The International Database on Longevity: Data Resource Profile

INTRODUCTION

The evidence about mortality at the most advanced ages has been a matter of continuous discussions. Many researchers attempt to understand whether the limit to the human lifespan has been already reached or to evaluate the changes in the shape of hazard trajectory at the extreme ages.

The International Database on Longevity (IDL), the collaborative work of the group of international researchers, has been set up to disseminate thoroughly validated information on semi- and supercentenarians and to enable the analysis of mortality trajectories of extreme longevity.

IDL peculiarity

It is the only the database that provides validated individual-level data on semi- and supercentenarians free from age ascertainment bias.

The major 2019 updates of the IDL

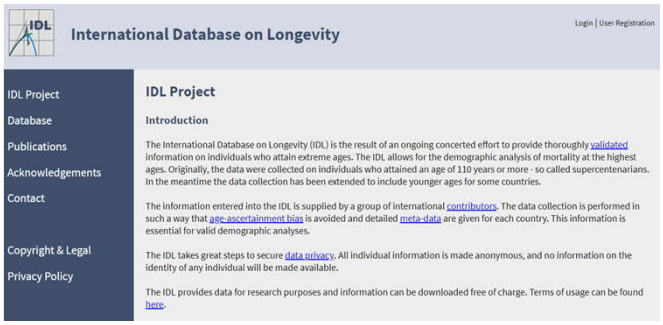
- The threshold age is 105 years and above;
- All data from the IDL-2010 revision, as well as new data collected during two rounds of updates are included in the new version;
- The pooled IDL dataset is harmonized and carefully checked in order to guarantee the comparability of collections over time and increase the cross-country coherence of the data.

AVAILABLE DATA BY COUNTRIES (as of May 2019)

Countries	Diseased		Alive	
	105-109	110 and above	105-109	110 and above
Austria	261	6	44	n/a
Belgium	782	21	61	2
Canada (Quebec)	321	12	n/a	n/a
Denmark	447	3	33	1
England and Wales	1054	129	n/a	n/a
Finland	n/a	5	n/a	1
France	9612	241	n/a	n/a
Germany	928	16	25	1
Japan	28	78	2836	113
Italy*	2336	143	1198	18
Norway	220	8	n/a	n/a
Spain	n/a	60	n/a	n/a
Sweden	n/a	10	n/a	2
Switzerland	236	4	n/a	n/a
USA	338	504	n/a	n/a
TOTAL	16563	1240	4197	138

* Data for Italy might be later excluded from the IDL due to the demand from the Italian National Statistical Office (ISTAT).

WEBSITE: www.supercentenarians.org



The IDL was first launched online in 2010; the updated version of the database has been prepared and will be accessible in the end of summer 2019.

Data resource access

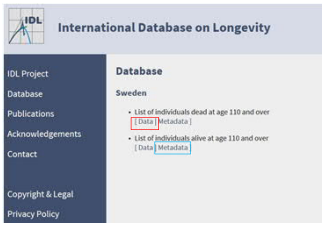
The IDL offers data purely for the scientific purposes. Access to the anonymous data is free of charge upon registration, which is quick and simple.

COUNTRY DATA PAGE

Different types of files are provided on the country data page:

- Data file with individual records of people diseased at the age 110 and above
- Data file with individual records of people alive at the age 110 and above (if available)

Metadata file: information about the data collection process and the validation method.



In the updated version of the IDL the following data will be also provided (if available):

- Data file with individual records of people diseased at the ages 105-109
- Data file with individual records of people alive at the ages 105-109

The following information is provided in the data files:

- date, country, and region of birth;
- date, country, and region of death;
- the place of current residence and proof of being alive for those alive;
- source of raw data, including information about the sampling frame;
- method of validation (sample or exhaustive);
- description of documents used for validation (birth certificate, census record, etc.)

SAMPLING, VALIDATION, STRENGTH AND LIMITATIONS

Sampling scheme

The IDL consists of individual records that have been sampled from the population. All countries except France provide data on persons who attained the threshold age during a period of years. In the case of France data are provided for cohorts of persons attaining the threshold age.

Data collection and processing in the IDL

Initial list of potential cases of people aged 105 and above: typically from population statistics

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Validation: exhaustive or sample. The validation process is subject to a number of restrictions, and the technical implementation of this process differs among the countries. Typically involves early-life documents such as baptism certificates or old census records.

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Final lists of semi- and supercentenarians

Strength of the IDL

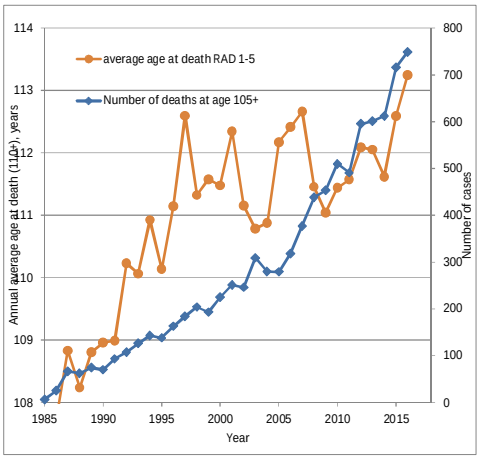
- No age-ascertainment bias;
- High level of data validation and documentation;
- Free access upon the registration.

IDL Limitations

- Validated individual cases might still be selective with respect to place and year of birth;
- The number of supercentenarians is rather small;
- Some of the cohorts are not yet extinct, and thus the complete set of mortality probabilities is not directly observed;
- Information about people alive at extreme ages are not available for most of the countries.

DATA EXAMPLES

France, maximum recoded age at death



Jeanne Calment (France)

- The oldest human whose age was well-documented
- Lived in 1875--1997
- 122 years and 164 days
- Became the oldest person ever in 1990

Jiroemon Kimura (Japan)

- The oldest man whose age was well-documented
- Lived in 1897--2013
- 116 years and 54 days
- Became the oldest men ever in 2012

Contributors

The IDL project would not have been possible without the efforts and commitment of the contributors, who carry out the age verification of the oldest-old and provide the country-specific data: Elisabetta Barbi (Italy); Marko Battaglini (Italy); Robert Bourbeau (Canada); Giorgia Capacci (Italy); Graziella Caselli (Italy); Stéphane Cotter (Switzerland); Bertrand Desjardins (Canada); Viviana Egidi (Italy); Jutta Gampe (Germany); Rosa Gómez Redondo (Spain); Bernard Jeune (Denmark); Bert Kestenbaum (United States); Heiner Maier (Germany); John McCormack (Australia); France Meslé (France); Michel Poulain (Belgium); Jean-Marie Robine (France); Yasuhiko Saito (Japan); Rembrandt Scholz (Germany); Axel Skytthe (Denmark); Roger Thatcher (deceased in February 2010; United Kingdom); Jacques Vallin (France); Frans van Poppel (Netherlands); James Vaupel (Germany); John Wilmoth (United States); Robert Young (United States); Marco Marsili (Italy); Stephan Marik-Lebeck (Austria); Anita Mikulasek (Austria); Oliver Dormon (United Kingdom); Julie Mills (United Kingdom), and Johannes Hechler (United Kingdom).

Contact: O.Grigoriev (ogrigoriev@demogr.mpg.de)