



November 11th 2020

WEEKLY DEATHS – preliminary data

Weeks 1 to 48 of 2020

## MORTALITY IN PORTUGAL IN THE CONTEXT OF THE COVID-19 PANDEMIC

### 95.3% OF THE INCREASE OF DEATHS BETWEEN NOVEMBER 2<sup>ND</sup> AND 29<sup>TH</sup> COMPARED TO THE AVERAGE OF THE LAST 5 YEARS HAS BEEN DEATHS BY COVID-19

Between March 2<sup>nd</sup>, when the first cases of COVID-19 were diagnosed in Portugal, and November 29<sup>th</sup>, there were 87,792 deaths in the national territory, an increase of 10,776 deaths in 2020 when compared to the average number of deaths during the same period over the past five years. Of these deaths, 41.8% (4,505) were due to COVID-19. In the last 4 weeks (November 2<sup>nd</sup> to 29<sup>th</sup>) there were 2,009 more deaths than the average of the same period of 2015-2019. In that period, there were 1,915 registered deaths from COVID-19, accounting for 95.3% of the total increase.

Of the total deaths recorded between March 2<sup>nd</sup> and November 29<sup>th</sup> 43,600 were of men and 44,192 were of women, an increase of 4,742 and 6,034 deaths, respectively, compared to the average of deaths observed in the same period between 2015-2019.

More than 70% of deaths were of people aged 75 years or over. Compared to the average number of deaths observed in the same 2015-2019 period, another 9,151 people aged 75 and over died, of which 6,834 were aged 85 and over.

The largest increase in the number of deaths in relation to the 2015-2019 average was registered in the Norte region, with the exception of the last week of June, the first of July, the last of September and the first of October, when this increase was higher in the region Área Metropolitana de Lisboa.

Of the total deaths recorded between March 2<sup>nd</sup> and November 29<sup>th</sup> 2020, 52,741 occurred in a hospital and 35,051 outside a hospital, corresponding to an increase of 4,231 deaths and 6,545 deaths, respectively, when compared to the average number of deaths in the same 2015-2019 period. In that period, 60.7% of the increase of deaths occurred outside a hospital. However, in the last five weeks, the greatest increase in deaths occurred in hospitals.



In this press release Statistics Portugal provides preliminary information regarding the evolution of weekly deaths that occurred in national territory up to the 48<sup>th</sup> week of 2020 (November 23<sup>h</sup> to 29<sup>th</sup>) and provides a comparison with the average number of deaths for the same period from the last five years (2015-2019).

Information on deaths is obtained through the Civil Register collected under the Integrated Civil Registration and Identification System (SIRIC) until December 8<sup>th</sup>. This time lag prevents the disclosed information from being subjected to considerable revisions. Even so, the information referring to 2020 is preliminary and will be subject to subsequent update.

One of the most dramatic consequences of the COVID-19 pandemic concerns the increase in the total number of deaths. The number of COVID-19 deaths provides only a partial measure of these effects. A more comprehensive measure of the impact on mortality may be provided by the difference between the total number of deaths observed in 2020, by all causes of death, and the average number of deaths for the last five years (2015-2019)<sup>1</sup>, even though there are other known effects on mortality, such as seasonal flu and spikes or hot or cold waves.

