

Short-term Mortality Fluctuations (STMF) data series: a new data collection of weekly mortality

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International Laboratory for Population and Health
Higher School of Economics
Moscow, July 23, 2020



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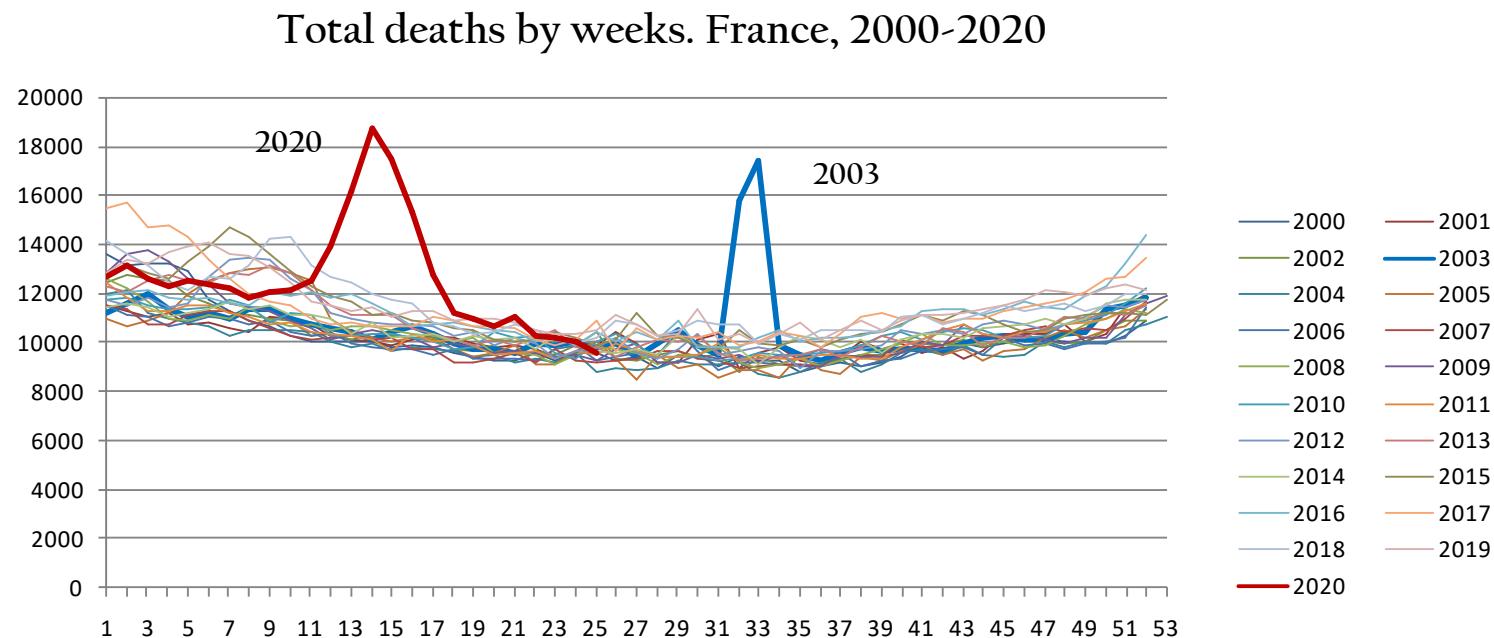
Berkeley
UNIVERSITY OF CALIFORNIA

Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

The **aim** of the data collection is to create an **open and free data collection** to assess:

- the excess mortality due to the Covid-19 pandemic
- the scale of other short-term mortality shocks across countries and time



Short-term Mortality Fluctuations data series

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The **aim** of the data collection is to create an **open and free data collection** to assess:

- the excess mortality due to the Covid-19 pandemic
- the scale of other short-term mortality shocks across countries and time

What **kind of data** we needed?

