

COVID-19: a territorial view on demographic context and territorial expression of the pandemic

- On April 7, 3,319 new cases were registered in the last 7 days, corresponding to a daily average of 474 new cases. Since March 16, there has been a sporadic increase in the number of new cases in the last 7 days, with the two most recent days (April 6 and 7) registering positive rates of change. Since the beginning of the year 2021, the lowest value of this indicator was recorded on the 27th of March, 2,877 new cases in the last 7 days, corresponding to a daily average of 411 new cases.
 - At the regional level, it should be noted that in the four weeks ending 28 March 2021, only the Metropolitan Area of Lisboa recorded a higher number of deaths than the same period in the previous year (1.1), with the Alentejo and Centro regions recording the lowest figures. In 204 municipalities the number of deaths between 1 March and 28 March was equal to or lower than the homologous reference period, 15 more municipalities than in the previous week.
 - In the weeks ending 30 March 2021 (date of the last data update at the municipal level) and 23 March, there was a slight tendency towards a decrease in the territorial concentration of the number of new cases, compared to the evolution observed in previous weeks. Throughout the month of March, there was also a reduction in the cumulative incidence rate at 14 days.
 - On 30 March 2021, 282 of the 308 municipalities registered values below the threshold of 120 new cases per 100,000 inhabitants and 220 registered less than 60 new cases per 100,000 inhabitants. However, 101 municipalities recorded a positive 14-day cumulative incidence rate of change, 25 more municipalities than in the previous week.
 - Within the framework of Statistics Portugal's Statslab, the data on population mobility indicates an overall increase in mobility levels from the second week of February onwards, with a slight reduction on the days associated with school holidays and the Easter period.
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I. Demographic and territorial context indicators

The Metropolitan Area of Lisboa was the only region with a higher number of deaths than the reference period

Figure 1 - Ratio between deaths in the last 4 weeks and deaths in the same reference period, Portugal, weekly

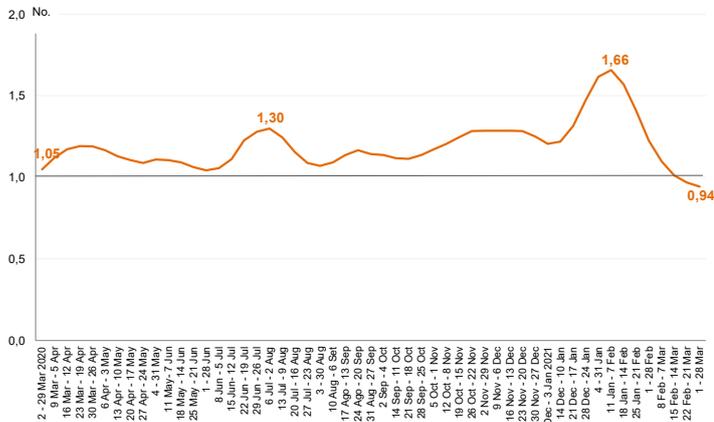
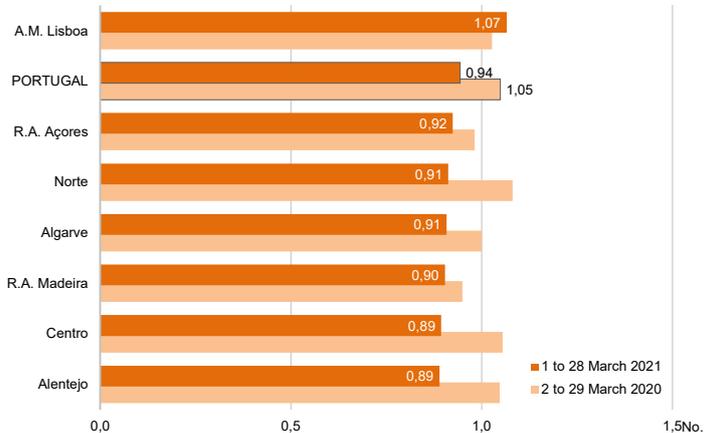


