

**CRISIS MANAGEMENT AND DISASTER RESPONSE CENTRE OF
EXCELLENCE**

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COVID-19

PART 10

(22-28 May 2020)

Approaches and practices for crisis management

Bring the world together to fight the COVID-19 pandemic

This report represents a summary of open source information, gathered up to and including 28 May 2020, and was assembled on 29 May 2020. All views and opinions expressed are solely those of the author, unless otherwise stated and do not necessarily represent the official position of the CMDR COE or any government and non-government organization or other group. The author does not bear responsibility for incomplete or incorrect facts cited or referred to herein. The majority of reference materials include official documents published by the World Health Organization, governmental pages, and online statistical databases.

TABLE OF CONTENTS

WEEKLY SUMMARY	3
HOW THE COVID-19 PANDEMIC COULD END	4
CMDR COE ANALYSES OF COVID-19 SPREAD ACCELERATION	8
COUNTRIES & REGIONS ADDITIONAL OVERVIEW	21
1. AFRICA.	21
2. BRAZIL.....	22
3. BULGARIA.	24
4. DENMARK.	25
5. FINLAND.....	26
6. GREECE.	28
7. INDIA.....	29
8. MEXICO.....	30
9. NORWAY.....	31
10. PERU.	32
11. POLAND.	33
12. RUSSIA.	35
13. UNITED KINGDOM.....	36
14. USA	37
15. EUROPEAN UNION.....	39
16. NATO.....	40
CONCLUSIONS:	40
RECOMMENDATIONS:.....	41

WEEKLY SUMMARY

While many countries are now either beginning to ease restrictions or are planning to do so, the number of cases continues to rise. The WHO reported that the highest daily increase was registered on 27th May – over 106,475 new cases. The world has also reached a new milestone in the total number of infections – it has now coming to six million. While these numbers, as always, must be seen in the context of broader availability of testing, it does indicate that the pandemic is showing no signs of abating.

Of the countries that are faring worst in terms of case numbers and deaths from COVID-19, there is an emerging pattern. Those countries with populist and/or authoritarian leaders tend to do worst (US, Russia, Brazil, Mexico, UK) while those with progressive, democratic (and often female) leaders are doing best (New Zealand, Germany, South Korea, Finland). It is not within the purview of CMDR COE to speculate about politics, but it is relevant if you see any of these markets as being critical to your business fortunes. Countries that are not coping well with the pandemic are likely to experience more severe and prolonged coronavirus outbreaks with the potential for extended periods of disruption.

The impact on emerging markets is likely to be felt most strongly. This is because they do not have healthcare systems capable of responding to a pandemic like the coronavirus. For example, Uganda has more cabinet ministers than critical care beds in hospitals.

Brazil is a case in point. It officially now has the first worse outbreak in reported numbers of cases. Nevertheless, testing is not widely available so the real level of infection is likely far higher – quite possibly the highest globally, with some experts in the country estimating at least three million cases.

Brazil has a populist president, Jair Bolsonaro, who has consistently played-down the threat from the disease, urging people to defy attempts by Brazilian state authorities to maintain lockdowns and social distancing measures. Brazil has lost two health ministers since the start of the outbreak – both in disagreements with Mr. Bolsonaro.

Reports from Manaus, which is the biggest city in the Amazonas region, suggest that the healthcare system has been completely overrun. They also show the use of mass graves, as the conventional burial processes are unable to cope.

Mexico is also experiencing a rise in the level of infections, even as it begins to relax lockdowns in some municipalities. Like many emerging countries, the level of testing is low, so the real situation is difficult to assess with any confidence.

Peru is another country in Latin America that has experienced a severe outbreak. Testing of stallholders in a market in the capital Lima, showed that almost 80% were infected. In addition, this despite Peru otherwise applying relatively sound quarantine measures. It is thought that public produce markets across the Latin America region have become significant vectors for viral spread.

Latin America is notable because we expect it to suffer the most significant downturn of all the world's regions. This is because the economies were already fragile and because online channels are underdeveloped relative to many other regions. In most Latin American countries, mobile handsets are not regarded as essential items and are thus unable to be sold.

HOW THE COVID-19 PANDEMIC COULD END

We know how the COVID-19 pandemic began: Bats near Wuhan, China, hold a mix of coronavirus strains, and sometime last fall one of the strains, opportunistic enough to cross species lines, left its host or hosts and ended up in a person. Then it was on the loose.



What no one knows yet is how the pandemic will end. This coronavirus is unprecedented in the combination of its easy transmissibility, a range of symptoms going from none at all to deadly, and the extent that it has disrupted the world. A highly susceptible population led to near exponential growth in cases. "This is a distinct and very new situation," says epidemiologist and evolutionary biologist Sarah Cobey¹ of the University of Chicago.

However, past pandemics do offer hints of the future. While there is no one, historical example to follow, humanity has gone through several large epidemics in the past 100 or so years that eventually stopped ravaging society. The ways they came to a halt offer guidance to a world looking for ways to restore health and some sense of normalcy. Three of those experiences, Cobey and other experts say, suggest that what happens next depends on both the evolution of the pathogen and of the human response to it, both biological and social.