- Weekly (if not, monthly) death counts
- By age groups (5-y desirable)
- By sex
- Period 2000-2020
- Goal areas: EU, US, Canada, Japan, South Korea, Russia, Australia

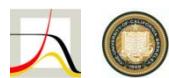
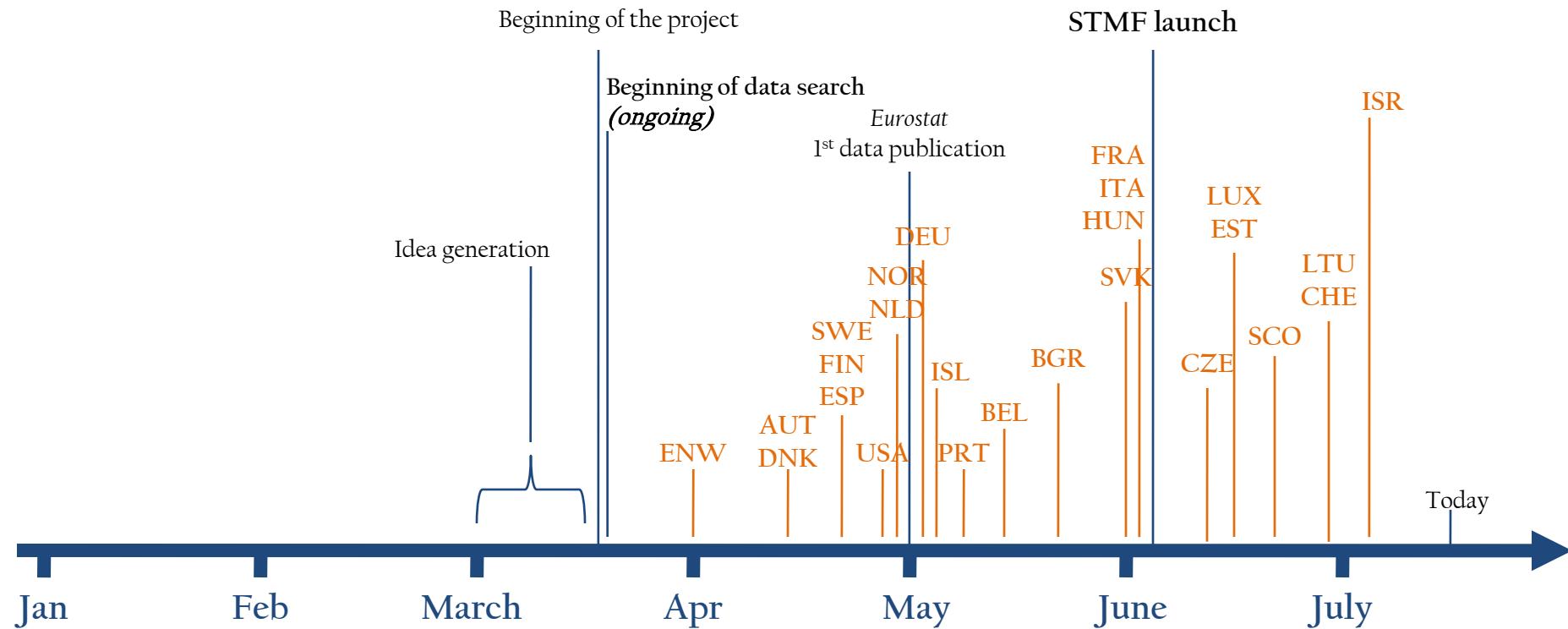
Beginning of the project: **March 16, 2020** (lockdown & home-office)

- Online search for open&free data
- Emails (NSIs, Health Ministries, EuroMoMo...)



Short-term Mortality Fluctuations data series a new data collection of weekly mortality