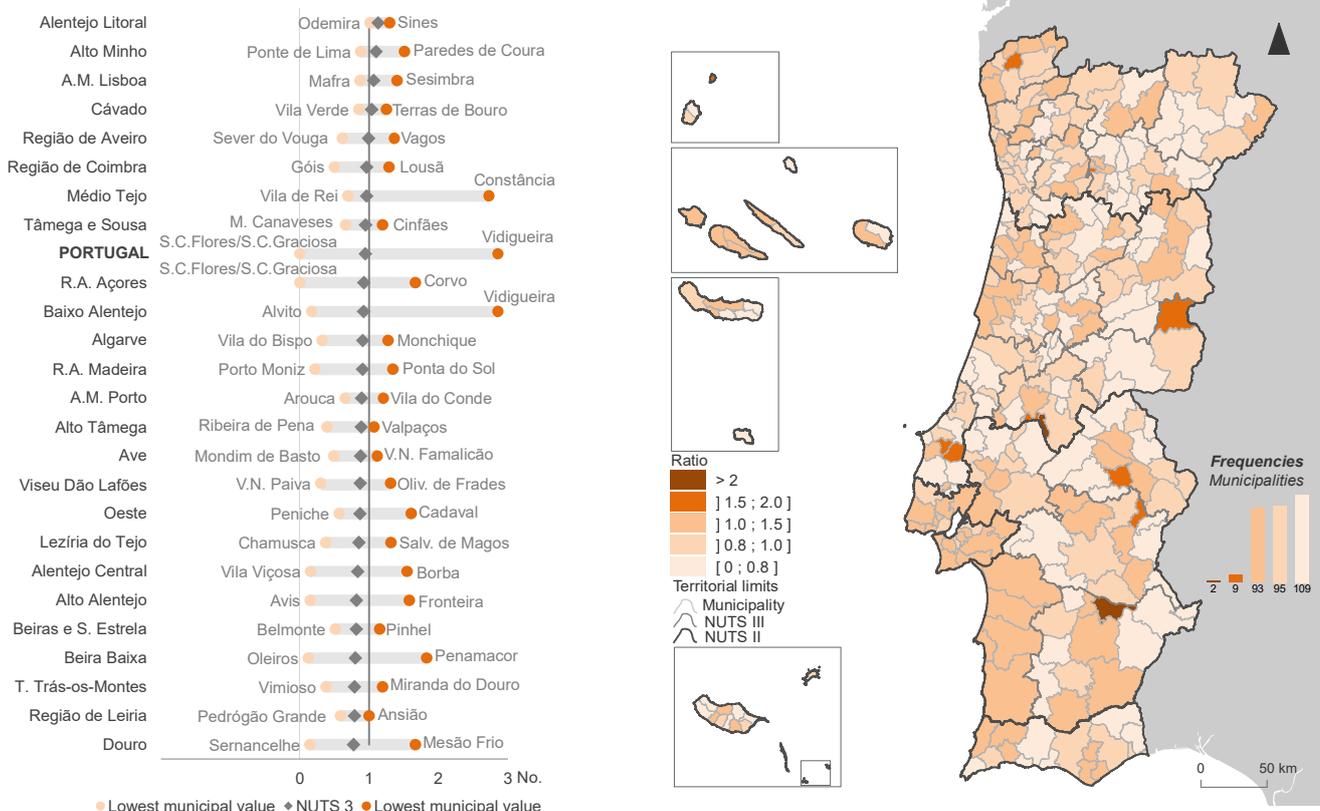
Figure 2 – Ratio between deaths in the last 4 weeks and deaths in the same reference period, Portugal and NUTS 2



Source: INE, I.P., Statistics on Deaths (Preliminary (2020 and 2021) and Final Results (2015 up to 2019)).

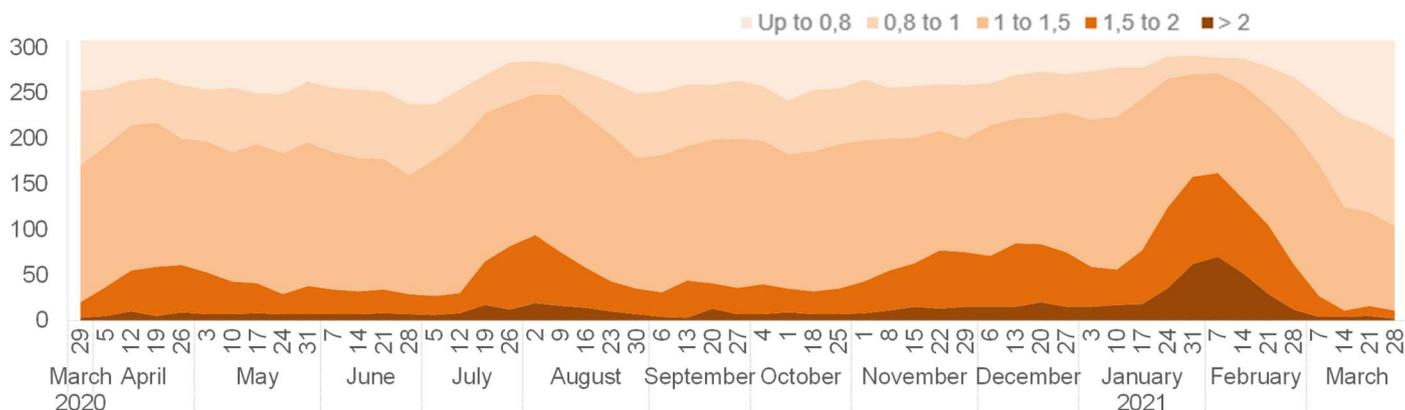
In 204 municipalities the number of deaths between 1 and 28 March was equal or lower than in the same reference period

Figure 3 – Ratio between deaths in the last four weeks (28 March 2021) per deaths in the same period of reference, Portugal, NUTS 3 and municipality



Source: INE, I.P., Statistics on Deaths (Preliminary (2020 and 2021) and Final Results (2015 up to 2019)).