¹ Sarah Cobey is an associate professor in the Department of Ecology and Evolution, the Program in Biophysics, and the Committee on Microbiology at the University of Chicago.

Viruses are constantly mutating. Those that trigger pandemics have enough novelty that the human immune system does not quickly recognize them as dangerous invaders. They force the body to create a brand-new defense, involving new antibodies and other immune system components that can react to and attack the foe. Large numbers of people get sick in the short term, and social factors such as crowding and the unavailability of medicine can drive those numbers even higher. Ultimately, in most cases, antibodies developed by the immune system to fight off the invader linger in enough of the affected population to confer longer-term immunity and limit person-to-person viral transmission. Nevertheless, that can take several years, and before it happens, havoc reigns.

The most famous example of this dynamic in modern history was the H1N1 influenza outbreak of 1918–1919. Doctors and public health officials had far fewer weapons than they do today, and the effectiveness of control measures such as school closures depended on how early and decisively they were implemented. Over two years and three waves, the pandemic infected 500 million and killed between 50 million and 100 million. It ended only as natural infections conferred immunity on those who recovered.

The H1N1 strain became endemic, an infectious disease that was constantly with us at less severe levels, circulating for another 40 years as a seasonal virus. It took another pandemic—H2N2 in 1957—to extinguish most of the 1918 strain. One flu virus kicked out another one, essentially, and scientists do not really know how. Human efforts to do the same have failed. “Nature can do it, we cannot,” says virologist Florian Krammer² of the Icahn School of Medicine at Mount Sinai in New York City.



The severe acute respiratory syndrome (SARS) epidemic of 2003 was caused not by an influenza virus but by a coronavirus, SARS-CoV, that is closely related to the cause of the current affliction, SARS-CoV-2. Of the seven known human coronaviruses, four circulate widely, causing up to a third of common colds. The one that caused the SARS outbreak was far more virulent. Thanks to aggressive epidemiological tactics such as isolating the sick, quarantining their contacts and implementing social controls, bad outbreaks were limited to a few locations such as Hong Kong and Toronto. This containment was possible because sickness followed infection very quickly and obviously: almost all people with the virus had serious symptoms such as fever and trouble breathing. Moreover, they

² Prof. Florian Krammer holds a position as a Professor of Vaccinology at the Department of Microbiology at the Icahn School of Medicine at Mount Sinai.

transmitted the virus after getting quite sick, not before. “Most patients with SARS were not that contagious until maybe a week after symptoms appeared,” says epidemiologist Benjamin Cowling³ of the University of Hong Kong. “If they could be identified within that week and put into isolation with good infection control, there wouldn’t be onward spread.” Containment worked so well there were only 8,098 SARS cases globally and 774 deaths. The world has not seen a case since 2004.



When a new H1N1 influenza virus, known as swine flu, caused a pandemic in 2009, “there was an alarm bell because this was a brand-new H1N1,” Cowling says, and it was very similar to the 1918 killer. Swine flu proved less severe than feared. In part, Krammer says, “we were lucky because the pathogenicity of the virus wasn’t very high.” However, another important reason was that six months after the virus appeared, scientists developed a vaccine for it.

Unlike measles or smallpox vaccines, which can confer long-term immunity, flu vaccines offer only a few years of protection. Influenza viruses are slippery, mutating rapidly to escape immunity. As a result, the vaccines must be updated every year and given regularly. Nevertheless, during a pandemic, even a short-term vaccine is a boon. The 2009 vaccine helped to temper a second wave of cases in the winter. As a result, the virus much more rapidly went the way of the 1918 virus, becoming a widely circulating seasonal flu, from which many people are now protected either by flu shots or by antibodies from a previous infection.

Projections about how COVID-19 will play out are speculative, but the end game will most likely involve a mix of everything that checked past pandemics: Continued social-control measures to buy time, new antiviral medications to ease symptoms, and a vaccine. The exact formula—how long control measures such as social distancing must stay in place, for instance—depends in large part on how strictly people obey restrictions and how effectively governments respond. For example, containment measures that worked for COVID-19 in places such as Hong Kong and South Korea came far too late in Europe and the U.S. “The question of how the pandemic plays out is at least 50 percent social and political,” Cobey says. The other 50 percent will probably come from science. Researchers have banded together like never before and are working on multiple fronts to develop remedies. If any of the several antiviral medications currently in development

³ Prof. Benjamin John Cowling, Professor and Head of Division of Epidemiology and Biostatistics of the University of Hong Kong. Prof Cowling is a co-director of the WHO Collaborating Centre for Infectious Disease Epidemiology and Control at HKU SPH.

prove effective, they will improve treatment options and lower the numbers who get seriously ill or die. A technique to screen for SARS-CoV-2 neutralizing antibodies, an indicator of immunity in recovered patients, could also prove very useful. Krammer and his colleagues have developed one such test, and there are others. Previously used only in local epidemics, these new serological assays will not end the pandemic, but they could make it possible to spot and use antibody-rich blood as a treatment for critically ill patients; more certainly, the tests will also get people back to work faster if those who fought off the virus and are immune can be identified.

