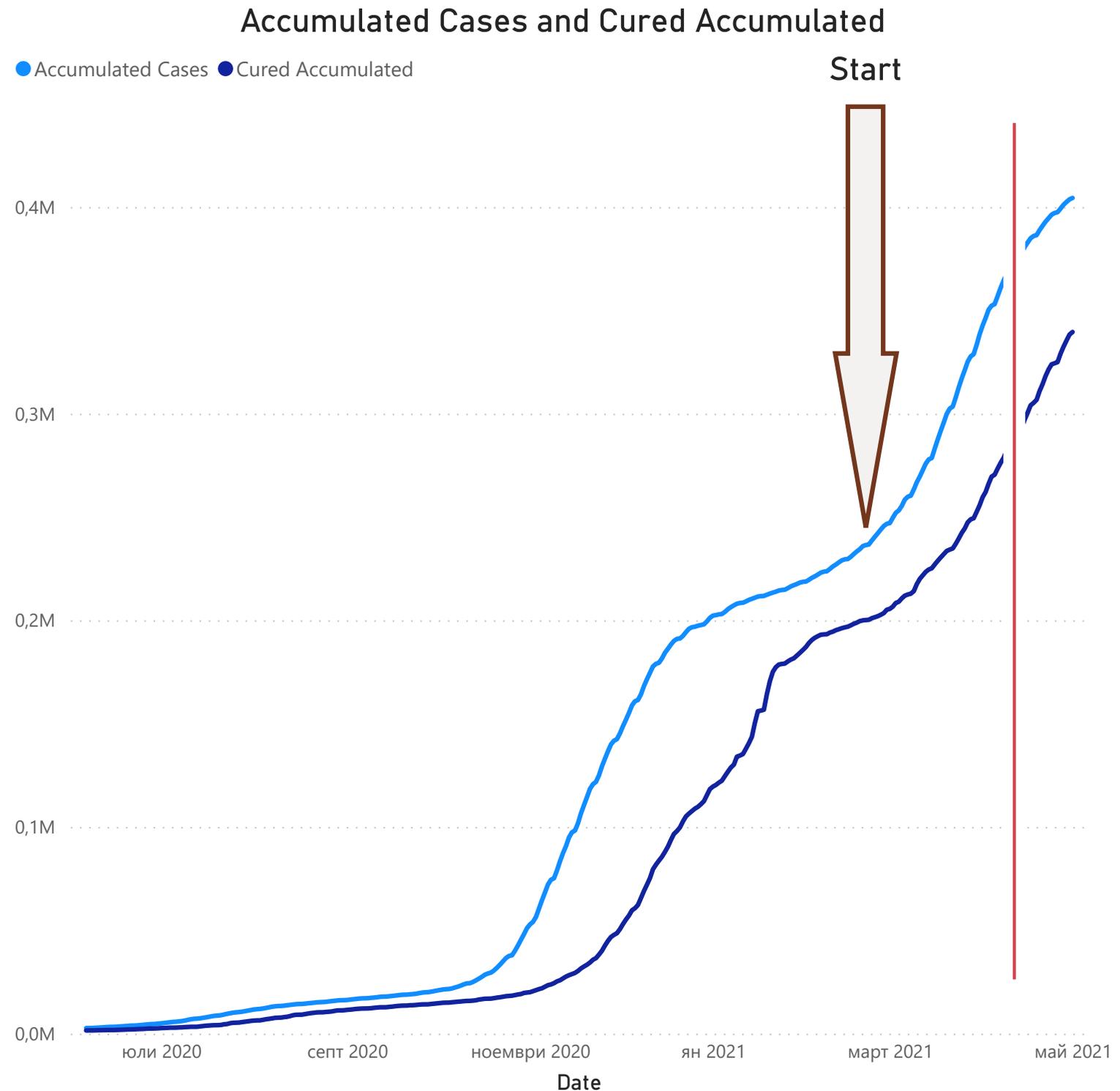


The report mainly tries to look at the development of the situation with COVID-19 cases for the period 12th April - 1st May.

The chart on the right shows the accumulated confirmed cases and cured cases. It can be observed that around 22nd of February 2021 the curve becomes very steep, signaling the start of the latest wave of COVID-19 cases.

It can be seen also that a similar steep increase was observed in the period from the beginning of November until the end of the December in 2020.

The red line indicates the 12th of April which is the reference date for the previous report. It seems that since 12th of April the curve for accumulated cases has gradually flatten, whereas the accumulated cured cases continue to be very steep.