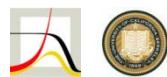
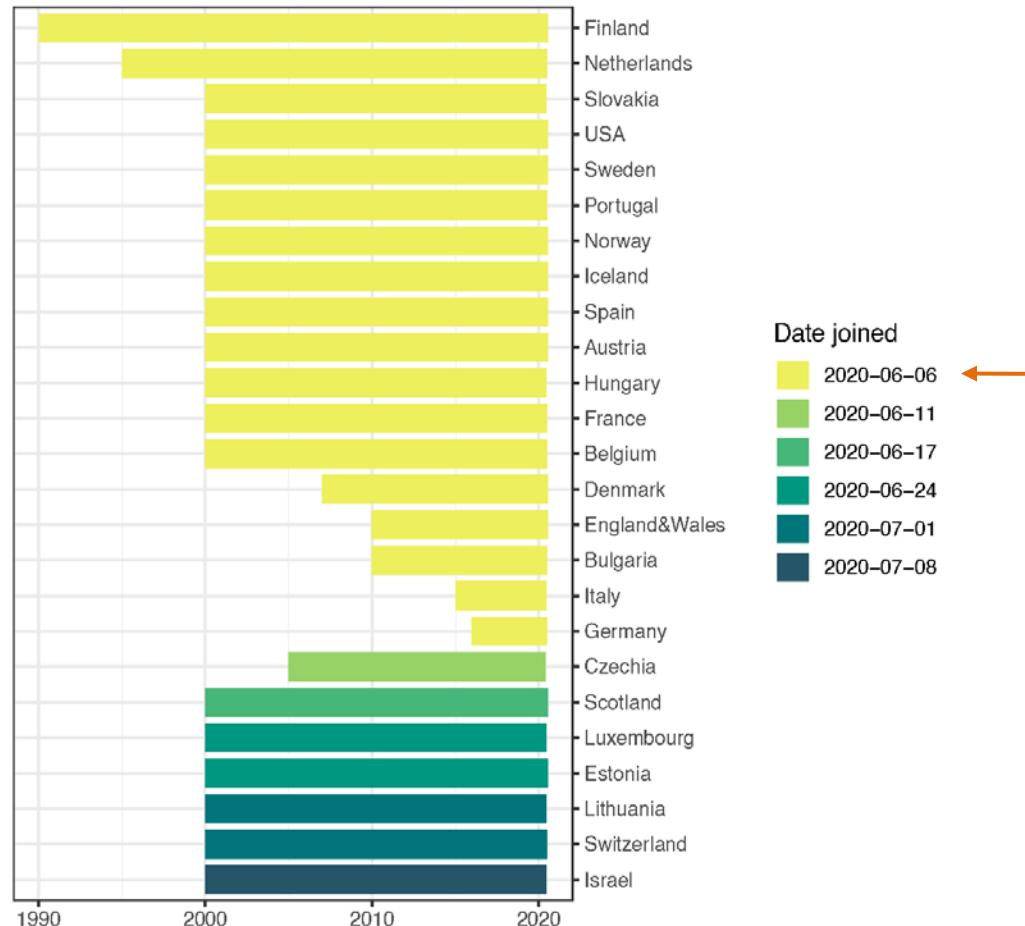
Development of the STMF project



Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

STMF countries and data coverage



Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

Countries coming soon to the STMF



Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

Where can you find STMF data?

<https://www.mortality.org/>

HMD Main Menu

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Explanatory Notes
Data Availability
Zipped Data Files
Citation Guidelines

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Max Planck Institute
UC Berkeley
UC Berkeley Demography
INED
Human Life Table
Database
Canadian HMD

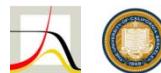
The Human Mortality Database

Vladimir Shkolnikov, *Director*
Magali Barbieri, *Associate Director*
John Wilmoth, *Founding Director*

Max Planck Institute for Demographic Research
University of California, Berkeley and INED, Paris
United Nations and formerly University of California, Berkeley

In response to the COVID-19 pandemic, the HMD team decided to establish a new data resource: **Short-term Mortality Fluctuations (STMF) data series**. Objective and internationally comparable data are crucial to determine the effectiveness of different strategies used to address epidemics. Weekly death counts provide the most objective and comparable way of assessing the scale of short-term mortality elevations across countries and time. [Here](#) we provide weekly death counts for 25 countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Belgium, England and Wales, Estonia, Finland, France, Germany, Hungary, Iceland, Israel, Italy, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Scotland, Slovakia, Spain, Sweden, Switzerland and the USA. The same data in the pooled CSV file are available for download [here](#). Data formats and methods are described in the [STMNote](#). We also strongly recommend reading the [metadata text](#). Following the HMD practice, we also publish [original input data in standardized format](#). During the next few weeks data will be frequently updated and new countries will be added. The most recent STMF update is: 2020-07-08.