It will take a vaccine to stop transmission. That will take time—probably a year from now. Still, there is reason to think a vaccine could work effectively. Compared with flu viruses, coronaviruses do not have as many ways to interact with host cells. “If that interaction goes away, [the virus] can’t replicate anymore,” Krammer says. “That’s the advantage we have here.” It is not clear



whether a vaccine will confer long-term immunity as with measles or short-term immunity as with flu shots. But “any vaccine at all would be helpful at this point,” says epidemiologist Aubree Gordon⁴ of the University of Michigan.

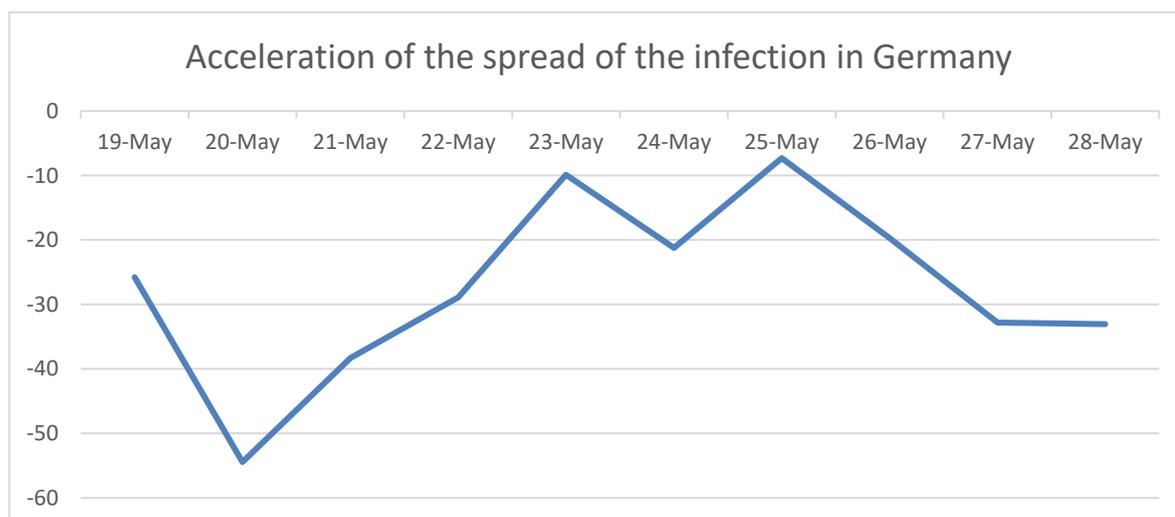
Unless a vaccine is administered to all of the world’s eight billion inhabitants who are not currently sick or recovered, COVID-19 is likely to become endemic. It will circulate and make people sick seasonally—sometimes very sick.

Nevertheless, if the virus stays in the human population long enough, it will start to infect children when they are young. Those cases are typically, though not always, quite mild, and so far the children appear less likely to develop severe disease if they are re-infected as adults. The combination of vaccination and natural immunity will protect many of us. The coronavirus, like most viruses, will live on—but not as a planetary plague.

⁴ Aubree Gordon (PhD), associate professor of epidemiology, School of Public Health, University of Michigan.

CMDR COE ANALYSES OF COVID-19 SPREAD ACCELERATION

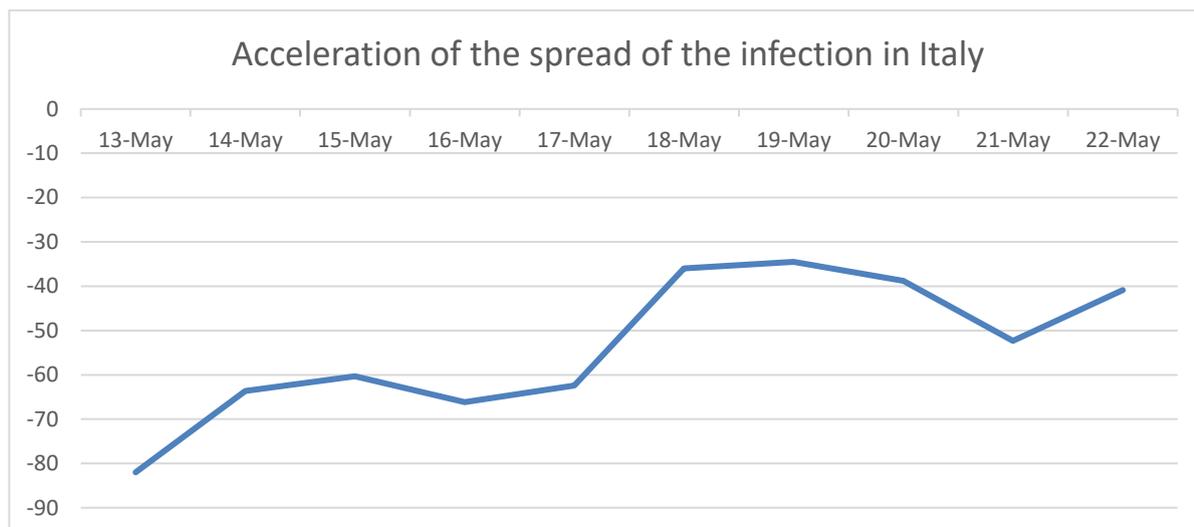
The next analyses of the COVID-19 crisis is based on mathematical modelling. The focus is on the spread acceleration of the virus. It is very informative and lightens the dynamics of the evaluation. The total number of people having contact with the virus, of course, is something useful to know, but it cannot be used for predicting the development of the crisis. On the other hand, the acceleration allows us to estimate the escalation in the forthcoming days, the duration of the crisis or the possibility of second wave. According to the observed data, it is evident that the exponential period is of approximately one month. During it the acceleration is positive and has a dome shape. Later, the acceleration changes its sign and this point fixes the time when the peak of the spread is reached. The next period characterizes with an acceleration with a negative sign. The number of the newly affected people starts to decrease. In order to know how long it will continue it is necessary to calculate the surface of the positive shape of the acceleration. The first wave of the crisis will finish when the surface limited by the negative acceleration equals the positive one. The presented analysis is the tenth part of a series. Some of the mentioned issues have been elaborated in the previous reports. For example, the discovered in CMDR COE coefficient between the number of the newly affected people and the death toll per day. It gives the trend of the crisis for each country. In Germany, Spain, Italy and many other European countries, the coefficient during the positive acceleration of the spread was more than ten. When the acceleration changes its sign and becomes negative, the coefficient value goes to less than ten. It is as such because reaching the particular number of the COVID-19 victims happens with a specific delay to the number of the newly affected.