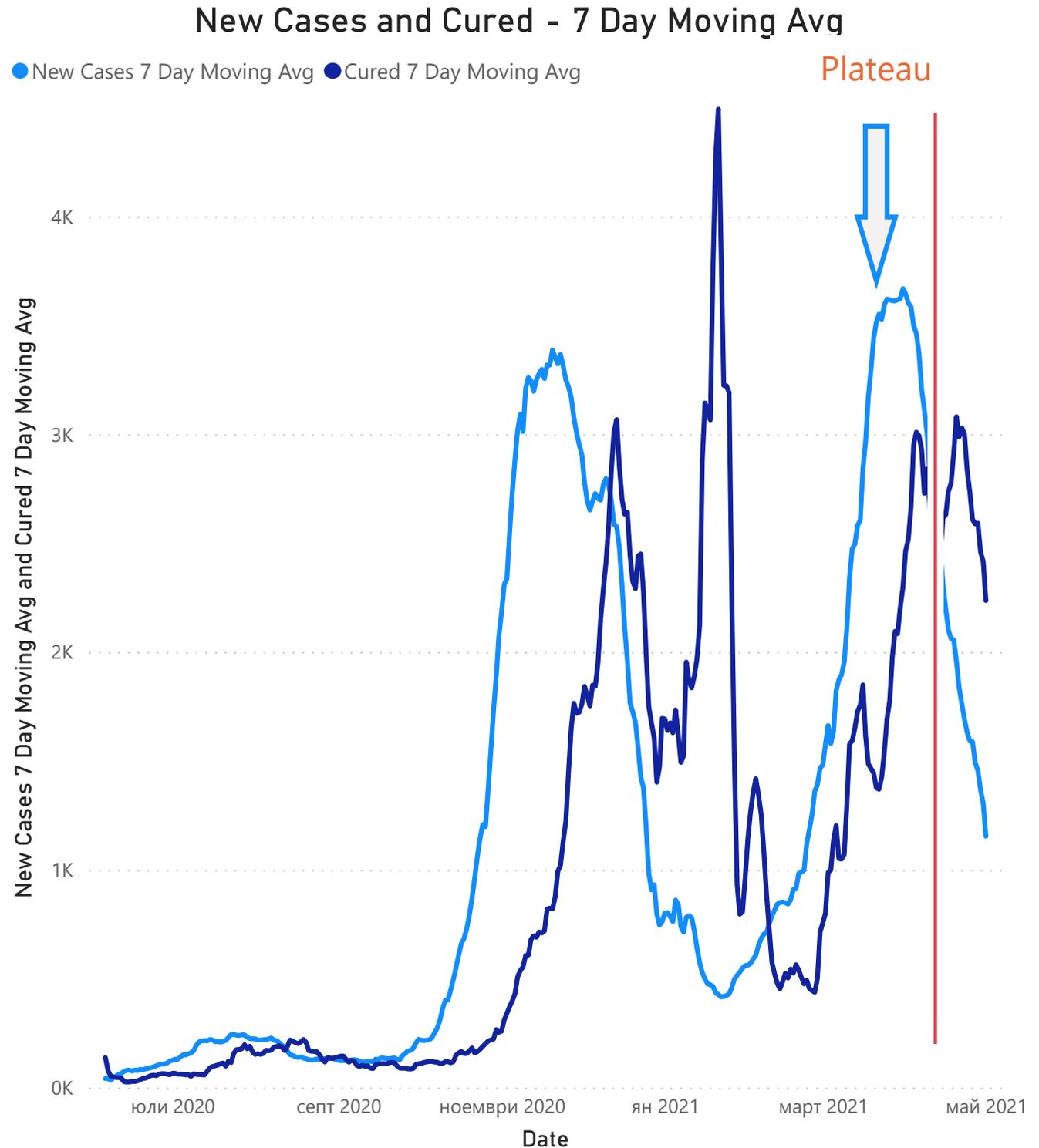
On the next graph can be observed the 7 day moving average for new daily confirmed cases and daily cured cases.

Around 20th March 2021, the latest wave has reached its plateau. Since the beginning of April 2021 the new daily cases have started to decrease drastically.

Around 12th April (indicated with the red line), the number of daily cured cases have surpassed the number of new confirmed daily cases. This can be interpreted as a very strong signal for the end of the latest wave.

It can be seen that the previous wave (November - December 2020) has developed in a similar fashion.

It might be concluded that when the daily new reported cases become more than the cured daily cases, this could be an early signal or warning that a new wave might be starting.

