



Methodological explanations

Official statistics on deaths, causes of death and notifiable diseases

Third version, updated on 15 May 2020

Neuchâtel, 2020

| | | | |
|----------------------|---|------------------------|---|
| Published by: | Federal Statistical Office (FSO) | Original texts: | German |
| Information: | Information service, Health, gesundheit@bfs.admin.ch , +41 58 463 67 00 | Layout concept: | Section DIAM |
| Editor: | Klaus von Mural, MEDIA | Pictures: | © FSO |
| Contents: | Christoph Junker, GESB; Klaus von Mural, MEDIA | Graphics: | © FSO |
| Topic: | 14 Health | Downloads | www.statistics.ch |
| Translation: | FSO language services | Copyright: | FSO, Neuchâtel 2020 Reproduction with mention of source authorised (except for commercial purposes) |

List of contents

| | | |
|---|--------------------------------|---|
| 1 | Introduction | 3 |
| 2 | Influenza and excess mortality | 3 |
| 3 | Mortality monitoring | 3 |
| 4 | Methodology | 4 |

1 Introduction

Four different official statistics enable conclusions to be drawn about the number of deaths in Switzerland over a given period of time:

- Mortality monitoring (FSO)
- Statistics from the notification system for infectious diseases (FOPH)
- Cause of Death Statistics (FSO)
- Swiss Vital Statistics (BEVNAT, FSO)

In the first instance, the [weekly mortality monitoring](#) is compiled by the Federal Statistical Office (FSO) based on the daily deaths reported from the civil registry offices' electronic registers (Infostar, computerised civil records).

Secondly, the statistics of infectious diseases are compiled by the Federal Office of Public Health (FOPH) from the compulsory notification system. The numbers of people infected with coronavirus/COVID-19 are updated daily based on notifications from doctors and laboratories to the cantons. The FOPH records the deaths with the "Clinical reports after death" (as required for COVID-19) or using an "Additional reporting" (such as tuberculosis), but not for all notifiable diseases (e.g. not for influenza).

Thirdly, the [FSO Cause of Death Statistics](#) are based on medical cause of death certificates. These statistics list the main causes of death with a delay of roughly two years. It is important to note that in the Cause of Death Statistics, only the underlying disease is reported as the cause of death; concomitant diseases that have also contributed to death are recorded but not mentioned in the annual report.

Fourthly, the FSO's Vital Statistics (BEVNAT) provides annual and provisional monthly results for the number of deaths as well as births, marriages and divorces as they are reported in Infostar. Additionally, from 24 April 2020 until further notice, the BEVNAT statistics will now publish the provisional number of deaths on a weekly basis.

2 Influenza and excess mortality

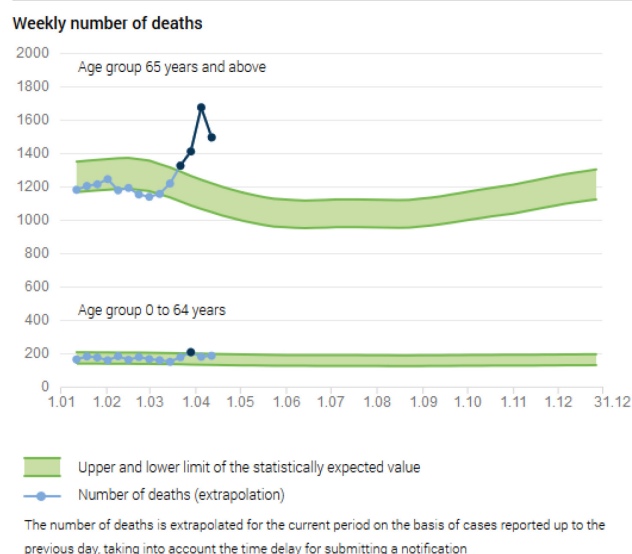
The Cause of Death Statistics are published annually in December and as already mentioned, only the main cause of death is reported. In its [mortality monitoring of the 2015 influenza season](#), the FSO observed an excess mortality of 2200 people in the over-65 age group, but the cause of death statistics for that year (M, F) recorded "only" 244 people whose cause of death was "influenza" as the underlying disease.