In the previous analysis of the situation in Germany CMDR COE estimated the following increase in the number of registered infected: 179531, 179994, 180412, 180784, 181110. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
179531	179713	-0,10155
179994	179986	0,004509
180412	180328	0,046488
180784	180789	-0,00296
181110	181288	-0,09842

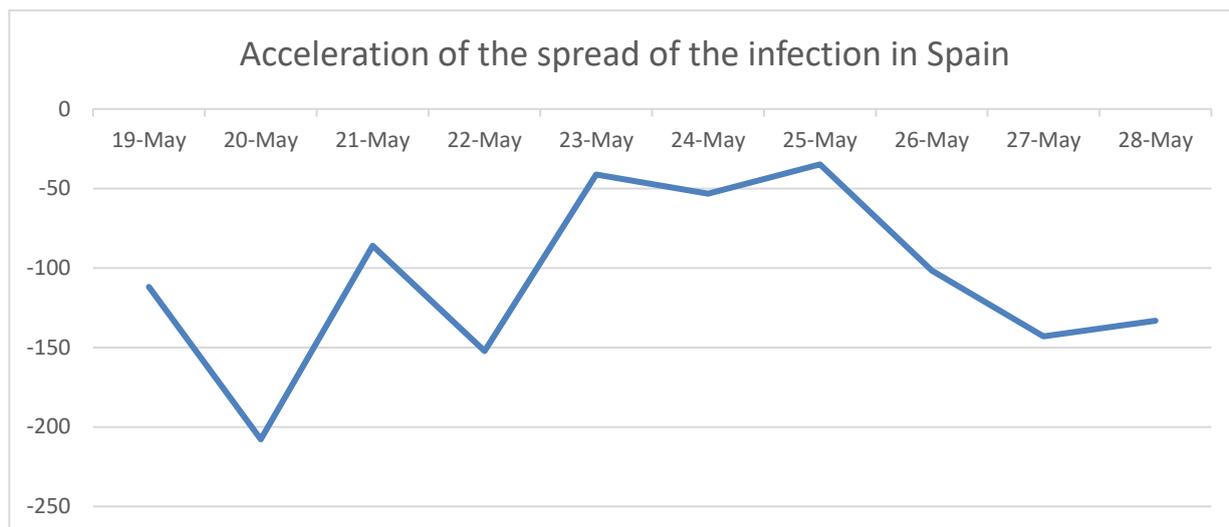
From the low values of the deviation, it becomes evident that the mathematical model corresponds to the development of the pandemic in Germany. Interestingly, second and higher degree polynomials are intentionally not included in the model. This shows the linearity of the dynamics in terms of the increase in the number of infected in Germany at the moment. This, in turn, is due to the measures taken there, the time of their implementation and the motivation of the population to comply with the measures and isolate themselves. In its previous analysis, CMDR COE estimated the short peak, which occurred last week. We expect another 2 or 3 similar to that one peaks with different intervals between them. As it was mentioned before, the range of about 30% in contact with the virus is gradually being approached and this will exclude the possibility of an occurring naturally second wave. Such would be possible when creating conditions close to artificial – crowding, intensive movement of large groups of people, etc. In the worst case scenario, it would repeat what has happened so far and would last about a month and a half. This option is quite unlikely. The CMDR COE estimates that because the spread of the virus has been put under control relatively early, the period of gradual decline in the number of new infections will last longer than in the neighboring more affected Western European countries. This is also evident from the close to zero values of the acceleration. At this rate, it will take about a month for single cases per day to occur. Possible reasons for extending this period are the restored mass events and the tourist season.