Figure 4 - Number of municipalities by class of the ratio of deaths in the last 4 weeks to deaths in the same reference period, weekly

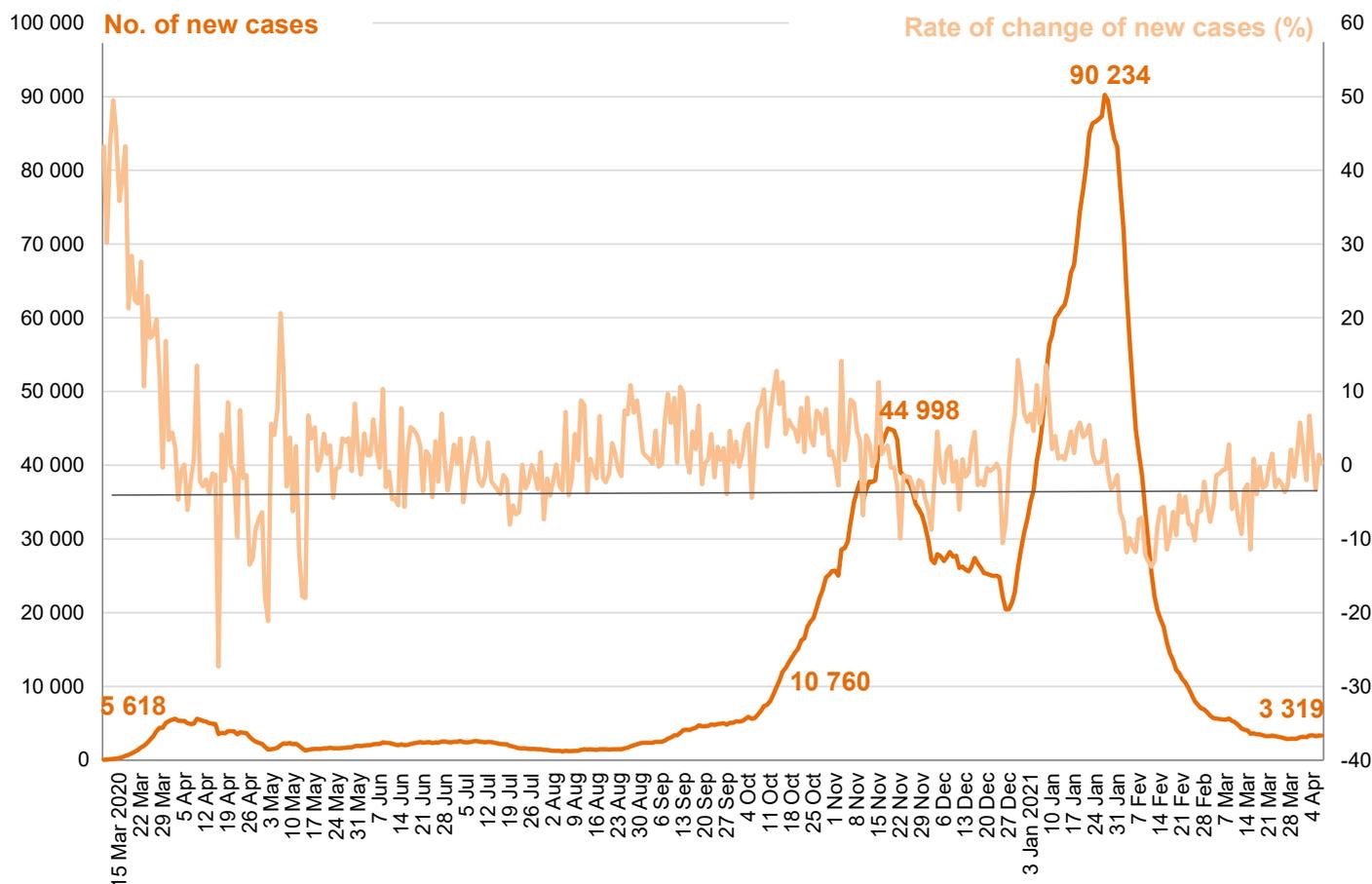


Source: INE, I.P., Statistics on Deaths (Preliminary (2020 and 2021) and Final Results (2015 up to 2019)).