New: We invite you to explore this data with our online [STMF visualization toolkit](#).

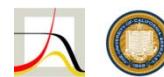
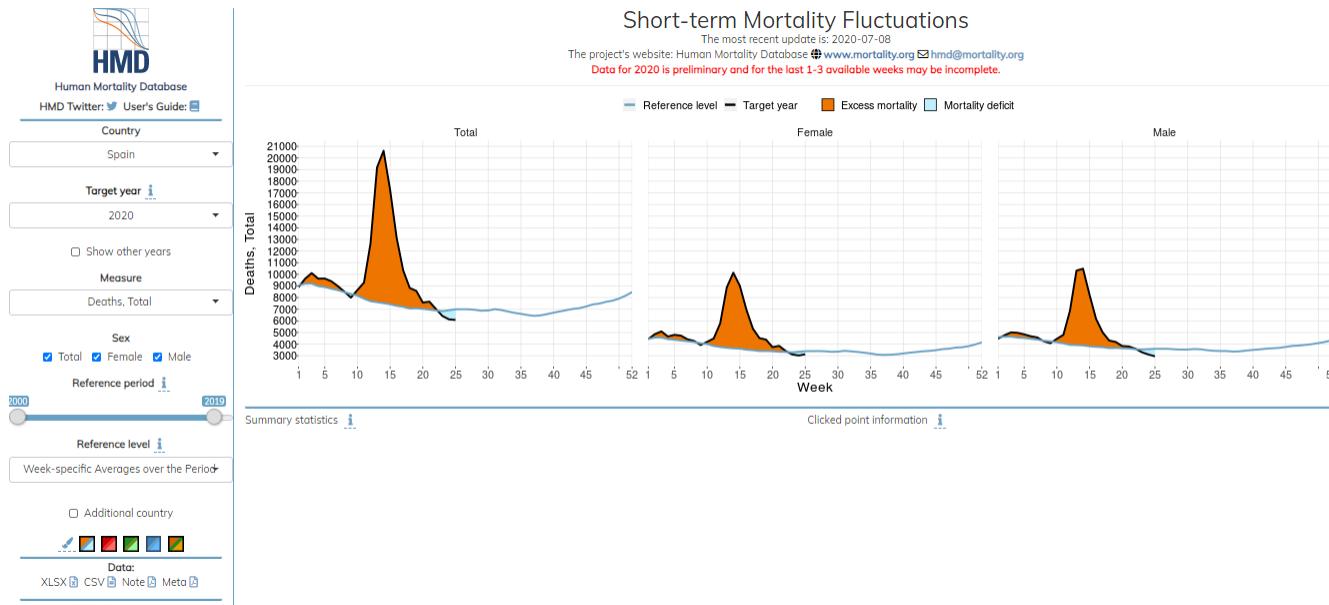


Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

Where can you find STMF data?