The slight positive trend mentioned in the previous CMDR COE analysis of the development of the pandemic in Italy has been observed over the past week. It is largely due to the presence of a large percentage of population at risk. In the previous analysis of the situation in Italy, CMDR COE estimated the following increase in the number of registered infected: 228579, 229075, 229495, 229839, 230106. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
228579	229327	-0,32626
229075	229858	-0,34055
229495	230158	-0,28796
229839	230555	-0,31062
230106	231139	-0,44688

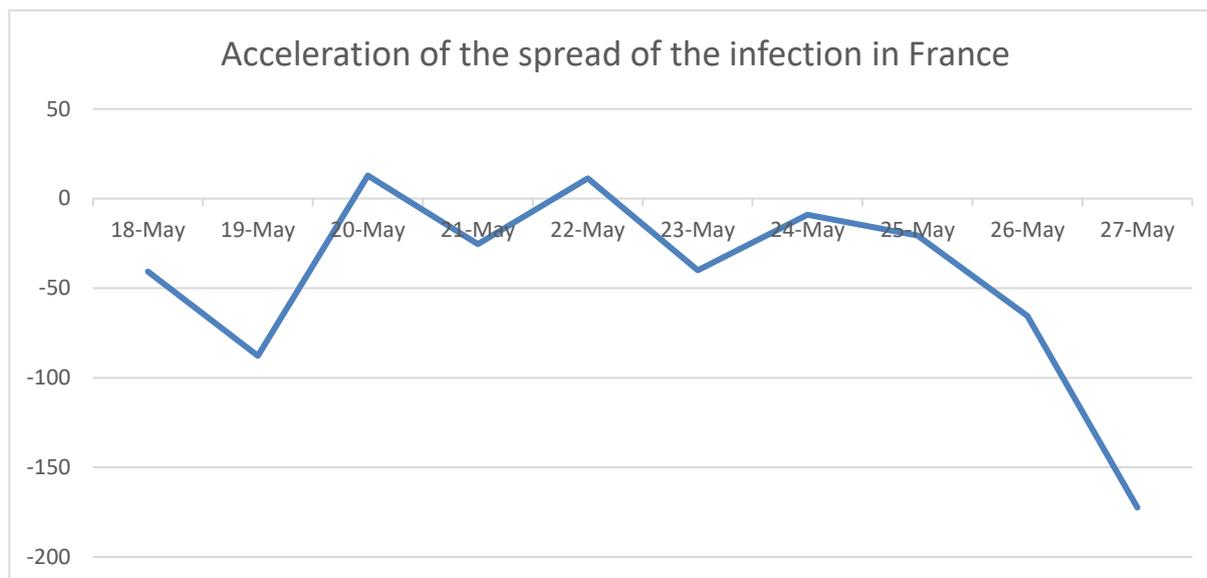
From a mathematical point of view, with such a development trend, the number of newly infected people should start to increase again in some time. However, CMDR COE believes that next week will again be followed by a reduction in acceleration and keeping it in negative values. This will continue until the number of newly infected people reaches 50-60 per day. At such low values, the data will appear chaotic and dynamic.



In the previous analysis of the situation in Spain CMDR COE estimated the following increase in the number of registered infected: 280705, 281159, 281479, 281665, 281717. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
280705	281904	-0,42523
281159	282370	-0,42873
281479	282852	-0,48527
281665	283080	-0,49977
281717	283339	-0,57247

The development of the crisis in Spain is very similar to that in Italy. Here, too, a greater deviation of the prognostic data from the obtained is observed. However, the error is minor and proves the adequacy and applicability of the model. Once again, what is happening is a consequence of easing and lifting of restrictive measures. The next two weeks will be crucial for determining the balance in the spread of the virus and maintaining the acceleration in negative values

