



## Notice concerning mortality during the COVID-19 pandemic

### *Civil registration data provided by INSEE*

INSEE manages the National Directory for the Identification of Natural Persons (RNIPP) in accordance with Decree No 82-103 of 22 January 1982. According to that Decree, municipalities must provide information to INSEE as soon as a civil registry record is established in France.

INSEE updates the number of deaths every month on the basis of the RNIPP for Metropolitan France (which dates back to January 1946, <https://www.insee.fr/en/statistiques/serie/000436394>) and for France as a whole (which dates back to January 1994, or 2014 with Mayotte included <https://www.insee.fr/en/statistiques/serie/001641603>). During the update of 25 March 2020, for example, the number of deaths during February 2020 was released for the first time and the number of deaths was revised for December 2019 and January 2020.

**INSEE has decided to temporarily publish regularly data concerning the number of deaths registered in each department in order to contribute to the transparent provision of data during the COVID-19 pandemic.** These data cover all causes of death and are therefore significantly higher than the deaths linked to the pandemic. They are submitted to INSEE's regional offices by the town halls, either digitally or on hard copy. In 2019, the rate of digitisation was 88% and ranged from 63% to 100% depending on the department. This rate is likely to increase during the coming weeks, since numerous town halls are planning to send the data digitally as a result of the Covid-19 epidemic.

The town halls are legally obliged to submit these data to INSEE within one week at the latest. Where the data are submitted on hard copy, an additional period must be added to allow the data to be sent by post and entered by INSEE's departments. In practice, these statutory periods may be extended for some municipalities, and under certain circumstances (public holidays or bridging days, and at present as a result of the exceptional circumstances brought about by the lockdown situation, for example).

The series of daily deaths published by INSEE for each department counts deaths in accordance with the dates on which they occurred. These deaths are recorded in the department in which they occur and not in the department in which the person is resident. The deaths reported on 1 April 2020 by the municipalities that have chosen to submit their data digitally are provided up to day D-7 (since the information concerning those deaths is, by its very nature, received very quickly by INSEE and can be used straight away without the data needing to be entered into a computer). For these municipalities, deaths occurring in 2020 can be compared directly with deaths that occurred in 2019 and 2018 without having to take account of changes in the rate of digitisation between 2018, 2019 and 2020 (since this group of municipalities is "constant"). These municipalities record more than 90% of total deaths. The total number of deaths is also available for each department, for all of the municipalities, up until day D11, as it takes longer to integrate the deaths submitted on hard copy.

**It is important to note that these data are provisional and will be revised each time they are published.** Nevertheless, INSEE has made the decision to make them available to everyone, since they may allow for early detection of changes in trends. The most recent data are incomplete, as the municipalities have a week to submit the data and the amount of time it takes for that data to be submitted varies depending on the day of the week. The speed at which this information is reported also varies from department to department and may be affected by the lockdown measures, as is the case with the decision as to how to submit the data (digitally or by post).

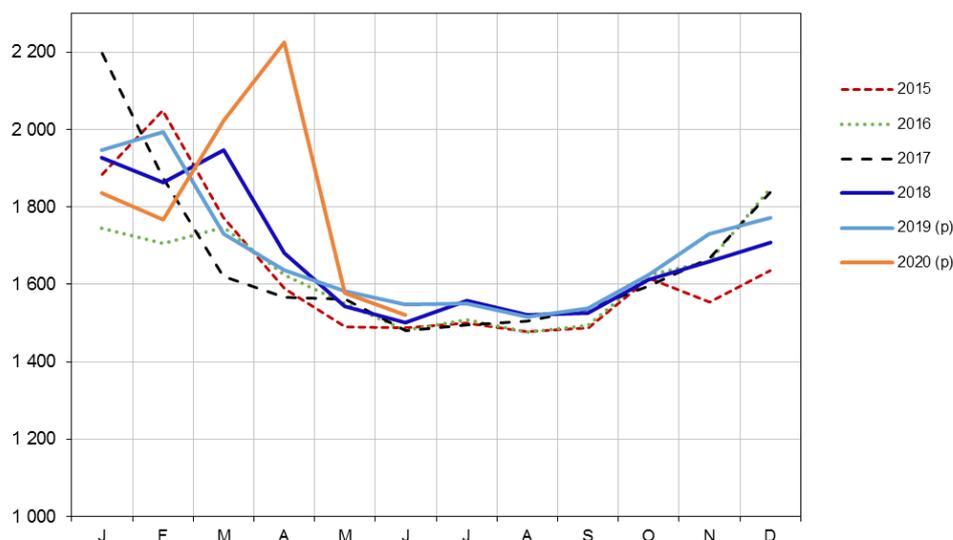
In spite of the current problems, it is important that the submission of data concerning deaths forms part of the continuity of service for municipalities to ensure that the data remain reliable. **Data detailing deaths by place of occurrence** have also been provided as from 10 April within the detailed record of deaths by age, gender and place of death. These data identify whether the death took place in a hospital, a private clinic, a nursing home, at home or elsewhere. It should be noted, however, that this information was not reported for approximately 9% of deaths occurring in March 2020, which are therefore included in the “elsewhere” category (which includes the 2% of deaths that occurred in public areas or in other locations, such as other people’s homes or places of work). The non-response rate is sometimes very high at departmental level and it can vary significantly from one year to the next. For these reasons, the number and distribution of deaths according to place of death at departmental level must be interpreted with the utmost caution, particularly when comparing differences in figures between departments or changes from one year to the next. The data showing the gender and age of the deceased persons are also made available online at departmental level.