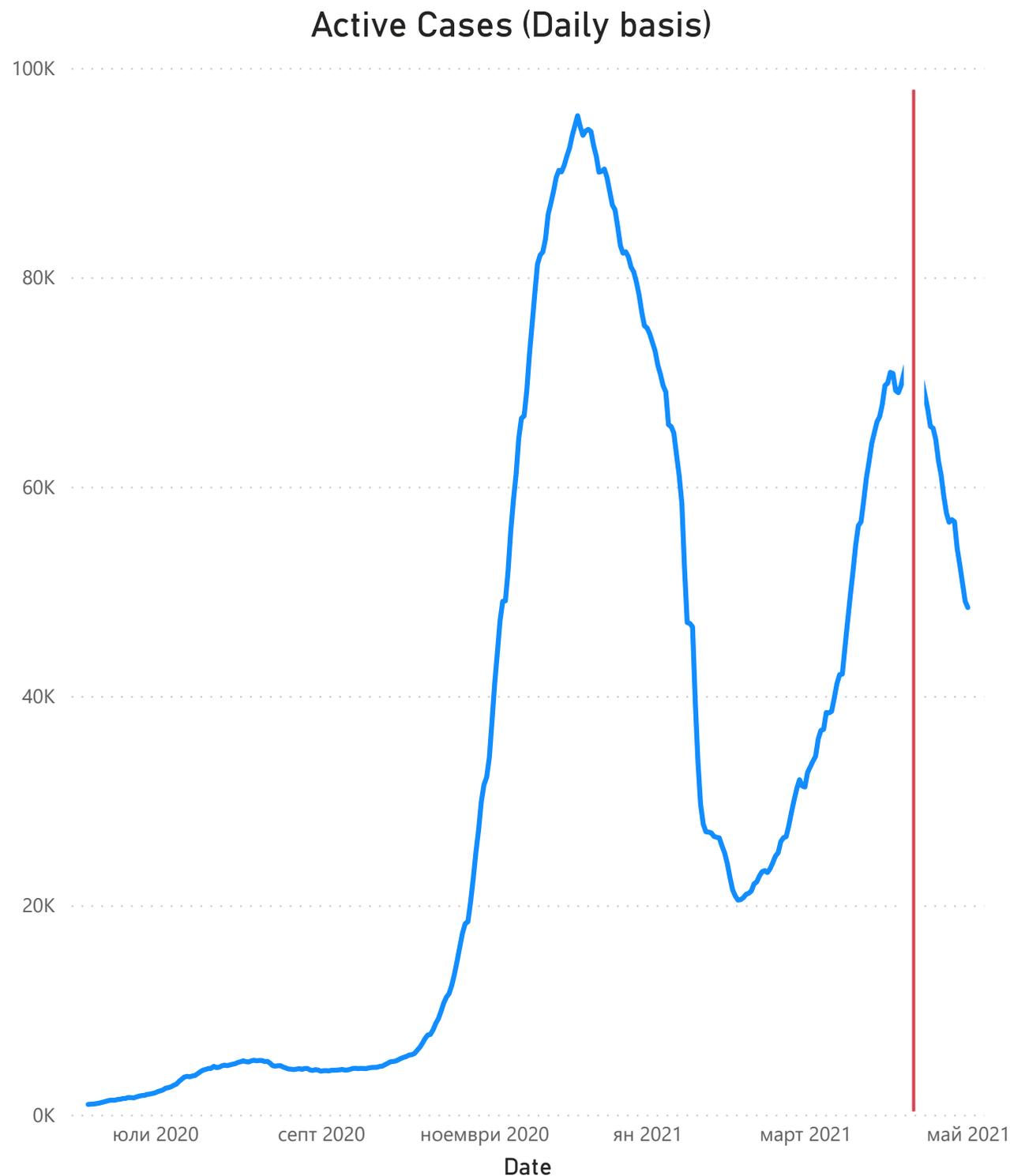


The graph on the right displays the development of the number of active cases on daily basis.

Since 12th April, the daily active cases have started to decrease steadily. On 12th April there were close to 70 000 active cases in Bulgaria. This was the peak of the latest wave. As of 1st May 2021, the number of active cases has dropped to less than 50 000 cases.

In comparison the previous wave had close to 95 000 active cases at its peak (early December 2020).

It should be noted that the first couple of weeks in May should be followed closely, as there are expected to be many large gatherings, including family reunions, due to Easter and other holidays at the start of May. This coincides also with lifting of almost all measures for prevention of the spread of COVID-19 by the government.

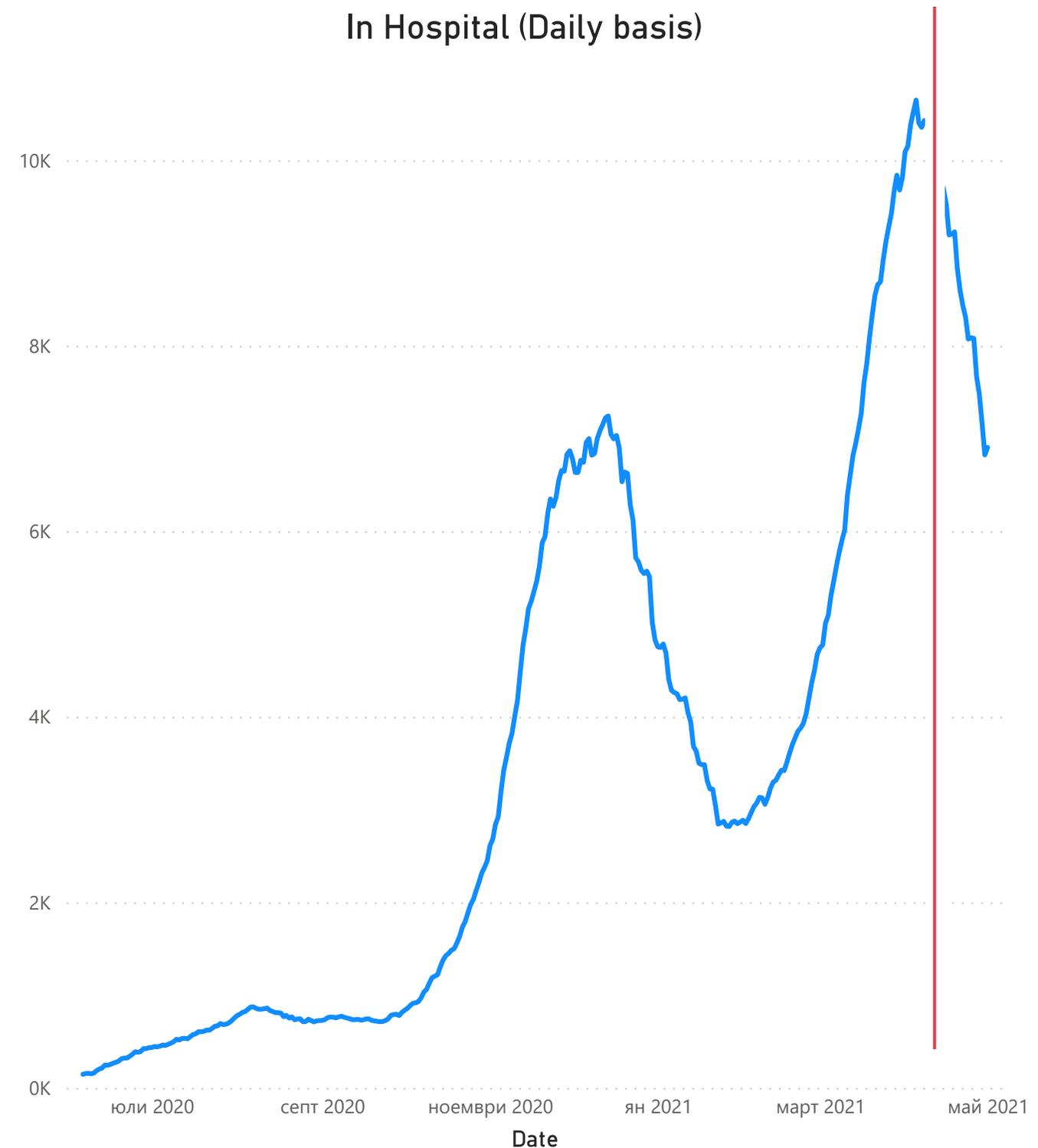


The next chart reports the number of COVID-19 patients in hospitals on a daily basis.