#### Number of deaths in 2020 higher than in previous years

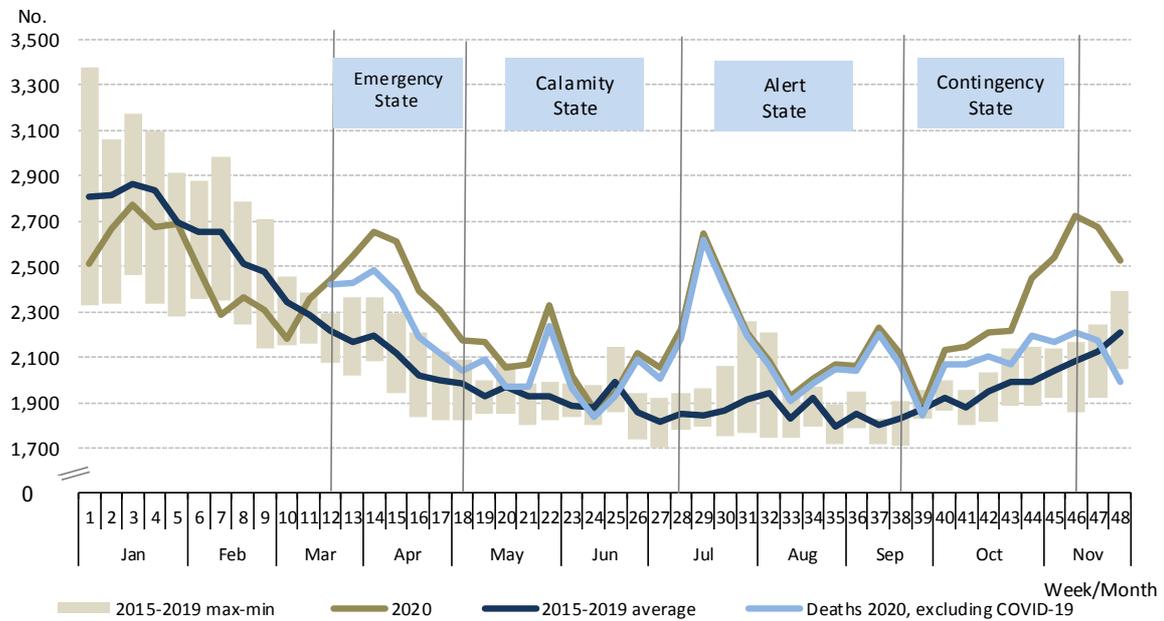
In the first two months of 2020, the number of deaths was, in general, lower than the values observed in the last five years. However, in week 11 (9<sup>th</sup> to 15<sup>th</sup> March 2020), the number of deaths exceeded the average values recorded in recent years. In Figure 1, the shaded bars, defined by the minimum and maximum values of deaths recorded per week in any of the five years between 2015 and 2019, provide an indication of the range of variation in the number of deaths in the considered period. It shows that the number of deaths in 2020 was, from the beginning of March, in general, above the upper limit of this range of values.

Between March 2<sup>nd</sup>, when the first cases of COVID-19 disease were diagnosed in Portugal, and November 29<sup>th</sup>, that is, between weeks 10 (March 2<sup>nd</sup> to 8<sup>th</sup>) and 48 (November 23<sup>h</sup> to 29<sup>th</sup>), there were 87,792 deaths, 10,776 above the average number of deaths observed in the same weeks from 2015-2019.

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<sup>1</sup> In this press release, the measure adopted to quantify the increase in the number of deaths compared to previous years, take as a basis of comparison the average of deaths in the last five years (2015-2019). This measure should therefore not be confused with the *excess mortality* indicator published in some studies, in particular through the EuroMOMO platform.

Figure 1: Deaths 2020 and average 2015-2019, by week, Portugal, weeks 1 to 48



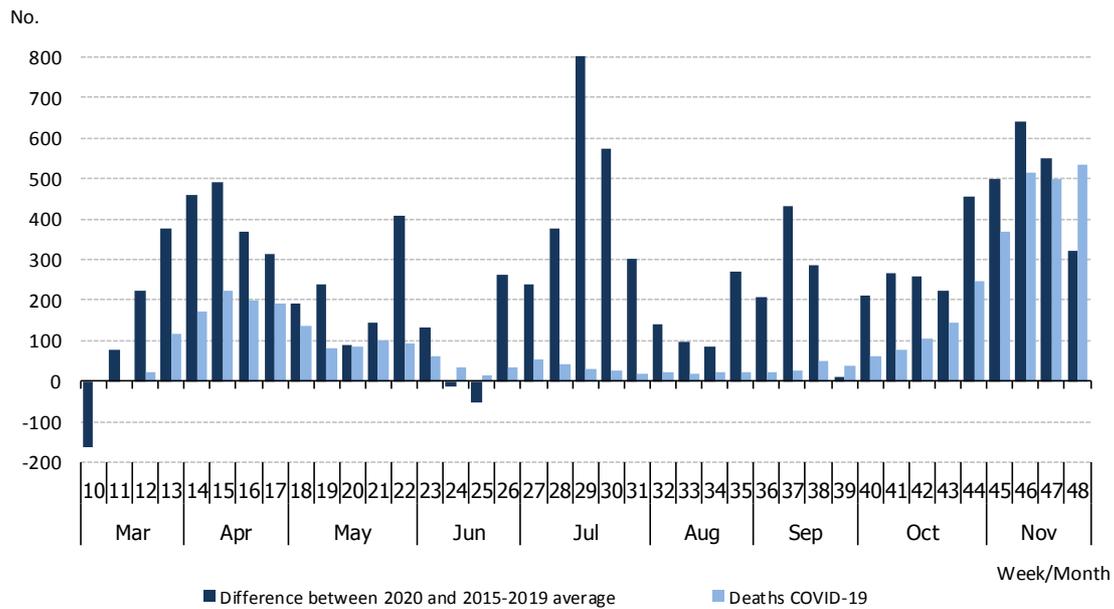
Source: Statistics Portugal, Deaths. Directorate-General of Health, Daily COVID-19 Status Report.