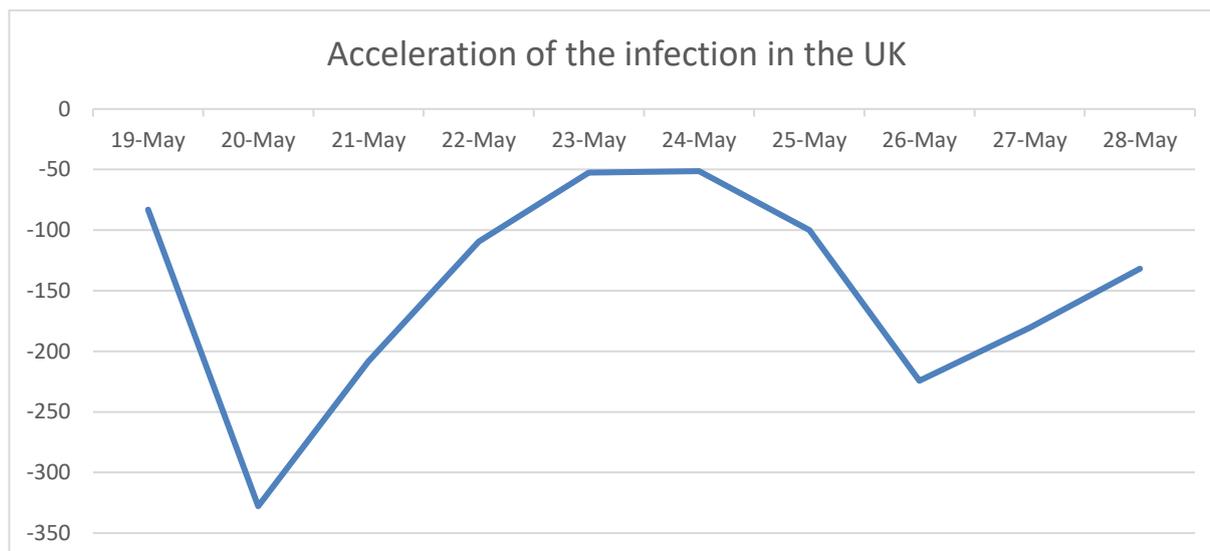


The short peak in the acceleration of the spread of the infection in France, anticipated in the previous CMDR COE analysis, was observed last week. Following it, negative values were registered again, which is very encouraging for the possibility of the country to return to a normal rhythm of life.

In the previous analysis of the situation in France, CMDR COE estimated the following increase in the number of registered infected: 182256, 182623, 182928, 183170, 183350. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
182256	182219	0,020149
182623	182469	0,084368
182928	182584	0,188237
183170	182942	0,124602
183350	182722	0,343541

The deviation is low and indicates that the acceleration trend is negative.

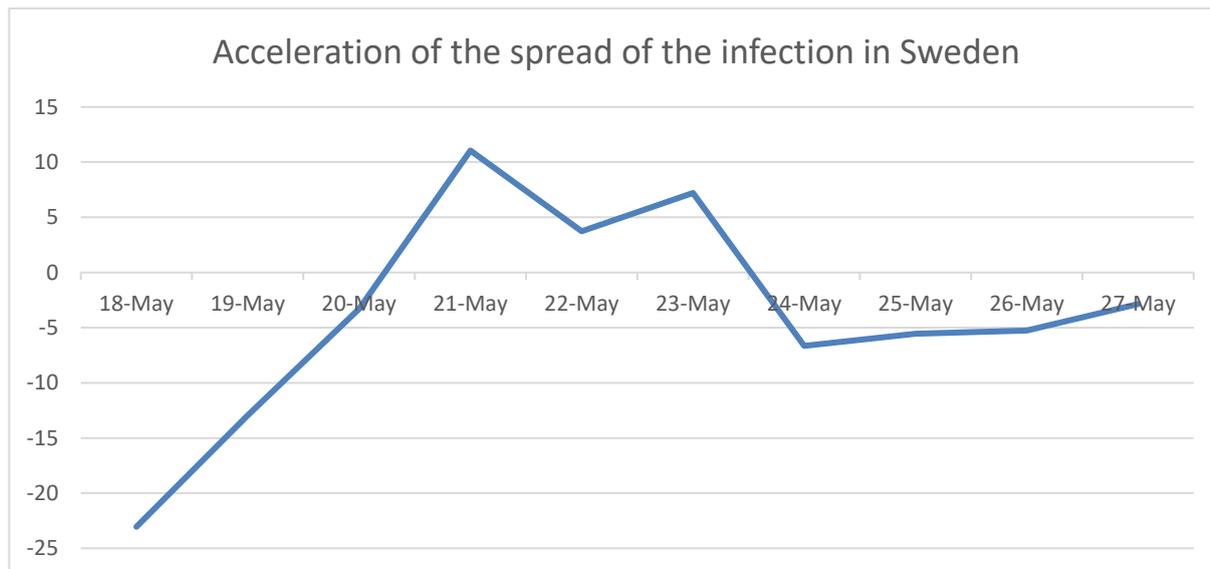


Despite maintaining a relatively high number of new infections, the situation in the UK is sustainable and well-developing. Like other European countries, the government there allowed the spread of the disease to develop and only then imposed some restrictive measures. We expect a faster decline in the number of new infections in the forthcoming weeks. It may be disrupted by short peaks associated with outbreaks in settlements that have not been affected so far. This will not significantly change the overall behavior of the function.

In a previous analysis of the situation in the UK, the CMDR COE estimated the following increase in the number of registered infected: 252955, 254898, 256739, 258478, 260113. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
252955	252947	0,003000629
254898	256234	-0,52125401
256739	259193	-0,946653652
258478	261598	-1,192860802
260113	263223	-1,181564681

The UK variance of the model reaches 1.2%, which is relatively large compared to other countries and needs to be adjusted by adding higher-order terms. This error will be naturally reduced the following week due to the elapse of the temporary peak of the infection acceleration.