<https://mpidr.shinyapps.io/stmortality/>

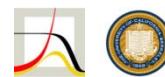
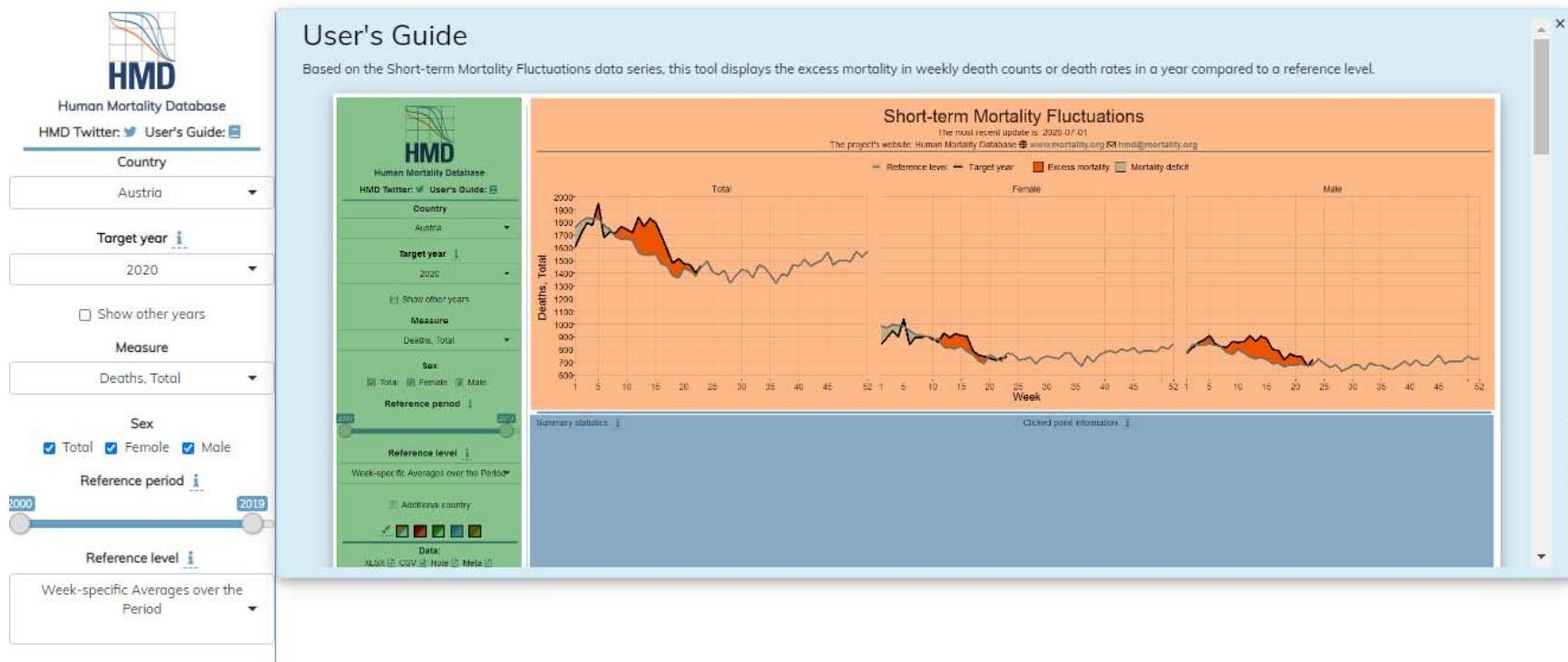


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Where can you find STMF data?

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Short-term Mortality Fluctuations data series

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What data can you find in the STMF?

1 Weekly death counts for all countries

A1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Human Mortality Database																			
2	Short-term mortality fluctuation data series (STMF)																			
3	last revised	7/8/2020	19:40																	
4																				
5	This file contains collection of weekly mortality data series																			
6	Data organized by country: every worksheet contains data for one country																			
7	Every data series includes death counts and death rates as well as quality indicator ("Split", "SplitSex", "Forecast")																			
8	The field "Split" indicates if age-specific data were split from broad age group (0 - original data, 1 - interpolated data)																			
9	The field "SplitSex" indicates if data were split by sex (1 = yes)																			
10	The field "Forecast" indicates if population exposures were forecasted (0 - HMD population exposures, 1 - forecast)																			
11	For details please see the STMF note (https://www.mortality.org/Public/STMF_DOC/STMFNote.pdf)																			
12																				
13	We strongly recommend to read Metadata file available at the HMD website (https://www.mortality.org/Public/STMF_DOC/STMFmetadata.pdf)																			
14																				
15																				
16	Citation:																			
17	Human Mortality Database. Max Planck Institute for Demographic Research (Germany) and University of California, Berkeley (USA).																			
18	Available at www.mortality.org (data downloaded on [date]).																			
19																				
20	Sources of original data - please read Metadata file for detailed information:																			
21																				
22	Country code	Country / Area	Data source	Available years (week.year)																
23	1 AUT	Austria	Statistik Austria	01.2000 - 25.2020																
24	2 BEL	Belgium	STATBEL and Eurostat	01.2000 - 25.2020																
25	3 BGR	Bulgaria	National Statistical Institute	01.2010 - 26.2020																
26	4 CHE	Switzerland	Eurostat and Swiss Federal	01.2000 - 25.2020																
27	5 CZE	Czech Republic	Statistical Office and Eurosta	01.2005 - 20.2020																
28	6 DEUTNP	Germany	Statistisches Bundesamt	01.2016 - 23.2020																
29	7 DNK	Denmark	Statistics Denmark	01.2007 - 26.2020																
	Description	AUT	BEL	BGR	CHE	CZE	DEUTNP	DNK	ESP	EST	FIN	FRATNP	GBRTENW	GBR_SCO	HUN	ISL	ISR	ITA		