II. The expression of the pandemic in the municipalities

On 7 April 2021 there was a daily average of 474 new cases over the last 7 days

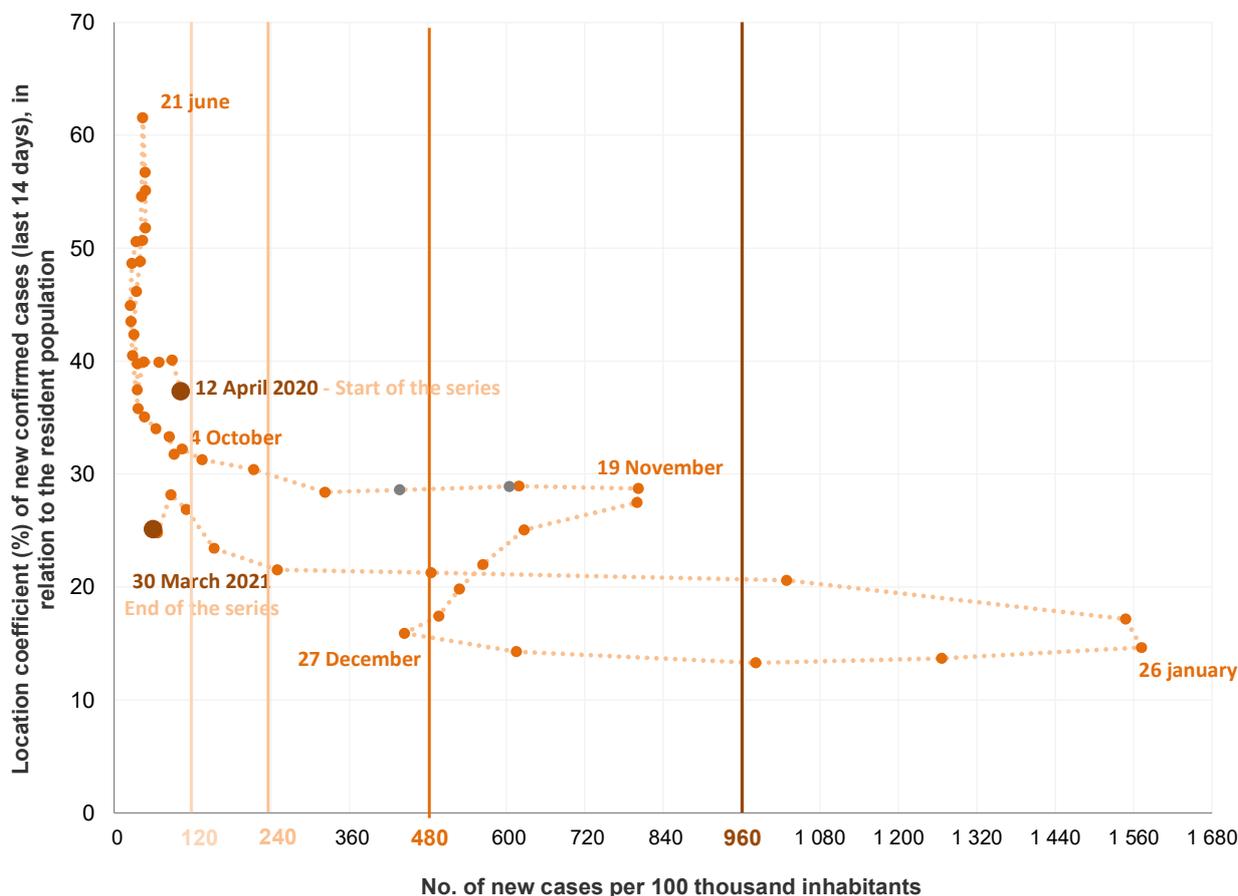
Figure 5- Number of new confirmed cases (last 7 days) of COVID-19 and respective rate of change, Portugal, per day (up to 24 March 2021)



Source: Directorate-General of Health, Daily COVID-19 Status Report (released up to April 8). Note: The number of new cases includes the +4,375 confirmed cases resulting from the historical update released by the Directorate-General of Health in the COVID-19 Status Report made available on 16 November (data on the situation up to 15 November) with impact on the new cases in the last 7 days for the period 15-21 November. The 599 new cases related to positive laboratory notifications reporting to the weekend of 3 and 4 April, disseminated by DGS in the Status Report of 6 April, were distributed over these two days according to the distribution of new cases that occurred in the previous four weekends. The dates marked on the graph axis correspond to Sundays.

On 30 March 2021, there was a slight decrease in the territorial concentration of the number of new cases and the reduction in the incidence rate continued to slow down compared with the previous week

Figure 6- Territorial concentration of new confirmed cases of COVID-19 (last 14 days), in relation to the resident population and 14-day cumulative incidence rate, Portugal