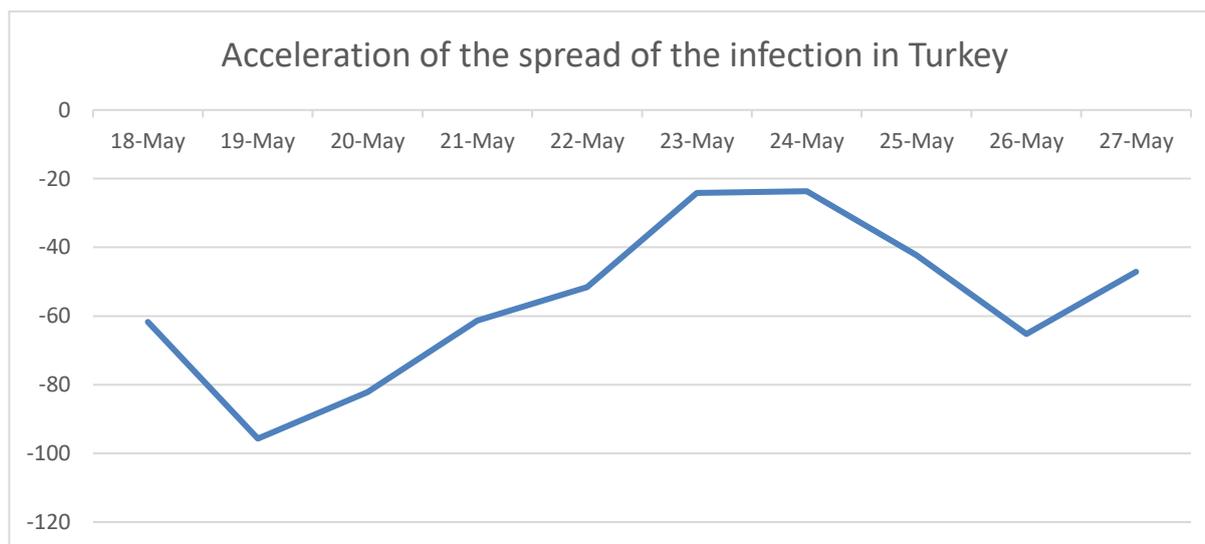


What is happening in Sweden keeps demonstrating that the course chosen to deal with the specific crisis is not adequate, even in the short term. In a short time, the peak of acceleration of the spread again gained a positive value. The plan, the active and mostly healthy part of the country's population to get infected shortly and almost simultaneously, failed. This is due to several reasons. One of them is the self-isolation of a part of the society. Another is related to the fact that the virus has an extremal potential rate of spread, even under suitable for its development conditions. Rising temperatures, reaching a certain percentage of the population in contact with the virus and self-isolation have limited the increase in the number of new infected cases among the young and active. Prolonged circulation of the virus without significantly limiting contacts among people on the other hand allowed long exposure of that part of the society at risk - adults and comorbidities. The mortality rate among them is significantly higher than in neighboring countries. Against this background, recent data on indicators of economic activity are not proportionately better. On the contrary, they are similar to those of other countries. This will ultimately have some mitigating effect on society in the long run. The moral and ethical norms of Swedish society have been harmed and a long and painful period of recovery will follow.

We expect that next week there will be no significant changes in the dynamics of the spread of the infection and the values of the acceleration change will be lower than in the previous week, i.e. in the main, the same number of newly infected as before will be observed.

In the previous analysis of the situation in Sweden, CMDR COE predicted the following increase in the number of registered infected: 32668, 33160, 33648, 34133, 34615. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
32668	32809	-0,43122
33160	33188	-0,08569
33648	33459	0,565229
34133	33843	0,857489
34615	34440	0,507549