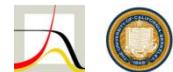
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What data can you find in the STMF?

1 Weekly death counts for all countries

C1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Austria																		
2				Death counts					Death rates					Quality indicators					
3	Country	Year	Week	Sex	0-14	15-64	65-74	75-84	85+	Total	0-14	15-64	65-74	75-84	85+	Total	Split	SplitSex	Forecast
4	AUT	2000	1 m		7.00	183.00	212.00	249.00	163.00	814.00	0.000520	0.003513	0.037607	0.095138	0.231834	0.010925	0	0	0
5	AUT	2000	1 f		2.00	104.00	141.00	338.00	468.00	1053.00	0.000156	0.002002	0.019553	0.061442	0.224357	0.013238	0	0	0
6	AUT	2000	1 b		9.00	287.00	353.00	587.00	631.00	1867.00	0.000343	0.002759	0.027474	0.072305	0.226242	0.012120	0	0	0
7	AUT	2000	2 m		4.00	195.00	195.00	259.00	187.00	840.00	0.000297	0.003743	0.034591	0.098958	0.265969	0.011274	0	0	0
8	AUT	2000	2 f		6.00	109.00	126.00	312.00	509.00	1062.00	0.000469	0.002099	0.017473	0.056716	0.244012	0.013352	0	0	0
9	AUT	2000	2 b		10.00	304.00	321.00	571.00	696.00	1902.00	0.000381	0.002922	0.024983	0.070334	0.249547	0.012347	0	0	0
10	AUT	2000	3 m		8.00	226.00	216.00	233.00	203.00	886.00	0.000595	0.004338	0.038316	0.089024	0.288726	0.011892	0	0	0
11	AUT	2000	3 f		5.00	116.00	130.00	340.00	550.00	1141.00	0.000391	0.002233	0.018027	0.061806	0.263667	0.014345	0	0	0
12	AUT	2000	3 b		13.00	342.00	346.00	573.00	753.00	2027.00	0.000495	0.003287	0.026929	0.070581	0.269984	0.013158	0	0	0
13	AUT	2000	4 m		18.00	203.00	216.00	237.00	190.00	864.00	0.001338	0.003897	0.038316	0.090553	0.270236	0.011596	0	0	0
14	AUT	2000	4 f		6.00	92.00	126.00	334.00	518.00	1076.00	0.000469	0.001771	0.017473	0.060715	0.248327	0.013528	0	0	0
15	AUT	2000	4 b		24.00	295.00	342.00	571.00	708.00	1940.00	0.000914	0.002836	0.026618	0.070334	0.253850	0.012593	0	0	0
16	AUT	2000	5 m		6.00	186.00	202.00	233.00	230.00	857.00	0.000446	0.003570	0.035833	0.089024	0.327128	0.011502	0	0	0
17	AUT	2000	5 f		10.00	118.00	112.00	330.00	501.00	1071.00	0.000781	0.002272	0.015531	0.059988	0.240177	0.013465	0	0	0
18	AUT	2000	5 b		16.00	304.00	314.00	563.00	731.00	1928.00	0.000609	0.002922	0.024439	0.069349	0.262096	0.012516	0	0	0
19	AUT	2000	6 m		6.00	207.00	197.00	206.00	177.00	793.00	0.000446	0.003973	0.034946	0.078708	0.251746	0.010643	0	0	0
20	AUT	2000	6 f		7.00	95.00	103.00	295.00	467.00	967.00	0.000547	0.001829	0.014283	0.053626	0.223878	0.012157	0	0	0
21	AUT	2000	6 b		13.00	302.00	300.00	501.00	644.00	1760.00	0.000495	0.002903	0.023349	0.061712	0.230903	0.011425	0	0	0
22	AUT	2000	7 m		7.00	178.00	187.00	209.00	171.00	752.00	0.000520	0.003417	0.033172	0.079854	0.243213	0.010093	0	0	0
23	AUT	2000	7 f		2.00	114.00	100.00	295.00	403.00	914.00	0.000156	0.002195	0.013867	0.053626	0.193196	0.011491	0	0	0
24	AUT	2000	7 b		9.00	292.00	287.00	504.00	574.00	1666.00	0.000343	0.002807	0.022337	0.062081	0.205805	0.010815	0	0	0
25	AUT	2000	8 m		9.00	192.00	168.00	226.00	125.00	720.00	0.000669	0.003685	0.029802	0.086350	0.177787	0.009664	0	0	0