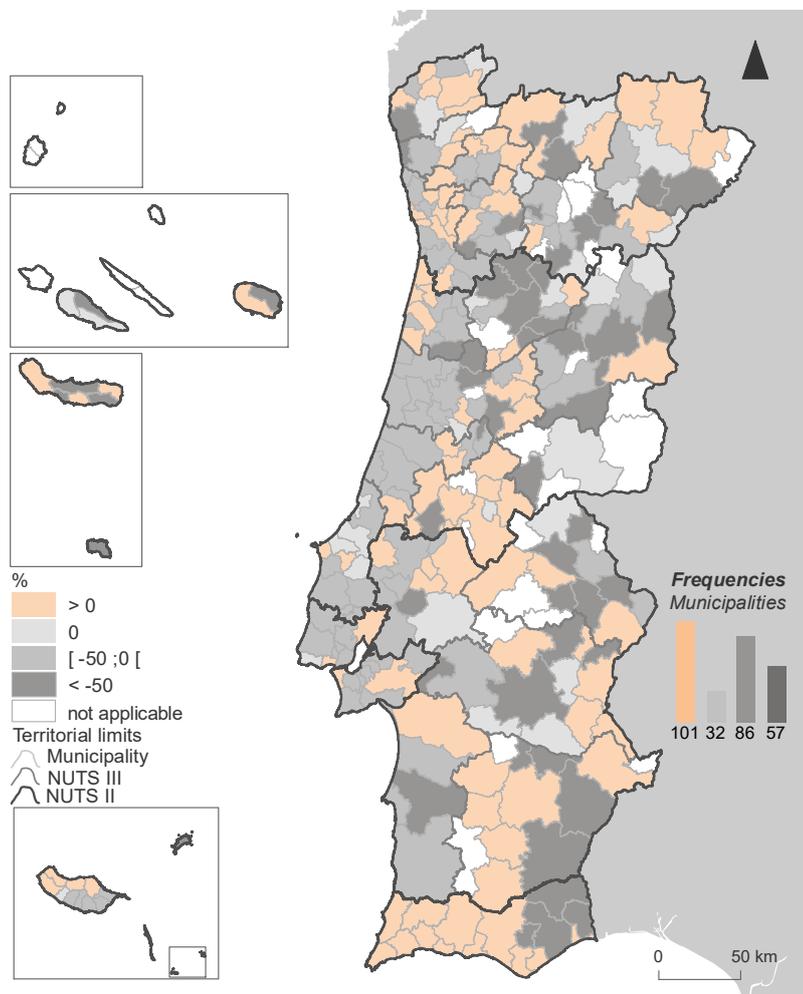


Source: Directorate-General of Health, Daily COVID-19 Status Report (released on April 5); INE, I.P., Annual estimates of resident population, 31 December 2019.
Note: For the calculation of the location coefficients zero cases were considered for the municipalities with no value in the Directorate-General of Health Status report (0 or < 3 cases).

Between 23 and 30 March, 101 municipalities recorded an increase in the 14-day cumulative incidence, 25 more than in the previous week

Figure 7- Rate of change and territorial concentration of new confirmed cases of COVID-19 (last 14 days), in relation to the resident population

