data Resource Profile in the International Journal of Epidemiology
http://ije.oxfordjournals.org/content/44/5/1549

Support
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HMD: basic facts

- Work began in autumn 2000
- Launched online in May 2002 with 17 country series
- Now: 39 countries and areas (+8 regions), 43,000+ users
- Comparability across time and space
- Continuous, long-term series without gaps or ruptures
- Data by age, year, cohort, in age-by-time formats 1x1, 5x1, 1x5 etc.
- Uniform data files compatible with stat. packages, research applications, and Excel
- Detailed documentation on origins and quality of the data
HMD processing of raw data into Lexis surface

Input Database: Deaths, males, ENW

Lexis Database: Deaths, males, ENW

England & Wales
Lexis surfaces of period and cohort mortality
HMD: available data

Period and cohort mortality data series across time and populations

Period life tables only
Period and cohort life tables

Source: An updated version of the data map by Barbieri et al, 2015
HMD citing, as of December 2015

Total 2002-2015:
All items - 2,244
Journal papers - 1,766
John R. Wilmoth
Founding Director,
UCB in 2000, now UN

Vladimir M. Shkolnikov
Director, MPIDR

Magali Barbieri
Associate Director,
Head of the UCB Team,
UCB&INED

Dmitry Jdanov
Head of the MPIDR Team, MPIDR

Max Planck Team
(members present and some former)

Dana Glei
Gabriel Borges

Eva Kibele
Sigrid Gellers

Rembrandt Scholz

Domantas Jasilionis
Evgeny Andreev
Pavel Grigoriev

Sebastian Kluesener

Carl Boe
Kirill Andreev
Vladimir Canudas-Romo

Tim Riffe
Mila Andreeva
Lisa Yang

Celeste Winant
Monica Alexander