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What data can you find in the STMF?

② The Input CSV files: raw original data

BELstmf - Microsoft Excel

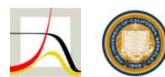
A1	PopCode									
1	PopCode	Area	Year	Week	Sex	Age	AgeInterv	Deaths	Type	Access
2	BEL	1	2000		1 m		0	5	9 O	O
3	BEL	1	2000		1 m		5	5	0 O	O
4	BEL	1	2000		1 m		10	5	0 O	O
5	BEL	1	2000		1 m		15	5	4 O	O
6	BEL	1	2000		1 m		20	5	9 O	O
7	BEL	1	2000		1 m		25	5	4 O	O
8	BEL	1	2000		1 m		30	5	8 O	O
9	BEL	1	2000		1 m		35	5	10 O	O
10	BEL	1	2000		1 m		40	5	16 O	O
11	BEL	1	2000		1 m		45	5	31 O	O
12	BEL	1	2000		1 m		50	5	63 O	O
13	BEL	1	2000		1 m		55	5	45 O	O
14	BEL	1	2000		1 m		60	5	87 O	O
15	BEL	1	2000		1 m		65	5	154 O	O
16	BEL	1	2000		1 m		70	5	200 O	O
17	BEL	1	2000		1 m		75	5	270 O	O
18	BEL	1	2000		1 m		80	5	179 O	O
19	BEL	1	2000		1 m		85	5	174 O	O
20	BEL	1	2000		1 m		90 +		117 O	O
21	BEL	1	2000	1 m	TOT	.		1380 O	O	
22	BEL	1	2000	1 f		0	5	4 O	O	
23	BEL	1	2000	1 f		5	5	2 O	O	
24	BEL	1	2000	1 f		10	5	3 O	O	
25	BEL	1	2000	1 f		15	5	2 O	O	

BELstmf: Bloc de notas

Archivo Edición Formato Ver Ayuda

PopCode,Area,Year,Week,Sex,Age,AgeInterv,Deaths,Type,Access

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Short-term Mortality Fluctuations data series

a new data collection of weekly mortality

What data can you find in the STMF?

③ Description of data Formats and Methods

Short-term Mortality Fluctuations Dataseries

This is a preliminary version of the STMF. We are still working on the methodology, data quality checks, and data presentation. Please let us know if you have any suggestions or comments.

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Background

Short-term Mortality Fluctuations (STMF) data series is a new part of the Human Mortality Database. These series are established to provide data for scientific analysis of all-cause mortality fluctuations by week within each calendar years. The decision to establish this new data resource under the HMD was primarily in response to the COVID-19 pandemic of 2019-20. An additional motivation for this HMD extension was an increasing importance of short-term or seasonal mortality fluctuations that are driven by temporal risk factors such as seasonal patterns of influenza or temperature extremes. The relative importance of short-term mortality outbreaks increases in the context of low annual levels of mortality. It is also evident that these particular problems affect particular population groups such as elderly, in particular. The STMF series enable interrogation of these fluctuations and aims at facilitating research on human life losses, driving forces, and related health policies.