By 12th April (red line), the number of COVID-19 patients had already started to drop. There were less than 10 000 patients in hospitals. By 1st of May this number had dropped below 7 000 and it is expected to keep this trend at least for the first weeks in May.

It seems that much more people were admitted to hospital at the peak of the latest wave in comparison to the previous one at the end of 2020. The previous wave reached a bit more than 7 000 patients in hospitals at its peak, whereas the latest one reached well over 10 000 patients in hospitals at its peak.

The main reason might be the British strain of the virus, which health authorities claim is the predominant one in Bulgaria since the start of 2021.

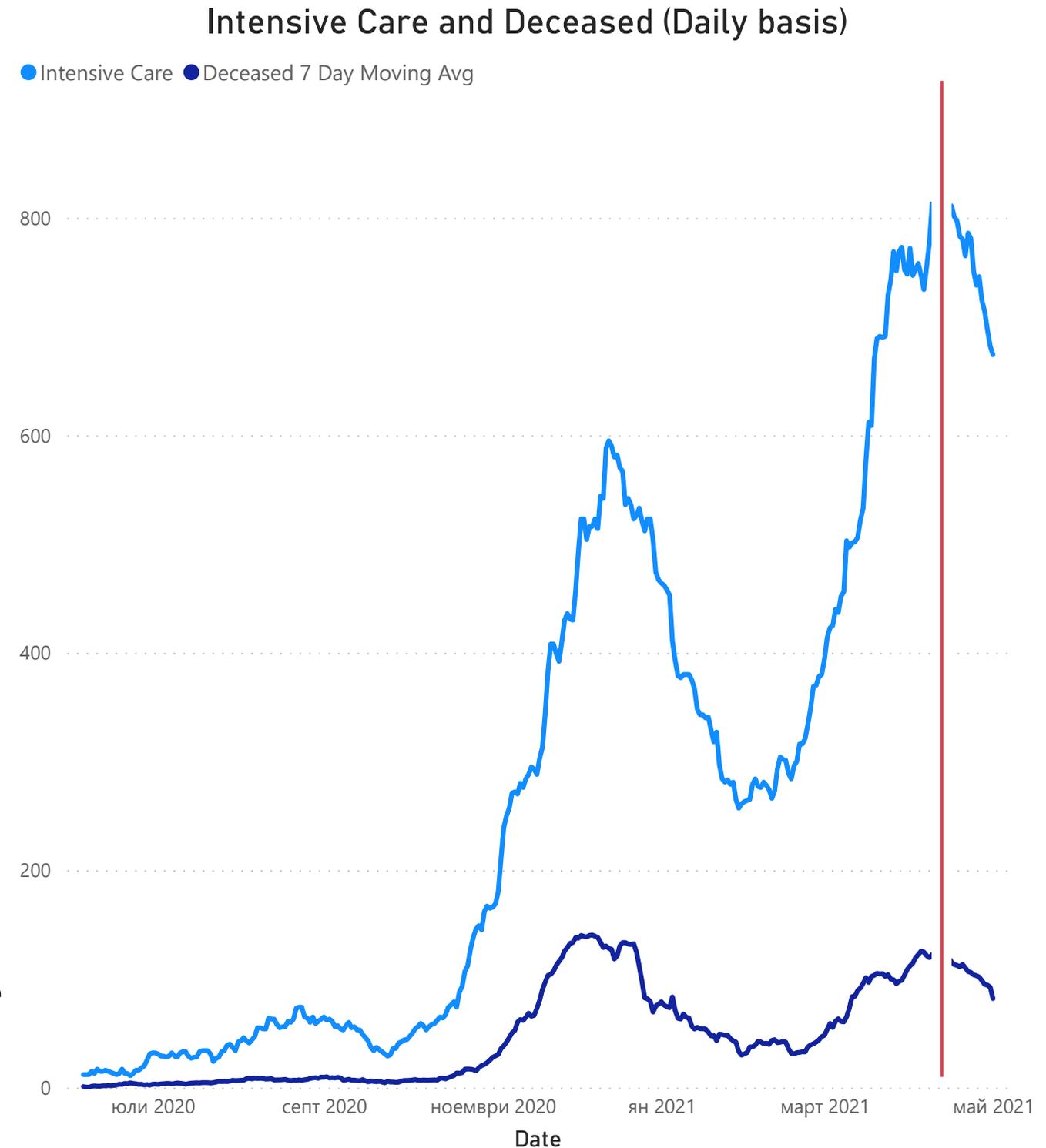


The next graph shows the number of patients in intensive care and the 7 day moving average of deceased cases.

Around 12th April (red line), the number of patients in intensive care was still at its peak (more than 800 patients). After that, the number has started to decline and reached less than 700 patients as of 1st May 2021.

The number of deceased cases doesn't appear to be decreasing as fast as the patients in intensive care nor as the number of patients in hospital (previous graph). Still, it is optimistic that the number does seem to be decreasing gradually since 12th April.

Although there were much more patients in hospitals and intensive care in comparison to the previous wave, the number deceased cases doesn't seem to be more than the previous wave. Perhaps, the health system is improving in mitigating the fatal cases.



The maps on the right indicate the number of active cases per 100 000 people in each region in Bulgaria. The map of the top refers to 12th April and the map on the bottom refers to 1st May.