The increase in deaths in 2020 compared to the 2015-2019 average peaked at week 15 (April 6<sup>th</sup> to 12<sup>th</sup>), gradually decreasing until the end of the State of Emergency period (May 3<sup>rd</sup>). At the end of May (week 22: 25<sup>th</sup> to 31<sup>st</sup> May), there was a new peak in mortality. In weeks 24 and 25 (June 8<sup>th</sup> to 21<sup>st</sup>) mortality returned to the values of previous years. From week 26 (June 22<sup>nd</sup> to 28<sup>th</sup>) there was an increase in mortality in 2020 compared to the average of the same period, reaching its highest point in week 29 (July 13<sup>th</sup> to 19<sup>th</sup>), with an additional number of around 800 deaths. It should be recalled that the month of July 2020 was an extremely hot month with several heat waves. In the following weeks, until week 34 (August 17<sup>th</sup> to 23<sup>th</sup>), there was a lower increase in the number of deaths, approaching the average of the last five years. As of this week, the number of deaths, compared to the 2015-2019 average, increased again, reaching a new peak in week 37 (September 7<sup>th</sup> to 13<sup>th</sup>), after which it decreases to average values in week 39 (September 21<sup>st</sup> to 27<sup>th</sup>). From week 40 (September 28<sup>th</sup> to October 4<sup>th</sup>) to week 46 (November 9<sup>th</sup> to 15<sup>th</sup>), the number of deaths increased continuously, moving away from the average of the last five years. At week 46 there was the highest number of weekly deaths recorded in 2020: 2,722 deaths. In the weeks 47 and 48 (November 16<sup>th</sup> to 29<sup>th</sup>) the number of deaths decreased again, however remaining distant from the average of the period 2015-2019.

In the last 4 weeks (November 2<sup>nd</sup> to 29<sup>th</sup>) there were 2,009 more deaths than the average, in the same period, of 2015-2019. In that period, there were 1,915 deaths from COVID-19, representing 95.3% of the increase. In the last week, the number of deaths from COVID-19 exceeded the increase in deaths compared to the 2015-2019 average.

In Figure 2, the bars represent the total weekly death differential relative to the 2015-2019 average for the same period and the number of COVID-19 deaths.

Figure 2: Difference between deaths 2020 and 2015-2019 average, by week, Portugal, weeks 1 to 48



Source: Statistics Portugal, Deaths. Directorate-General of Health, Daily COVID-19 Status Report.

### Portugal in the European context

Considering as a basis for comparison the information on 22 European countries<sup>2</sup> that submitted data to Eurostat on the number of deaths per week until week 45 and for all weeks of years 2016 to 2019<sup>3</sup>, the mortality in the first weeks of 2020 was below the average values observed over the 2016-2019 period. From the beginning of March 2020, contrary to what has been observed in recent years, there was a significant increase in the number of deaths, reaching a peak in week 14 (March 30<sup>th</sup> to April 5<sup>th</sup>), with 48% more deaths than in the same weeks of 2016-2019. Mortality in Portugal followed a similar pattern, albeit showing a lower difference in relation to the 2016-2019 average, just under 25% more deaths. In the following weeks, mortality in Europe was closer to the average. In Portugal, despite an initial period where there was a reduction in mortality, it increased again,