Rate of change (23 / 30 March), by municipality



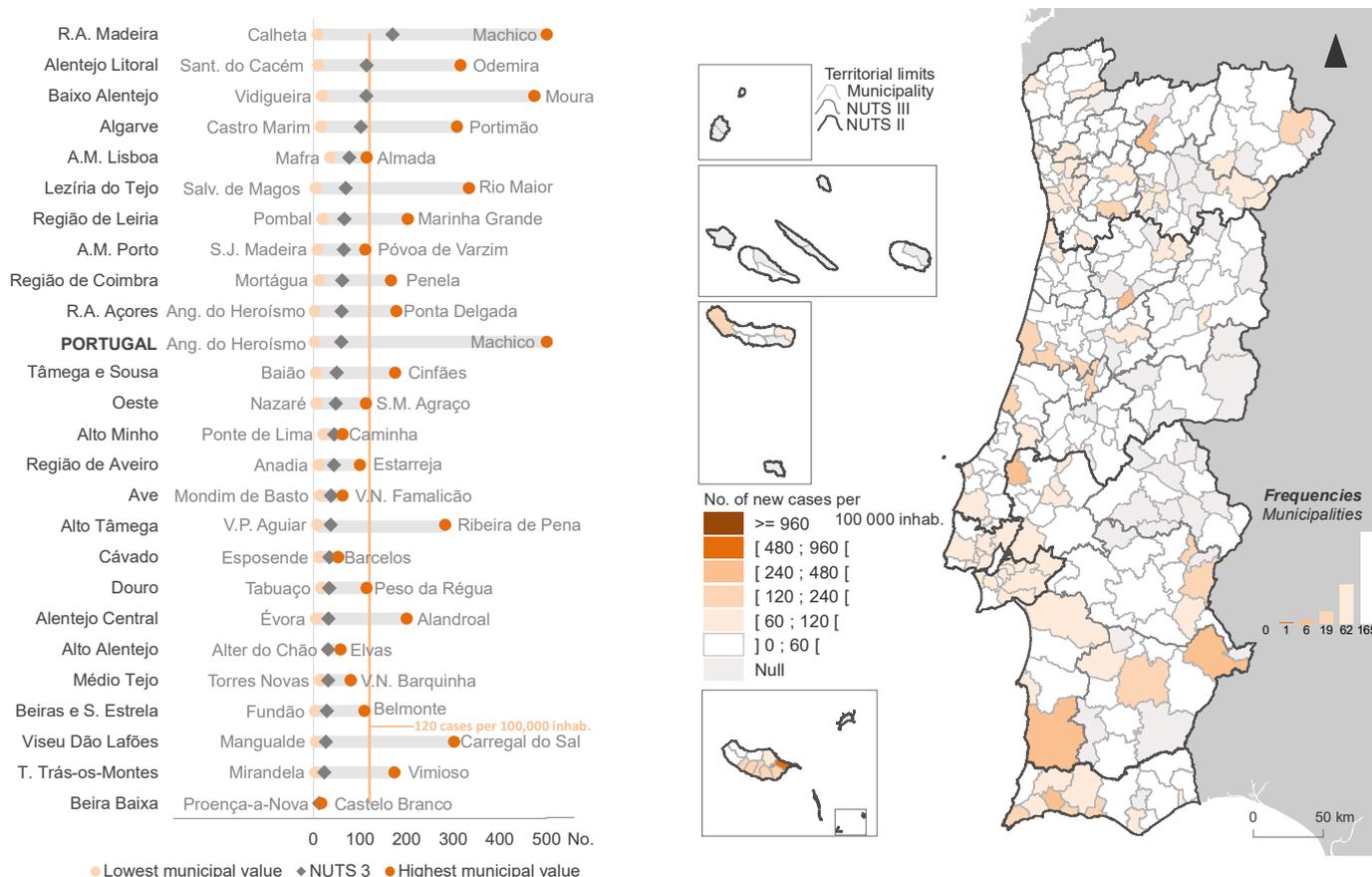
Location Coefficient, Portugal

CL		
Tuesdays	30 March	25.1
	23 March	24.8
	16 March	28.2
	9 March	26.9
	2 March	23.4
	23 February	21.5
	16 February	21.3
	9 February	20.6
	2 February	17.2
	26 January	14.6
18 January – Monday		13.7
12 January – Tuesday		13.3
5 January – Tuesday		14.3
27 December – Sunday		15.9
20 December – Sunday		17.4
17 December – Thursday		19.8
8 December – Tuesday		22.0
2 December – Wednesday		25.1
25 November – Wednesday		27.5
19 November – Thursday		28.7
10 November – Tuesday		28.9
Sundays	25 October	28.4
	18 October	30.4
	11 October	31.3
	4 October	32.2
	6 September	35.1
	9 August	44.9
	12 July	51.8
	21 June	61.6
	17 May	39.8
19 April	40.1	

Source: Directorate-General of Health, Daily COVID-19 Status Report (released up to April 5); INE, I.P., Annual estimates of resident population, 31 December 2019. Note: For the calculation of the location coefficients zero cases were considered for the municipalities with no value in the Directorate-General of Health Status report (0 or < 3 cases).

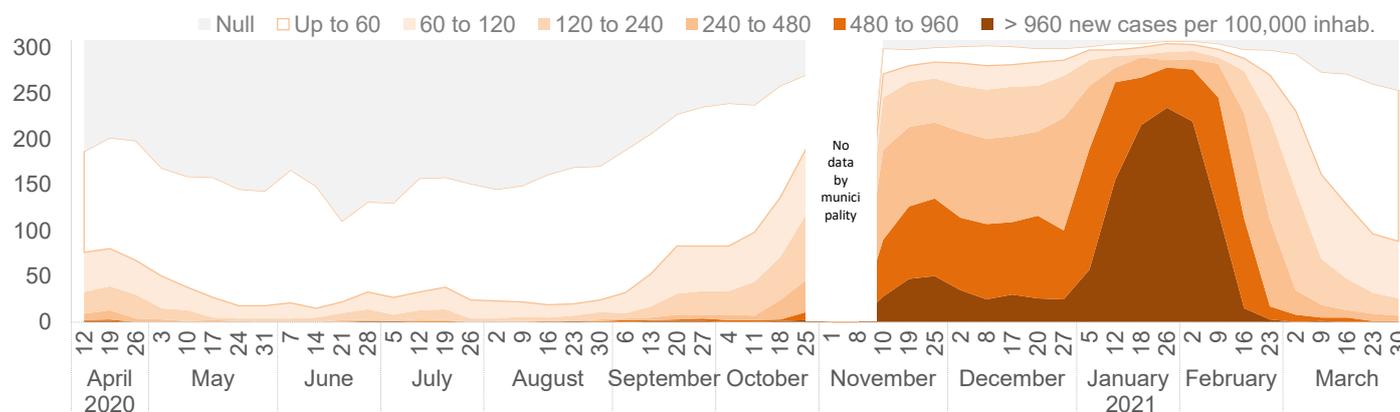
On 30 March 2021, 26 municipalities registered figures above the threshold of 120 new cases per 100,000 inhabitants

Figure 8 – 14-day cumulative incidence rate of COVID-19 on 16 March 2021, Portugal NUTS 3 and municipality



Source: Directorate-General of Health, Daily COVID-19 Status Report (released on April 5); INE, I.P., Annual estimates of resident population, 31 December 2019.
Note: In the graph, in NUTS 3 sub-regions with zero data status, the municipalities with the lowest value in the indicator are identified.