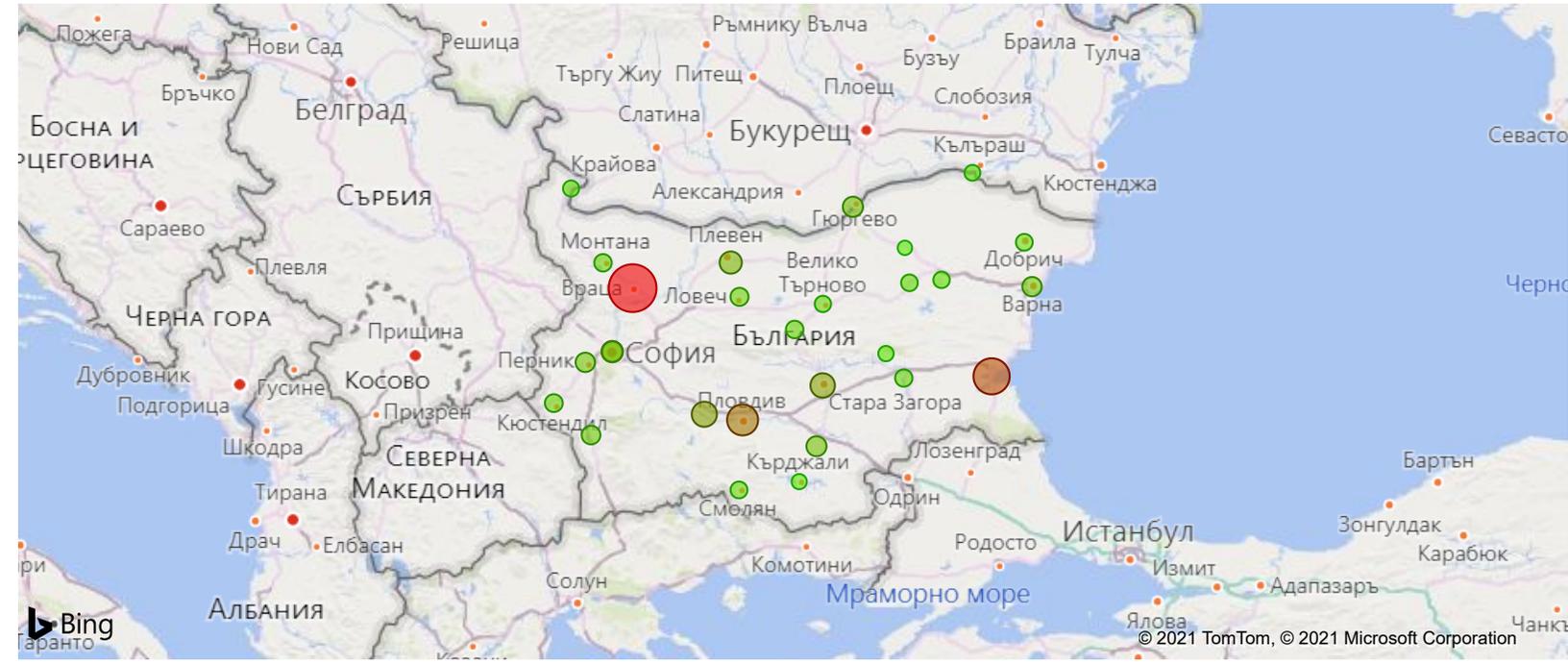
It can be seen that since the 12th April the situation has drastically improved in a number of regions in Bulgaria. The most significant improvements can be seen in the regions of Burgas, Silistra, Ruse, Sofia, Pernik, Kyustendil and Varna.

It should be noted that for the region of Vratsa the officially reported numbers of active cases continue to be suspiciously high. The official authorities are reporting that number of active cases on a daily basis has only been increasing since 22nd of February.

Latest Active Cases per 100k - 12.4.



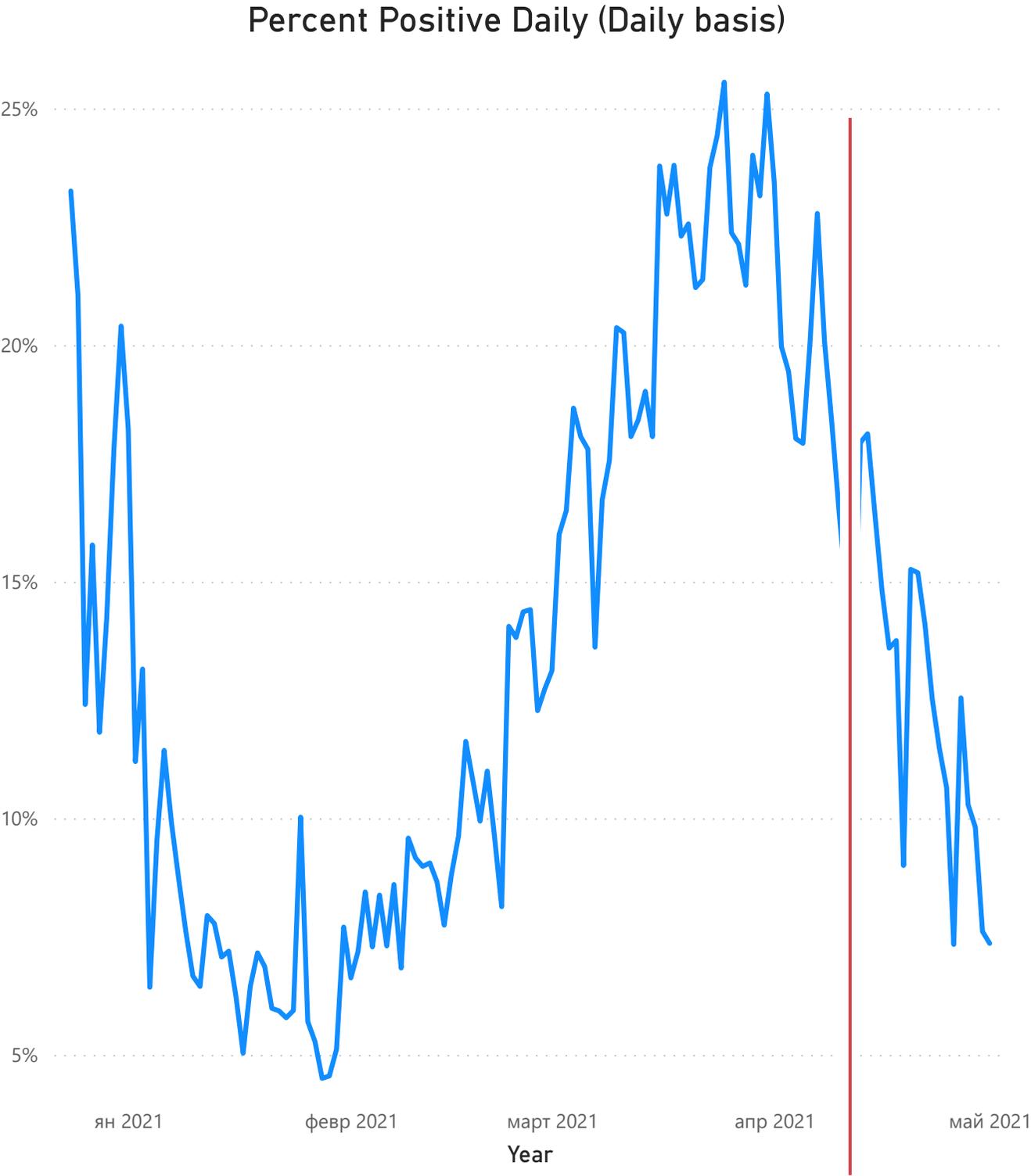
Latest Active Cases per 100k - 1.5.