<sup>2</sup> European countries considered: Germany, Austria, Belgium, Bulgaria, Cyprus, Denmark, Slovenia, Spain, Estonia, Finland, France, Hungary, Netherlands, Latvia, Liechtenstein, Lithuania, Malta, Norway, Portugal, United Kingdom, Sweden and Switzerland. Note that the countries considered in this press release are not the same of the previous press release (November 27<sup>th</sup>), as such the results are not comparable. In this press release Cyprus, Estonia and Malta were added and Iceland was removed.

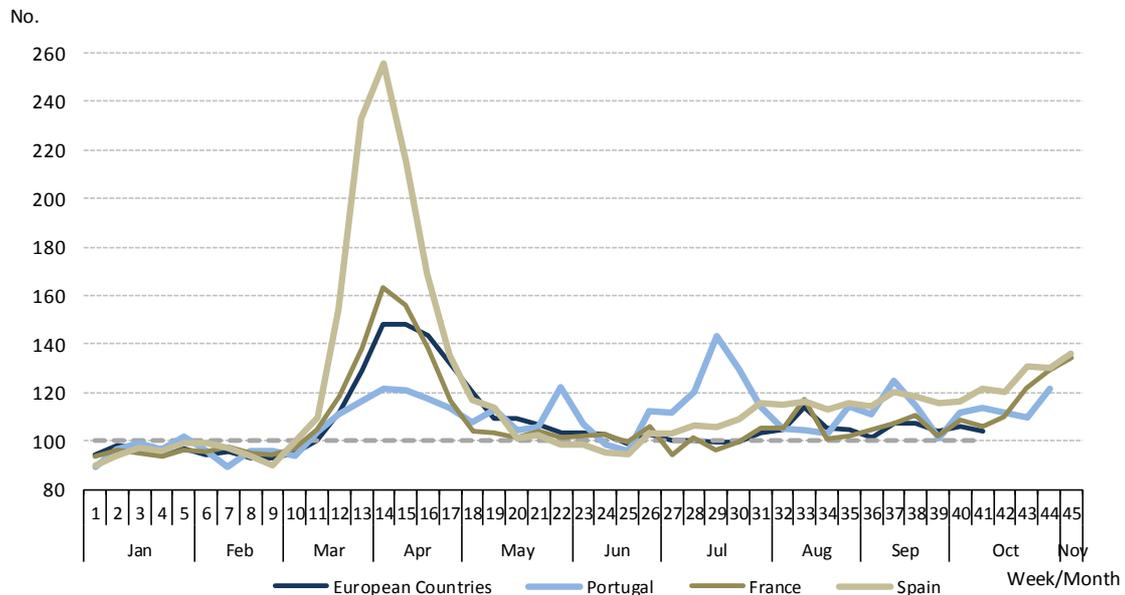
<sup>3</sup> It should be noted that 2015 was not included in the base comparison period due to the lack of data for some of the countries.



remaining far from the average until week 23 (June 1<sup>st</sup> to 7<sup>th</sup>). While in European countries mortality tended to remain close to the average of recent years, between the weeks 26 and 31 (from June 22<sup>nd</sup> to August 2<sup>nd</sup>) the increase in the number of deaths in Portugal was very significant when compared to the average, reaching 43% in week 29 (July 13<sup>th</sup> to 19<sup>th</sup>). In the following weeks, mortality in Portugal has decreased, reaching lower values than those of the European countries as a whole in weeks 33 and 34 (August 17<sup>th</sup> to 30<sup>th</sup>). At the beginning of September, mortality in Portugal increased again in comparison with these European countries. In the following weeks, mortality has decreased in Portugal and in week 39 went below mortality level of this group of European countries. In weeks 40 to 42, the excess of mortality in Portugal has increased again in comparison with these European countries. In week 43 (October 19<sup>th</sup> to 25<sup>th</sup>), Portugal's mortality is again lower than that of the European countries considered. In the last two weeks (October 16<sup>th</sup> to November 8<sup>th</sup>) mortality in Portugal increased slightly in comparison with the European countries.