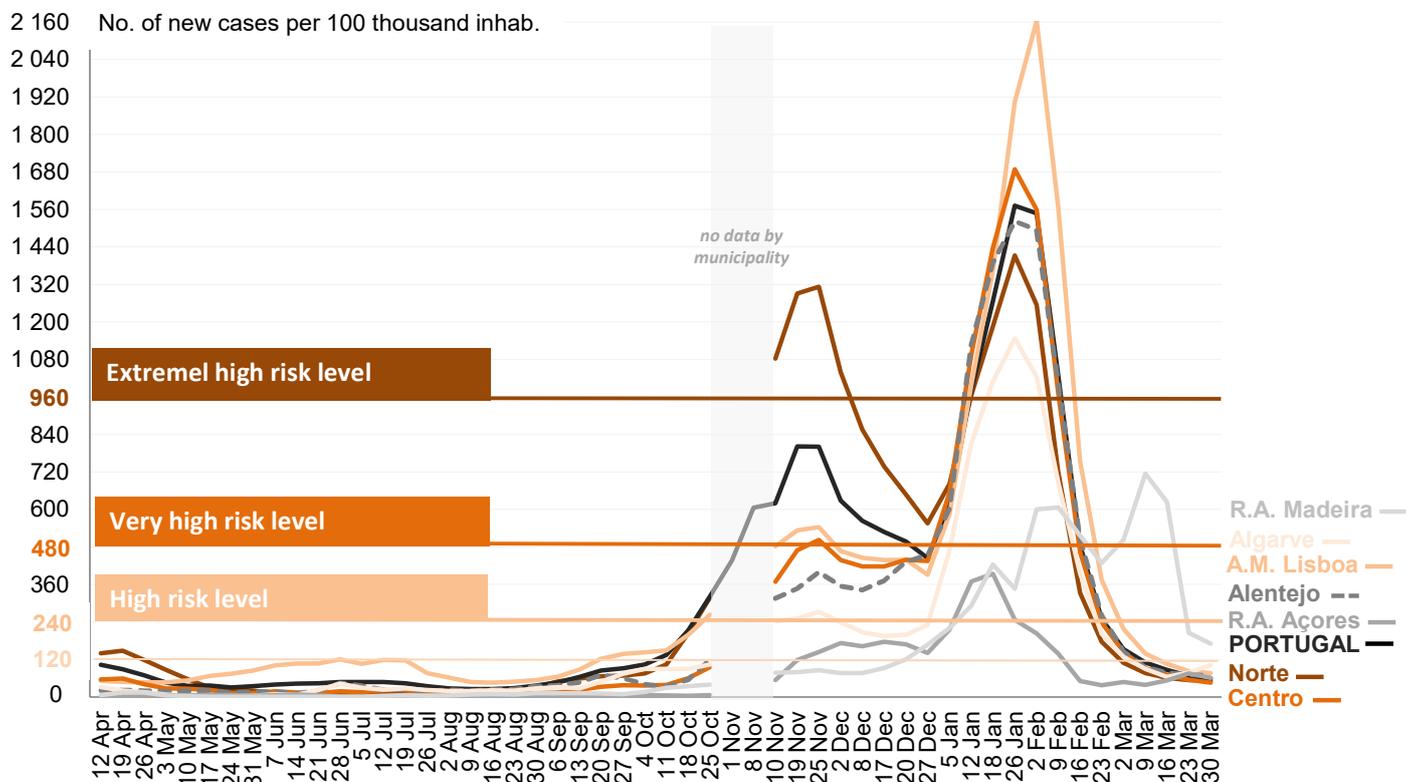
Figure 9 – Number of municipalities by class of 14-day cumulative incidence rate of COVID-19, weekly



Source: Directorate-General of Health, Daily COVID-19 Status Report (released on April 5); INE, I.P., Annual estimates of resident population, 31 December 2019. The absence of values at the regional level on 1 and 8 November is due to the interruption in the dissemination of data at the municipality level in the COVID-19 Status reports. The dates marked on the graph axis correspond to Sundays until 8 November and then to the reference days associated with the 14-day cumulative incidence indicator that is now being released weekly by the Directorate-General of Health (see technical note at the end of the press release), which since 26 January 2021 consistently corresponds to a Tuesday.

On 30 March, the Algarve was the only region in the country to register an increase of the 14-day cumulative incidence rate

Figure 10 - 14-day cumulative incidence rate of COVID-19, Portugal and NUTS 2, weekly



Source: Directorate-General of Health, Daily COVID-19 Status Report (released up to April 5). INE, I.P., Annual estimates of resident population, 31 December 2019.
 Note: The absence of values at the regional level on 1 and 8 November is due to the interruption in the dissemination of data at the municipality level in the COVID-19 Status reports. The dates marked on the graph axis correspond to Sundays until 8 November and then to the reference days associated with the 14-day cumulative incidence indicator that is now being released weekly by the Directorate-General of Health (see technical note at the end of the press release), which since 26 January 2021 consistently corresponds to a Tuesday. For 9 and 16 March, the data for Região Autónoma da Madeira should be interpreted taking into account the delay between diagnosis and notification reported by the DGS in the period under analysis.