The next graph displays the percent positive tests for COVID-19 on a daily basis.

It is quite obvious that increase in the percent of positive tests corresponds with the increase of confirmed daily cases (previous graphs).

At 12th April, the percent had already changed its trend and had started to fall. The last few days preceding 1st May, the percent was below 10 percent. Such trend had not been observed since February 2021.



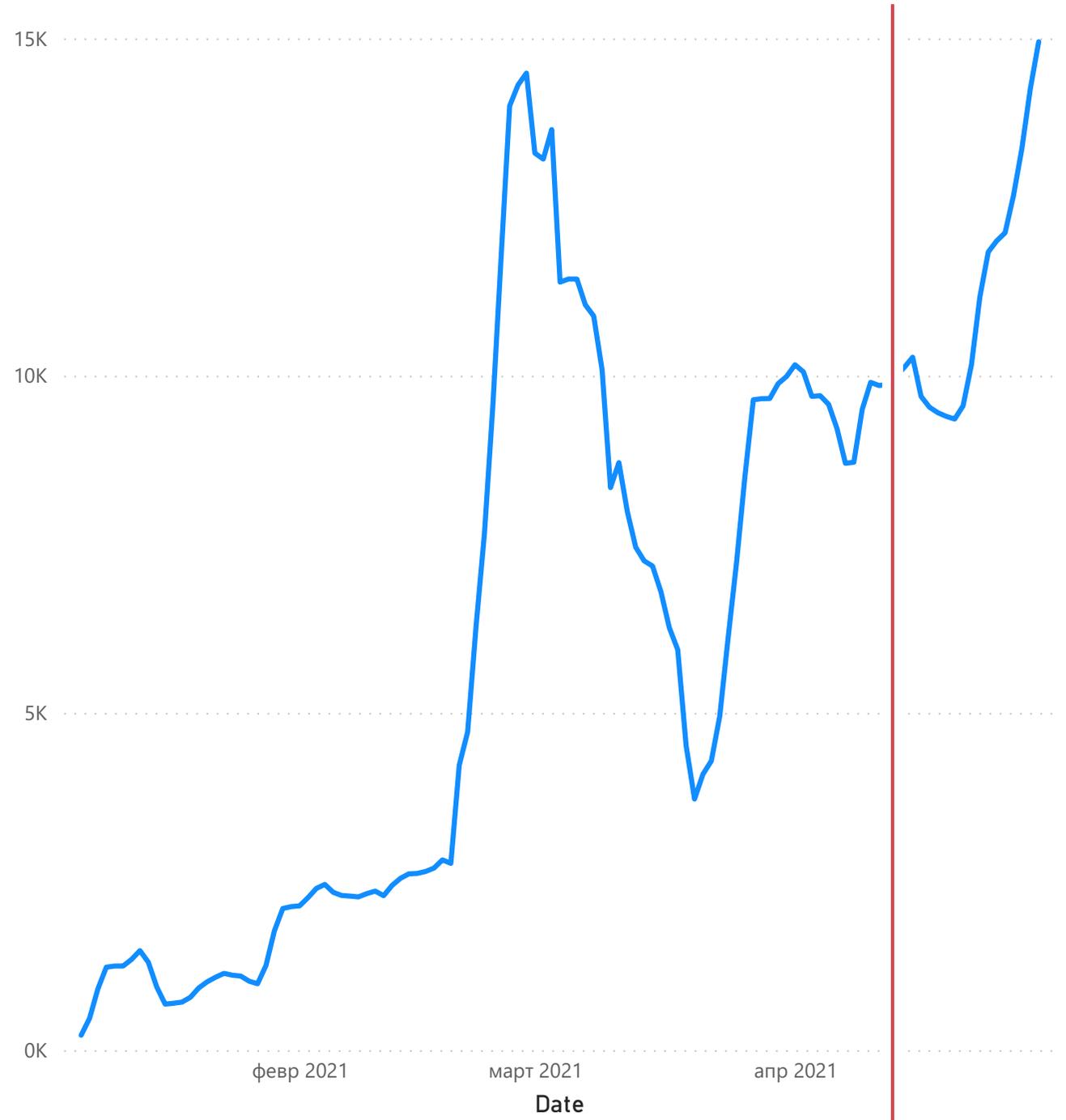
The remaining pages will focus on the vaccination progress.

In the first graph, it can be seen the rolling 7 day average number of doses administered.

One week after 12th April, the number of administered doses has started to increase dramatically. The main reason is that deliveries of Pfizer vaccines has increased since the middle of April.