Considering the comparative evolution of mortality in Portugal with the two geographically closest countries, Spain and France, it is worth noting the significantly higher increase in mortality in the first weeks of the pandemic, especially in Spain, compared to that observed in Portugal. In the last half of May and during the month of July, the excess mortality in Portugal was relatively higher than that observed in these two countries, although it is visible in July the beginning of a trajectory of a continuous increase in mortality in Spain, while France remains close to the average of the group of European countries considered. In the last four weeks, mortality has increased in France, approaching that in Spain, moving away from the average of European countries.

Figure 3: Deaths in 2020 compared to 2016-2019 average (2016-2019 average = 100), by week, Portugal, Spain and France, and 20 European countries, weeks 1 to 45



Note: 22 countries: Germany, Austria, Belgium, Bulgaria, Cyprus, Denmark, Slovenia, Spain, Estonia, Finland, France, Hungary, Netherlands, Latvia, Liechtenstein, Lithuania, Malta, Norway, Portugal, United Kingdom, Sweden and Switzerland.

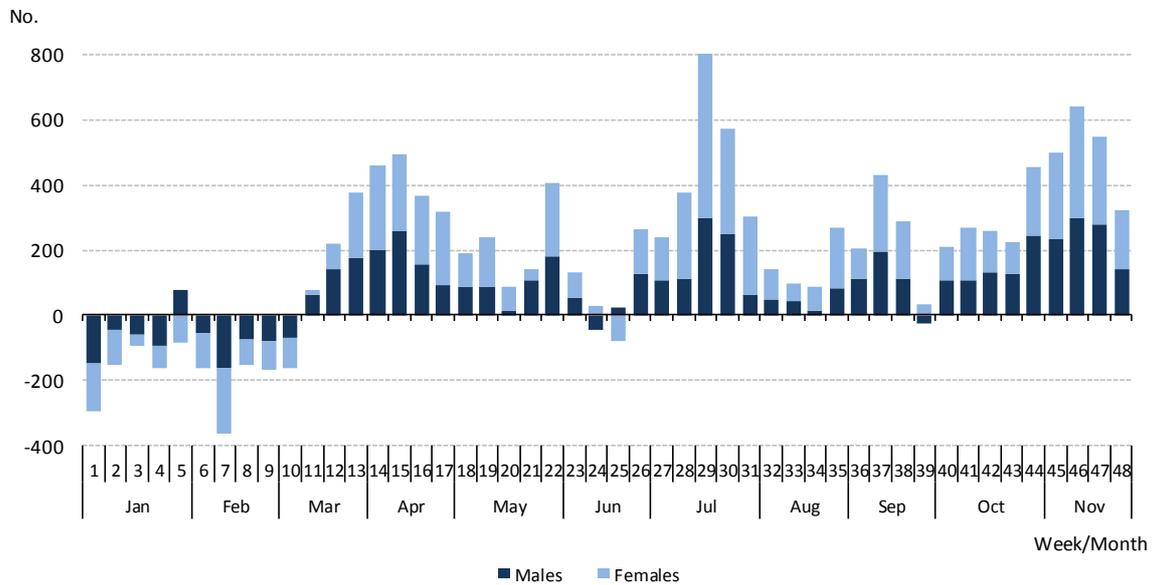
Source: Statistics Portugal calculations based on online Eurostat database (extracted on 10/12/2020)

### Deaths of women with the greatest contribution to the increase in mortality

Between March 2<sup>nd</sup> and November 29<sup>th</sup>, that is, between weeks 10 and 48, there were 43,600 deaths of men and 44,192 of women, an increase of 4,742 and 6,034 deaths, respectively, compared to the average of deaths observed in the same period of 2015-2019.

In weeks 11 and 12, the increase of mortality resulted mainly from the increase in male deaths. From that moment, the contribution of female deaths to the increase in the number of deaths was generally higher, especially in the month of July (weeks 28 to 32). In weeks 42 to 44, the contribution of male deaths was again higher. Female mortality returned, in the last four weeks, with the exception of week 47, to make a greater contribution to the increase in mortality.