Population mobility indicators at regional level: an analysis based on information from Facebook's "Data for Good" Initiative

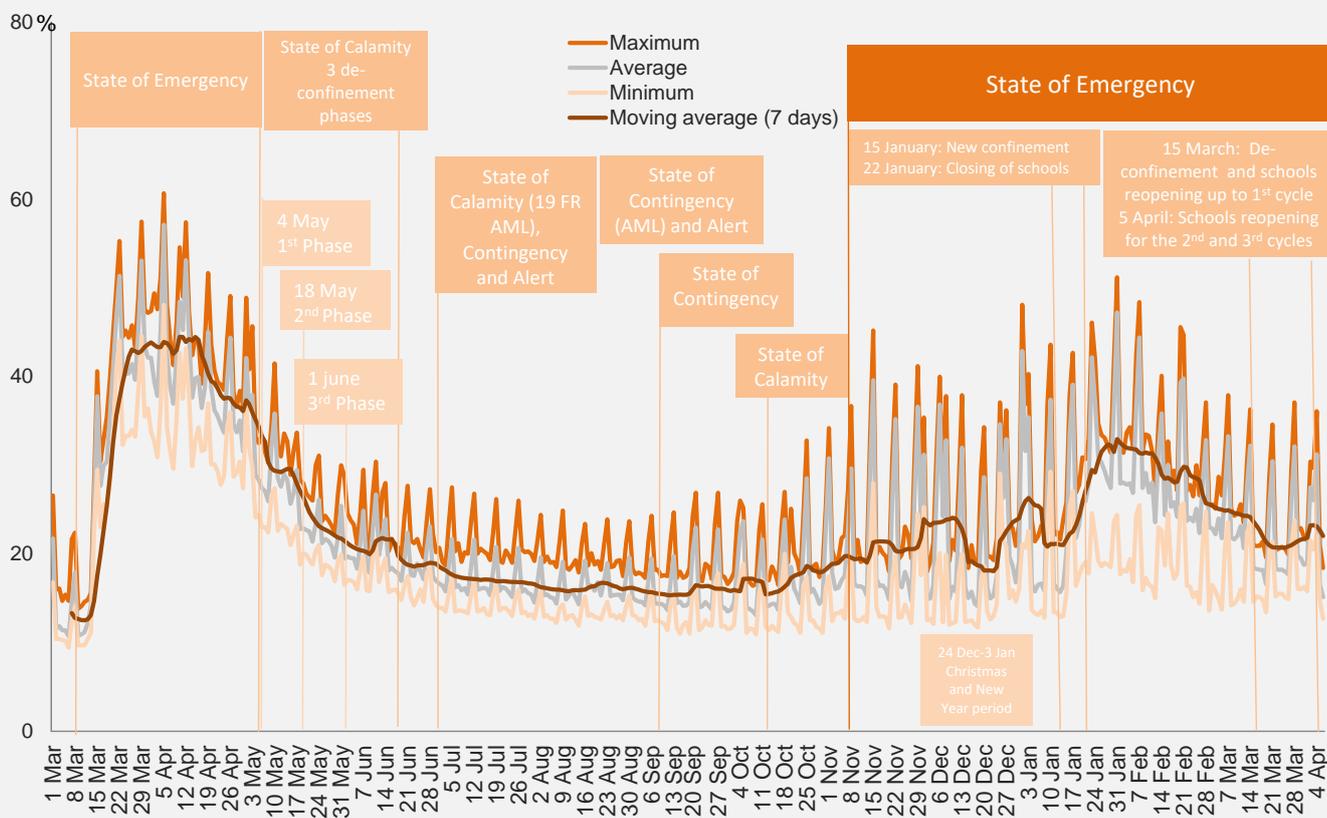
Taking advantage of Facebook's "Data for Good" initiative, the figure below shows the proportion of the population "staying put" between 1 March 2020 and 6 April 2021, namely the minimum, average and maximum values calculated based on the NUTS 3 sub-regions. The proportion of population that "stayed put" is based on the number of Facebook users associated with a single reference grid of 600mx600m during 8 am and 8 pm on day x, requiring at least three occurrences during that time period.

It is possible to observe that on Sundays there is generally less mobility of the population than on other days of the week. It is also noteworthy that after the first confirmed cases of COVID-19 and following the declaration of the first State of Emergency, there is a decrease in the mobility of the population, followed by an increase in the levels of mobility after the implementation of the de-confinement measures.

Considering the moving average of the last 7 days there has been an overall reduction in the average levels of mobility following the declaration of the State of Emergency on November 9 and subsequent renewals. In this context, the days before Christmas and after New Year are the exception, where there is an increase in mobility due to the general cancelling of measures restricting circulation. This tendency to reduce mobility is accentuated after the entry into force, on January 15, 2021, of extraordinary measures to limit the spread of the pandemic, including a new confinement period, followed by the closing of schools on January 22.

From the second week of February onwards there is an overall upward trend in mobility levels, which is accentuated following the lifting of restrictive measures and the reopening of schools up to the 1st cycle of basic education from 15 March and the reopening of 2nd and 3rd cycle schools from 5 April. There is, however, a slight increase in the proportion of the population "staying put" on the days associated with the school holidays and Easter period.

Proportion of the population "staying put" between 1 March 2020 and 6 April 2021 – minimum, average and maximum values of NUTS 3 sub-regions



Source: Facebook's "Data for Good" Initiative. Data provided by Carnegie Mellon University. Note: The dates marked on the graph axis correspond to Sundays.