During the middle of April approximately 10 000 doses were administered on a daily basis, whereas by the end of April the number has increased to 15 000 doses. It is expected that this trend will continue throughout May and June, as the delivered vaccines will only increase and the demand will remain high at least for a couple of months more.

Rolling Avg 7-day Vaccine doses by Date



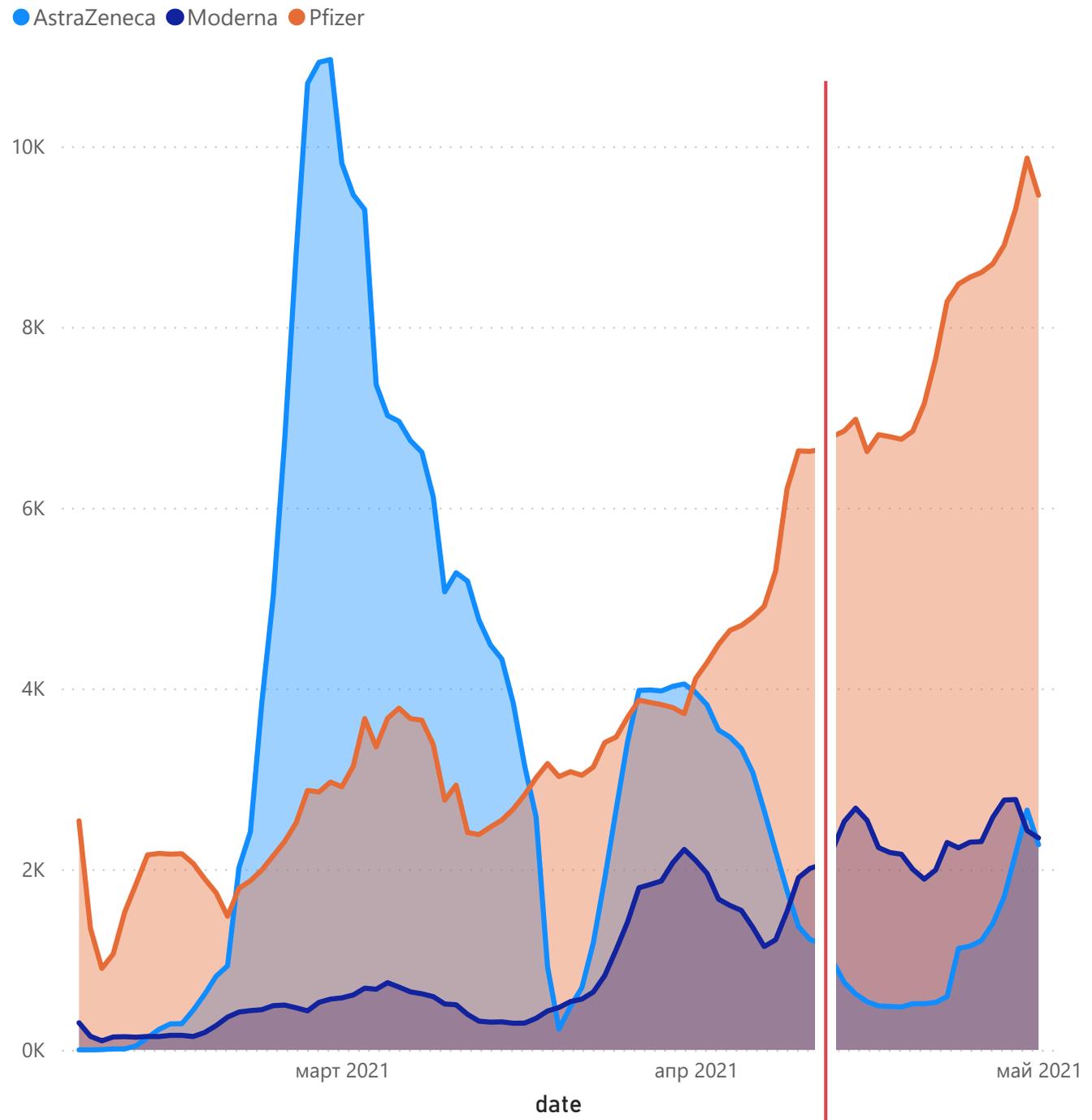
The next graph shows the 7 day moving average of administered vaccine by producer.

Since 12th April, the trend has not changed much. Pfizer and Moderna have continued to be the preferred producers. It can be noted that AstraZeneca have increased number of administered doses in the last week of April.

AstraZeneca appeared to be the most used vaccine in March. However, the interest has sharply declined mainly due to the well documented in the press reports of serious side effects, albeit in extremely rare cases.

AstraZeneca's second dose should administer 8 weeks after the first dose. Hence, the large number of people that had their first shot of AstraZeneca in March would be due to have the second shot in May. This may lead to at least a temporary big increase in AstraZeneca shots in May.