Figure 4: Difference between deaths in 2020 and 2015-2019 average, by week and sex, Portugal, weeks 1 to 48



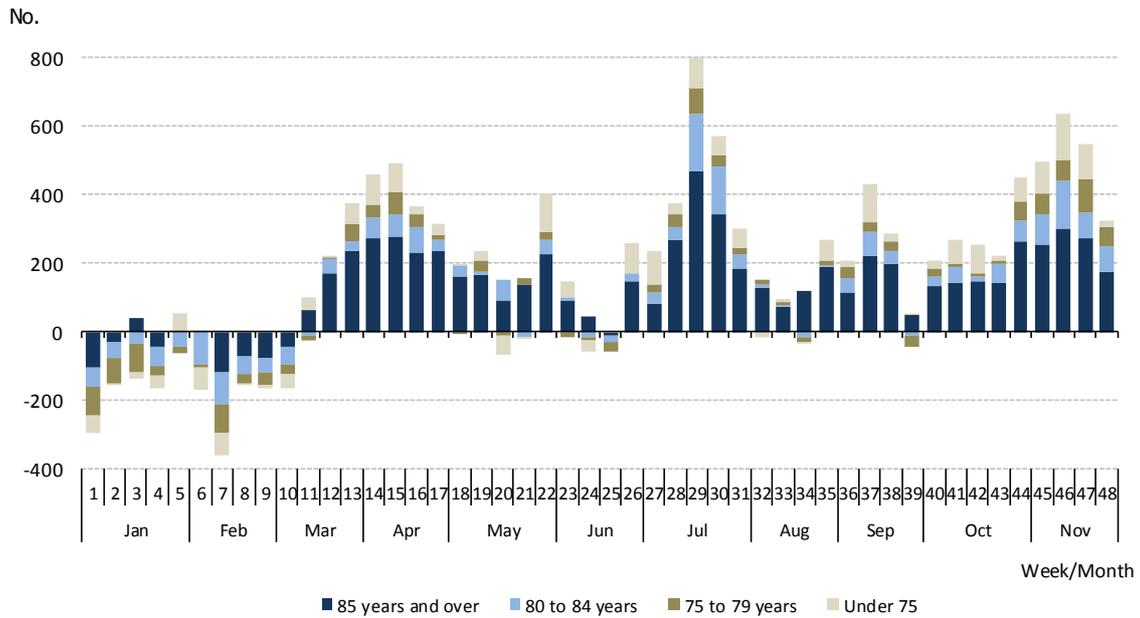
Source: Statistics Portugal, Deaths.

### More than 70% of deaths were from people aged 75 or over

Between March 2<sup>nd</sup> and November 29<sup>th</sup> 2020 (weeks 10 to 48), 71.4% of deaths (62,672 deaths) were of people aged 75 years and over and, of these, 59.6% (37,335) were of people aged 85 and over. Compared to the average number of deaths observed in the same period of 2015-2019, there was an increase of 9,151 deaths of people aged 75 and over, of which 6,834 were 85 or older.



Figure 5: Difference between deaths in 2020 and 2015-2019 average, by week and age group, Portugal, weeks 1 to 48



Source: Statistics Portugal, Deaths.