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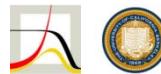
④ Metadata for each country

SHORT-TERM MORTALITY FLUCTUATIONS DATA SERIES: METADATA

Last update: 22.07.2020

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SPAIN

Last update: 15.07.2020

1. Coverage

This data series includes all the death events that occurred in Spain. Data is provided since June 2020 by the Instituto Nacional de Estadística (INE) or National Statistical Institute of Spain as a part of the experimental project called "Estimaciones del número de defunciones semanales durante el brote de Covid-19" (EDeS). Death counts are provided to the INE by the Civil Registrar.

2. Time coverage:

- 2.1. First day: 01.01.2000 (week 1)
- 2.2. Last day: 05.07.2020 (week 27)
- 2.3. Frequency of updates by data provider: every two weeks, on Wednesday.

3. Original data on deaths

- 3.1. Death date: date of occurrence.
- 3.2. Time units: weekly deaths.
- 3.3. First and last days in week: Monday-Sunday.
- 3.9. First and last weeks in year: Weeks are arranged by INE following the ISO8601 guidelines.
Therefore, every weeks of the year, including the first and the last, contain 7-days. In order to get 7 days weeks, days of the previous years are included in this first week (whenever January 1st was a Tuesday, Wednesday or Thursday) or in the last calendar week (whenever December 31 was Thursday, Friday or Saturday).
- 3.4. Age groups: 5-year age groups (open age group: 90 and more), unknown, total.
- 3.5. Sex: male, female, both sexes
- 3.6. Data restrictions and modifications: data for 2020 is based on estimations made by the INE.
Therefore, data may be overestimating or underestimating real deaths. Estimation method can be accessed in the Technical Project published by INE, as well as the correction coefficients used in every province to correct the incomplete data provided by *Inforeg* (INE, 2020).
- 3.7. Delays: 2000-2018 data is final. 2019 data is provisional. 2020 data is estimated. Death counts on every available file published by the original source may change due to delayed death notifications.

4. Output data: aggregated from detailed original age groups

5. Information on the data source and data provider

- 5.1. Data provider: Instituto Nacional de Estadística, INE
- 5.2. Original copyright: © Instituto Nacional de Estadística
- 5.3. Date of last update: July 15, 2020

5.4. Link to the datasets (accessed every two weeks since 03.06.2020):

https://www.ine.es/experimental/defunciones/experimental_defunciones.htm

6. Additional notes:

- Information is received to INE by 3929 computerized civil registers from all provinces in Spain through the *Inforeg* application. That corresponds to the 93% of the population (INE, 2020).
- Due to the experimental character of the data, three types of data are combined: definitive figures for the period 2000-2018, provisional data for 2019 and estimated ones for 2020 (INE, 2020).
- Total death counts provided for some of the 2020 weeks are not consistent with the sum of male and female deaths (differences are always lower than 10). Nevertheless, we keep these figures in the input files. This difference can be considered as deaths of unknown sex.
- Original source also includes regional data (by provinces and autonomous communities).

7. References:

Instituto Nacional de Estadística (INE) (2020): Estimación del número de defunciones semanales durante el brote de Covid-19 (EDeS). Proyecto técnico. Online Access (04.06.2020): https://www.ine.es/experimental/defunciones/experimental_edes_proyecto.pdf

International Organization for Standardization (2019): ISO 8601-2004. Online access (24.04.2020): <https://www.iso.org/standard/40874.html>.

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The STMF updates

- Input and Output files:
 - New weeks
 - Revised data for all 2020 available weeks
 - New age grouping (if available)
 - New countries

- Metadata file



Short-term Mortality Fluctuations (STMF) data series: a new data collection of weekly mortality

Human Mortality Database: www.mortality.org

STMF viz tool: <https://mpidr.shinyapps.io/stmortality/>

Contact us: hmd@mortality.org



@HMDatabase



MAX PLANCK INSTITUTE
FOR DEMOGRAPHIC RESEARCH



Berkeley
UNIVERSITY OF CALIFORNIA