INSEE receives the statistical bulletin from the civil registry of deaths (death certificate B7bis, submitted by the town halls to INSEE’s regional offices, see <https://www.insee.fr/en/information/2493967>). Some of the information contained within this bulletin appears on the death certificate drawn up by the municipality. This includes the municipality in which the death occurred, the date of death, the surname, forenames, date of birth, gender and municipality of residence of the deceased. Other information contained within this bulletin, which is of use for statistical purposes, does not appear on the death certificate; the registrar must request this information from the person registering the death. This is the case in particular for the place of death (home, hospital facility, private clinic, nursing home, public area). The information concerning place of death that is submitted by the town halls is therefore declarative in nature and its quality depends on how much the person declaring the death knows about the circumstances of that death and their ability, together with that of the registrar, to select the appropriate cause of death. It is not subject to any verification or correction by INSEE, since INSEE does not possess any other information that would enable it to verify or correct the information.

### ***A number of deaths that fluctuates from one year to the next***

The variations from one year to the next can also be significant, particularly during the winter months, as the impact of seasonal influenza differs greatly from year to year, both in terms of its extent and its duration. That is why the average number of daily deaths for January was much higher in 2017 than it was in other years. With regard to deaths occurring in February, the daily rate was much higher in 2015 than in 2019. Finally, since the winter influenza outbreak of 2017-2018 was especially intense and long, the daily death rate for March 2018 was significantly higher than it was for March of any other year. Each year, the models produced by Santé Publique France allow an estimate to be made of the excess deaths observed, particularly in winter, and the role that seasonal influenza plays in that. The 2018-2019 winter influenza epidemic, which peaked in early February 2019, was of limited duration (8 weeks), but had a high mortality rate; however, this was still lower than it was for the epidemic that occurred during the previous winter (2017-2018), which was exceptionally long-lived. For the 2019-2020 winter influenza epidemic, no increase was seen in all-cause mortality up to the beginning of March (see [Santé Publique France](#)).

Average number of daily deaths by month and year occurring in France since 2015



### ***Epidemiological analysis of deaths recorded in the civil registry by Santé publique France***

**The daily data from the town halls that are sent to INSEE digitally are forwarded to Santé Publique France** to enable it to perform reactive monitoring of mortality with a view to issuing alerts<sup>1</sup>. The mortality analyses performed by Santé publique France **are based on a sample of 3,000 municipalities** in which **77% of the nation's deaths** are registered (between 63% and 98% depending on the region) and they allow for the use of historical data dating back at least 5 years. These are municipalities that have been submitting data digitally for a number of years, which enables it to draw upon a constant field of observation.

The data drawn from this sample of 3,000 municipalities are not sufficient to provide a complete picture of the number of deaths across France. They do, however, allow mortality to be tracked over time throughout the nation, thereby making it possible to establish models aimed at quantifying the possible excess deaths brought about as a result of a health phenomenon caused by an epidemic or environmental factors.

The use of a European statistical model (EuroMOMO2<sup>2</sup> – <https://www.euromomo.eu/>) with a view to identifying and quantifying possible excess mortality requires minimal consolidation of the data. In addition, the mortality data provided by this sample cannot be analysed any earlier than 10 days after they are received in order to take account of the issues with submitting mortality data (legal and actual timescales, possible technical limitations, organisation of registry offices) and to ensure sufficient completeness for analysis.

#### **In conclusion:**

**The death figures published by INSEE and Santé Publique France differ from one another. Given the respective missions of these two entities and their respective methods for analysing and using the data, it is simply not possible to compare them.**

1 Baghdadi Y , Gallay A, Caserio-Schönemann C, Fouillet A. Evaluation of the French reactive mortality surveillance system supporting decision making. Eur J Public Health 2018;cky251-cky251

2 Gergonne B, Mazick A, ODonnell J. A European algorithm for a common monitoring of mortality across Europe 2011. Available from: [http://www.euromomo.eu/methods/pdf/wp7\\_report.pdf#page=1&zoom=auto,-274,842](http://www.euromomo.eu/methods/pdf/wp7_report.pdf#page=1&zoom=auto,-274,842).