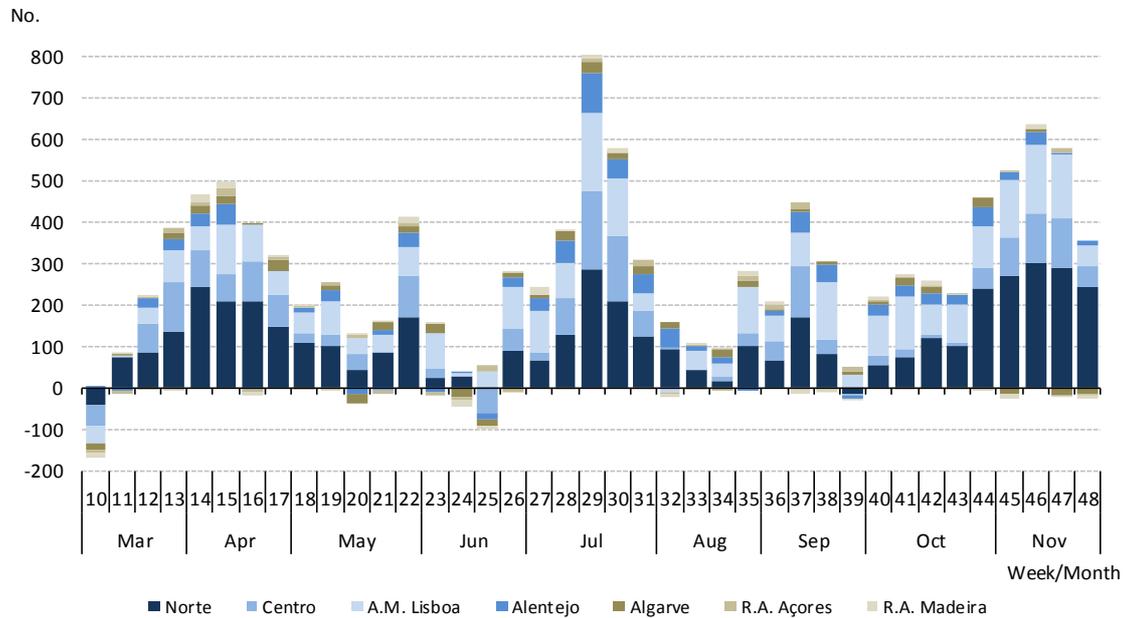
**In the last 7 weeks, the region Norte had the greatest contribution to excess mortality**

Between March 2<sup>nd</sup> and November 29<sup>th</sup> (weeks 10 to 48), compared to the average number of deaths observed in the same period of 2015-2019, the largest increase in the number of deaths was registered in the Norte region (+4,760 deaths), followed by Área Metropolitana de Lisboa (+2,948 deaths), Centro (+1,908 deaths), Alentejo (+838 deaths), Algarve (+282 deaths) and the autonomous regions of Açores and Madeira (+99 and +79, respectively).

Comparing the number of deaths per week with the average of deaths in the period 2015-2019, the excess of deaths recorded in week 11 (March 9<sup>th</sup> to 15<sup>th</sup>) is explained by the increase in deaths recorded in the Norte region. Although the Norte region remains the greatest contributor to the increase in the number of deaths between weeks 13 (March 23<sup>th</sup> to 29<sup>th</sup>) and 22 (April 25<sup>th</sup> to May 31<sup>st</sup>), the contributions of the remaining regions increased, in particular those from the Centro and Área Metropolitana de Lisboa regions. In the weeks 23 and 25 to 27 the largest contribution was from the Área Metropolitana de Lisboa, and then the region Norte returned to occupy the first position. In weeks 38 to 41 (between September 14<sup>th</sup> and October 11<sup>th</sup>) the largest contribution to the increase in the number of deaths once again was from the Área Metropolitana de Lisboa. Since week 42 (October 12<sup>th</sup> to 18<sup>th</sup>), the North region again had the greater increase of deaths.



Figure 6: Difference between deaths in 2020 and 2015-2019 average, by week and regions NUTS 2, weeks 10 to 48