3 Mortality monitoring

The FSO weekly mortality monitoring is usually updated on Tuesdays and on the basis of Infostar, an assessment is made as to whether there is excess mortality. A statistical model determines the number of weekly expected deaths, which is compared with the number of actual deaths in the same week. The diagram below shows the situation on 21 April 2020.

The diagram shows that the number of deaths in the 65+ age group lies clearly above the expected value. Due to the way in which data is processed, the latest figures are always nine days old. This means that with the database as on Tuesday 21 April, deaths up to and including Sunday 12 April are illustrated in the graph. The mortality monitoring itself does not contain any diagnoses. The reason for any current increased mortality must be deduced from other data sources and clinical reports that are available at the same time. The excess mortality in spring 2020 is without doubt due to the current coronavirus pandemic. The FSO's statistics are overall in line with those from the FOPH.

Weekly number of deaths in 2020



Source: FSO – Cause of death statistics
Data status: 21.04.2020

© FSO 2020

4 Methodology

The methodologies used for the FSO statistics are explained below:

Mortality monitoring

Through its mortality monitoring, the FSO observes whether or not mortality is above the usual seasonal level, i.e. whether the number of deaths is significantly above the expected number. To do this, the expected number of deaths in a given year is estimated based on the trends seen in the previous five years; distribution across individual weeks is estimated on the basis of the median value for each individual calendar week of the previous ten years. These estimates are calculated separately for the under and over-65s. In recent years the FSO has been able to demonstrate several periods of “excess mortality”. The trigger is not directly mentioned in the data. Until now, however, it has always been possible to attribute a known “cause” such as influenza or a heatwave.

The mortality monitoring figures are based on the daily civil registry notifications, which are sent to the FSO for its Vital Statistics by the civil registry offices. The processing of notifications takes time. Usually after nine days a sufficiently large share (>85%) of deaths have been registered making an estimate of the actual number of deaths possible on a broad data basis. The degree of excess mortality can be estimated based on the difference between the actual and the estimated and expected deaths.

As of 28 April 2020, mortality monitoring can now provide information about deaths in Switzerland's seven major regions according to the NUTS2 definition: Lake Geneva region, Espace Mittelland, Northwest Switzerland, Zurich, Eastern Switzerland, Central Switzerland, and Ticino. Figures for the seven major regions are calculated in a similar way to that described above.

As of 15 May, data are also being shown for the 18 largest cantons (those with more than 100 000 inhabitants) using the same methods. The accuracy of the estimates depends on how high the number of deaths is.

Swiss Vital Statistics, BEVNAT

In the Vital Statistics, findings on births, deaths, marriages, divorces, registered partnerships and dissolved partnerships are published based on registry office notifications. Processing takes 12 days. An important difference between the Vital Statistics and mortality monitoring is that the former also includes deaths abroad of people residing in Switzerland. In contrast, mortality monitoring records exclusively deaths occurring in Switzerland of people residing in Switzerland. The provisional weekly demographic figures that have been published since 24 April 2020 are broken down by sex, age group, major region and canton.

Cause of Death Statistics

In its Cause of Death Statistics, the FSO records the underlying disease, i.e. the disease that was at the beginning of the course of the disease. Should a person who is chronically ill also catch an acute infection, the infection is recorded as an additional disease (provided it has been identified). However, the published statistics mention only the underlying disease, in line with the rules of the World Health Organization (WHO). It is the responsibility of the reporting doctor to assess which diagnosis was the main cause of death. For this reason, no figure for the total number of deaths due to “influenza” can be established from the tables published by the FSO. Influenza only appears as cause of death if the person was in good health before falling ill with influenza. Each death appears only once in the published Cause of Death Statistics. This is the only simple way to produce tables that are easy to understand.

The Swiss Cause of Death Statistics are based on medical cause of death certificates. Diagnoses are recorded in words, the coding is based on the ICD-10 and is conducted by the Federal Statistical Office according to the rules defined by the WHO.

- [Latest press release on Cause of Death Statistics for 2017](#)
- [Publication on Death and its main causes in Switzerland in 2016, published in January 2019](#)