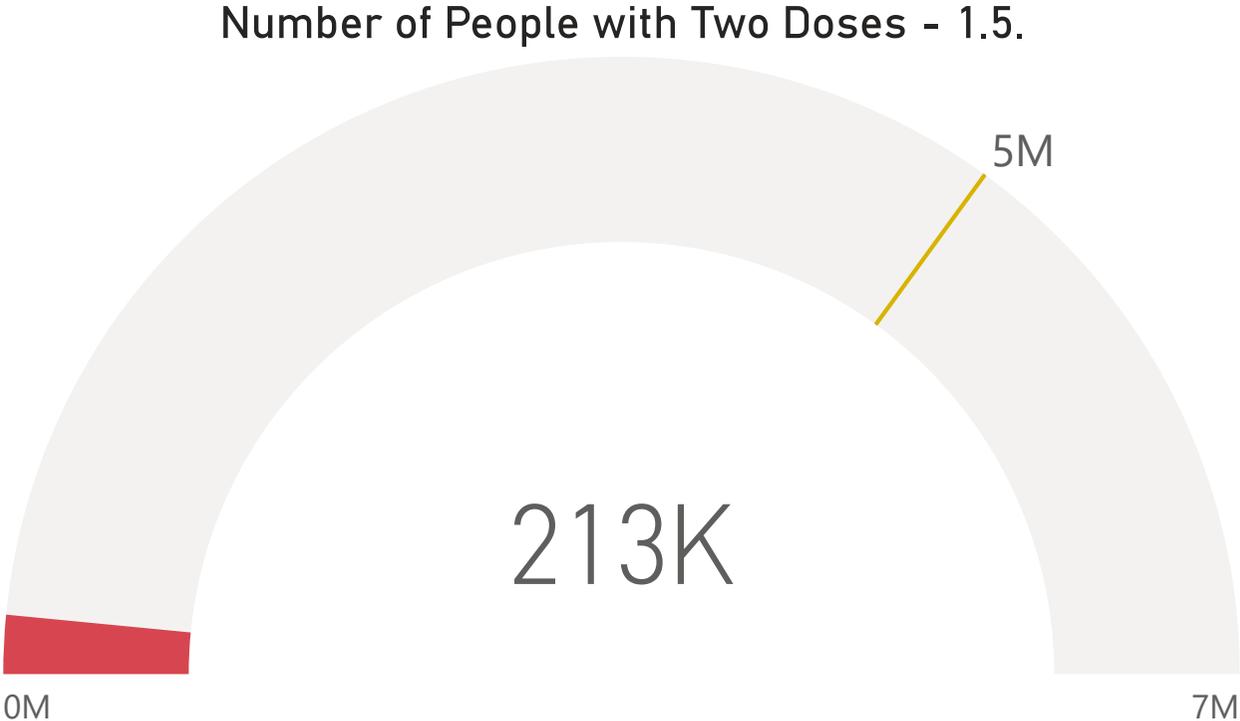
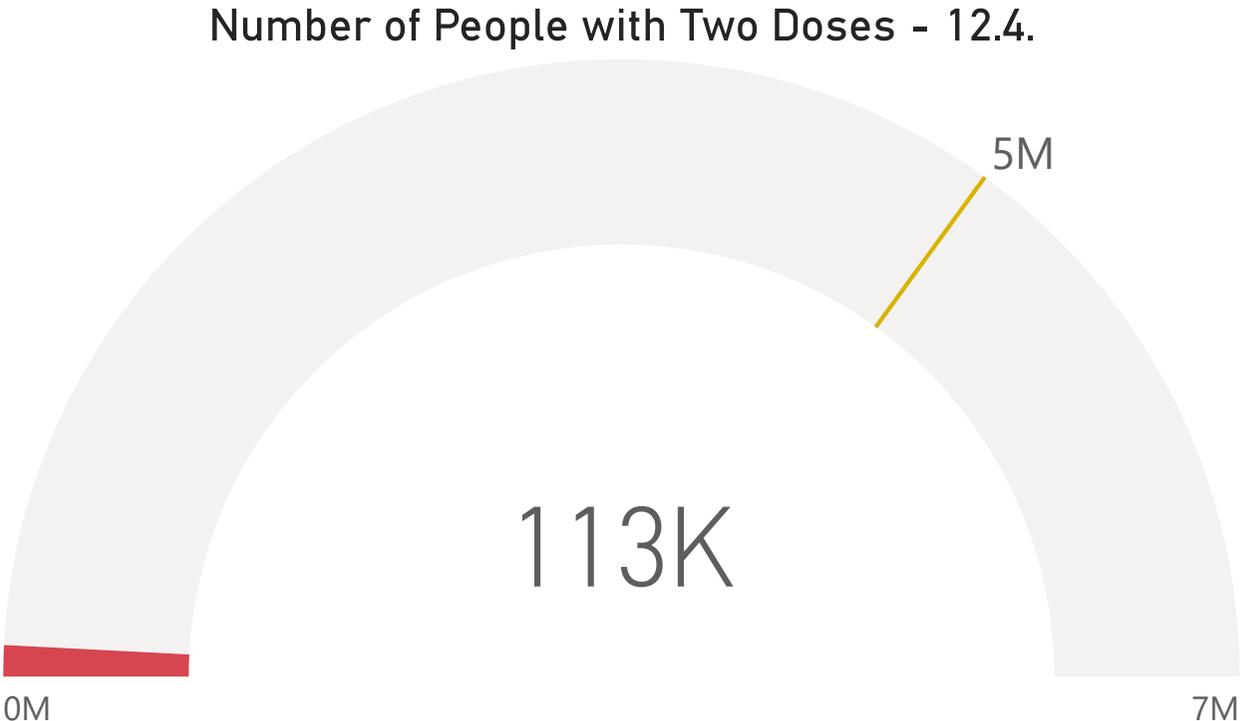
Astra Zeneca, Moderna and Pfizer doses by date (7-day moving average)



The gauge visuals on the right display the progress of the vaccination program in Bulgaria. The visual on the top shows the progress on 12.4. and the visual on the bottom the progress on 1.5. The 5M mark indicates a target of 70% of the population with two doses (or fully vaccinated).

The vaccination program started officially in Bulgaria at the end of December 2020. Until 12.4.2021, there were 113 000 people vaccinated with two doses. In the next 3 weeks, the number has almost been doubled. This indicates high demand. The country has not reached a point where people wanting to be vaccinated cannot be found, as the rate of vaccination still increases.

The increase in deliveries (specifically, Pfizer and Moderna) should further help increase the vaccination rate. Also, there are many people vaccinated with AstraZeneca (first dose) in March, which are due for a second dose in May.



# Sources

1. <https://data.egov.bg/>
2. <https://coronavirus.bg/>
3. <https://www.nsi.bg/>
4. <https://github.com/svilens/covid-bulgaria>
5. <https://covid19bg.github.io/>