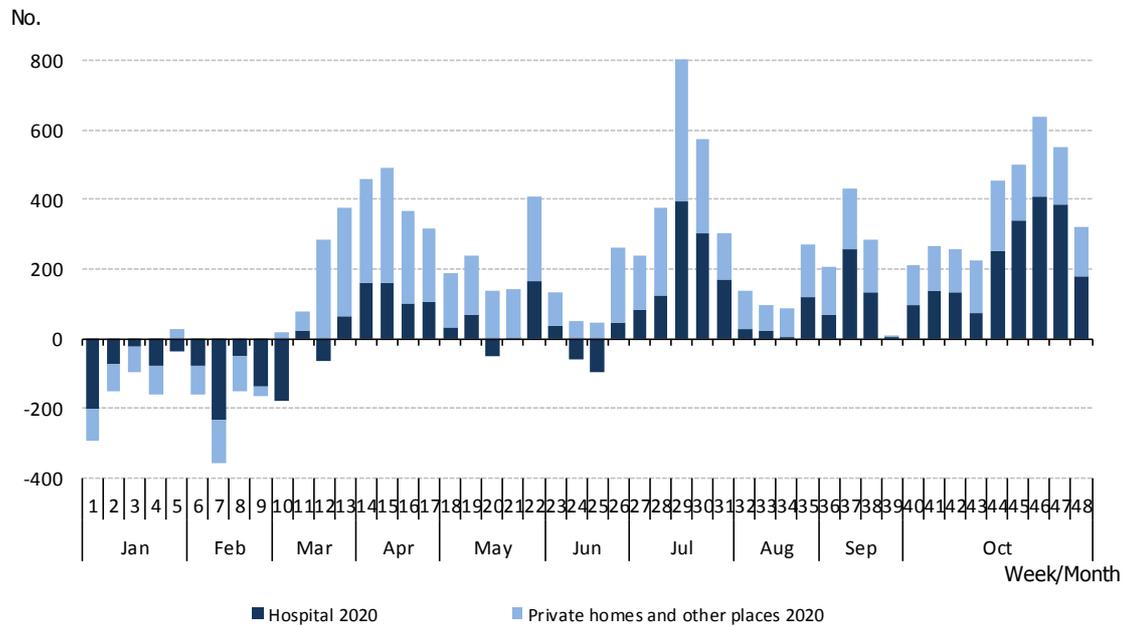
Source: Statistics Portugal, Deaths.

### Mortality outside hospital (at private homes and other locations) higher than in previous years

Of the 87,792 deaths recorded between March 2<sup>nd</sup> and November 29<sup>th</sup> 2020, 52,741 took place in a hospital and 35,051 occurred outside the hospital context, corresponding to an increase of 4,231 deaths and 6,545 deaths, respectively, compared to 2015-2019 average of deaths over the same period.

The excess of deaths outside the hospital context is important throughout all weeks, especially until mid-July (week 28). In the following three weeks (July 13<sup>th</sup> to August 2<sup>nd</sup>) the increase in deaths was more evenly distributed between those that took place in a hospital and those that occurred outside the hospital context. The contribution of deaths outside the hospital context increased in weeks 32 to 36 (August 3<sup>rd</sup> to September 6<sup>th</sup>). In weeks 37 to 42 (September 7<sup>th</sup> to October 18<sup>th</sup>) there was a relatively even distribution of the increase in deaths, compared to the average of the same period of 2015-2019, between the hospital environment and out of that context. In week 43 (October 19<sup>th</sup> to 25<sup>th</sup>), the number of deaths outside the hospitals increases again. In the last five weeks, the greatest increase in deaths was registered in hospitals, reaching a peak in week 47 (November 16<sup>th</sup> to 22<sup>nd</sup>), representing 70.6% of the increase in deaths compared to the average of the last five years.

Figure 7: Difference between deaths in 2020 and 2015-2019 average, by week and place of occurrence, weeks 1 to 48



Source: Statistics Portugal, Deaths.



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## TECHNICAL NOTE

Statistics Portugal releases the preliminary weekly deaths for 2020, based on the information registered in the Civil Register Offices until November 24<sup>th</sup> 2020.

Data on deaths is obtained from statistical operations of direct and exhaustive collection on live births and deaths in Portuguese territory using facts that are subject to compulsory civil registration (birth and death) in the Sistema Integrado do Registo e Identificação Civil (SIRIC).

In addition to administrative information obtained from Civil Register Offices, Statistics Portugal collects an additional set of variables identified as statistically pertinent to the National Statistic System (NSS) and the European Statistical System (EES).

Data is recorded and sent electronically, in compliance with the requirements set out by Statistics Portugal and laid down in liaison with the Instituto de Registos e Notariado (IRN) and the Instituto de Gestão Financeira e Equipamentos da Justiça (IGFEJ).

## DEFINITIONS:

**Death:** The permanent disappearance of vital functions.

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Detailed methodological information available at: [www.ine.pt](http://www.ine.pt), option Products, Metadata system.

Detailed statistical information available at: [www.ine.pt](http://www.ine.pt), option Products, Statistical data, database, theme Population, subtheme Mortality and life expectancy.