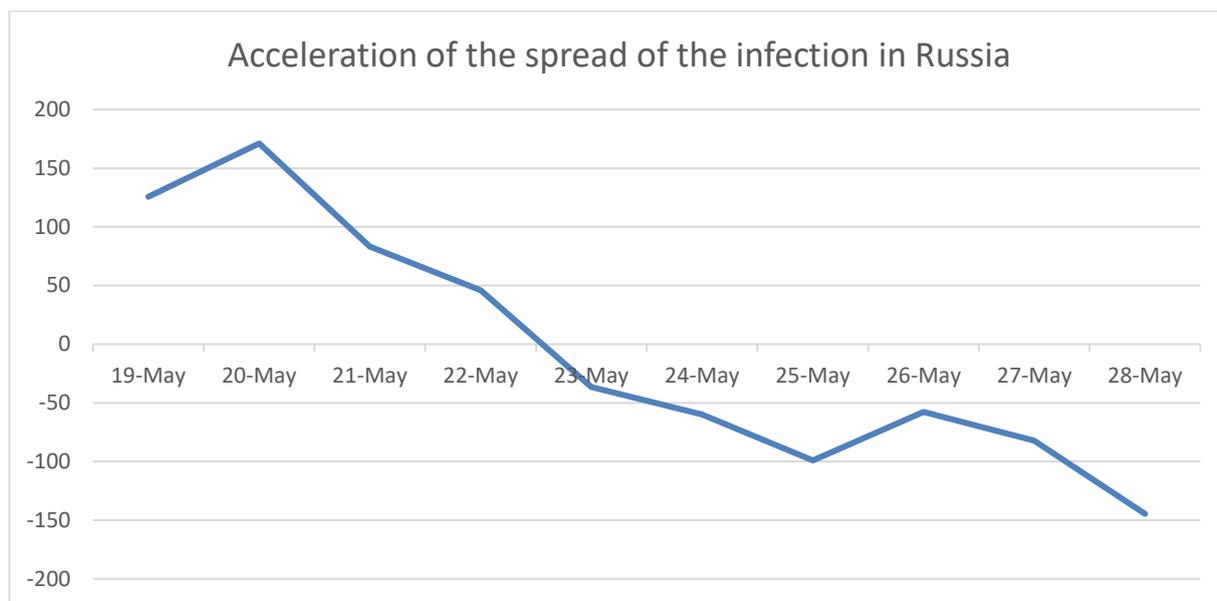


The acceleration of the spread of the infection in Turkey is also reaching a short-term peak. Restrictive measures to control the situation are being actively regulated in the country.

As for the rest of the world, coping with the economic aspect of the crisis is critical for the country. Due to the accumulation of several relatively similar impacts, there is a significant overall pressure on the economy and financial situation of the country. The crisis at the moment seems like an additional burden. In fact, it also allows for a restart and a large cash flow from outside in the form of investments. The monetary policy of the countries supporting the major currencies and the financial reliefs will lead to the availability of a large free financial resource seeking for production capacities to invest in. Turkey's currently vulnerable industry could be a target for international investors. This will give a very strong impetus to the country and will greatly strengthen the chosen course of government.

In the previous analysis of the situation in Turkey, CMDR COE predicted the following increase in the number of registered infected: 154579, 155545, 156446, 157282, 158052. The following values and model error were accounted:

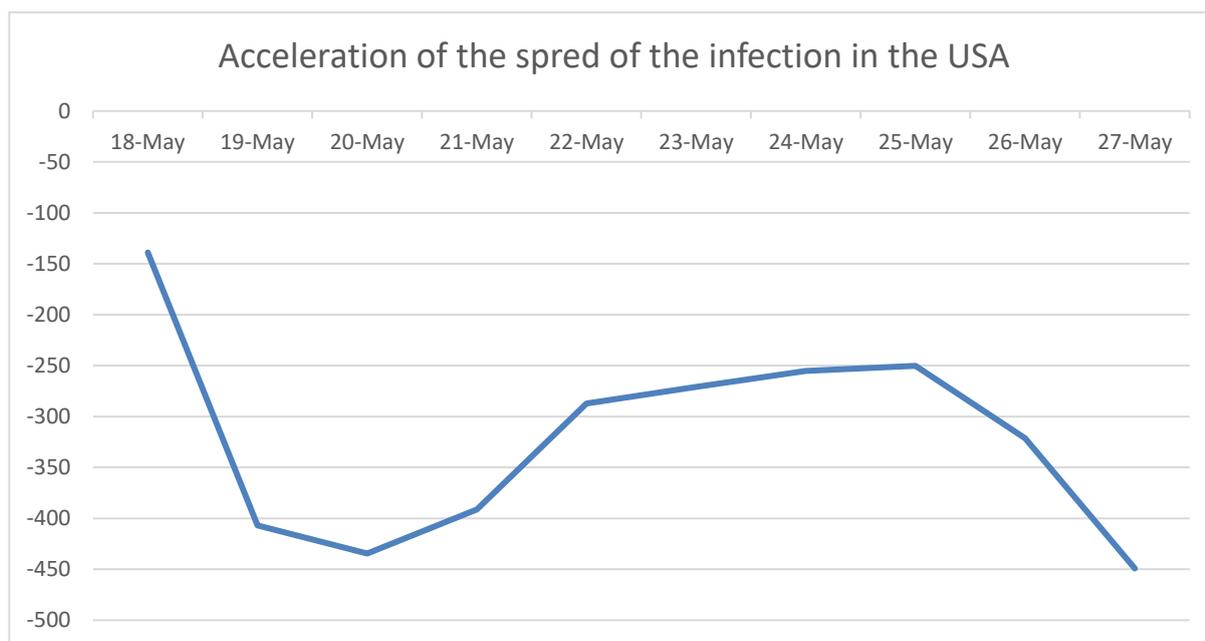
Prognostic data	Reported data	Deviation %
154579	154500	0,051184
155545	155686	-0,09054
156446	156827	-0,24302
157282	157814	-0,33736
158052	158762	-0,44708



The situation in Russia has not changed significantly since the previous week and the steady decline in the acceleration of the spread of the infection continues. The refraction of the propagation curve was registered on 12 May. Then a change in the exponential presentation of the propagation function began. We expect this week the reduction in the number of new infections per day to continue. Unlike for some other countries, we do not expect a short peak in a positive direction here.

In the previous analysis of the situation in Russia CMDR COE predicted the following increase in the number of registered infected: 326829, 336277, 345897, 355690, 365656. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
326829	326650,8	0,054534
336277	335742,1	0,159171
345897	344828,1	0,309954
355690	353908,6	0,503336
365656	362983,6	0,736128



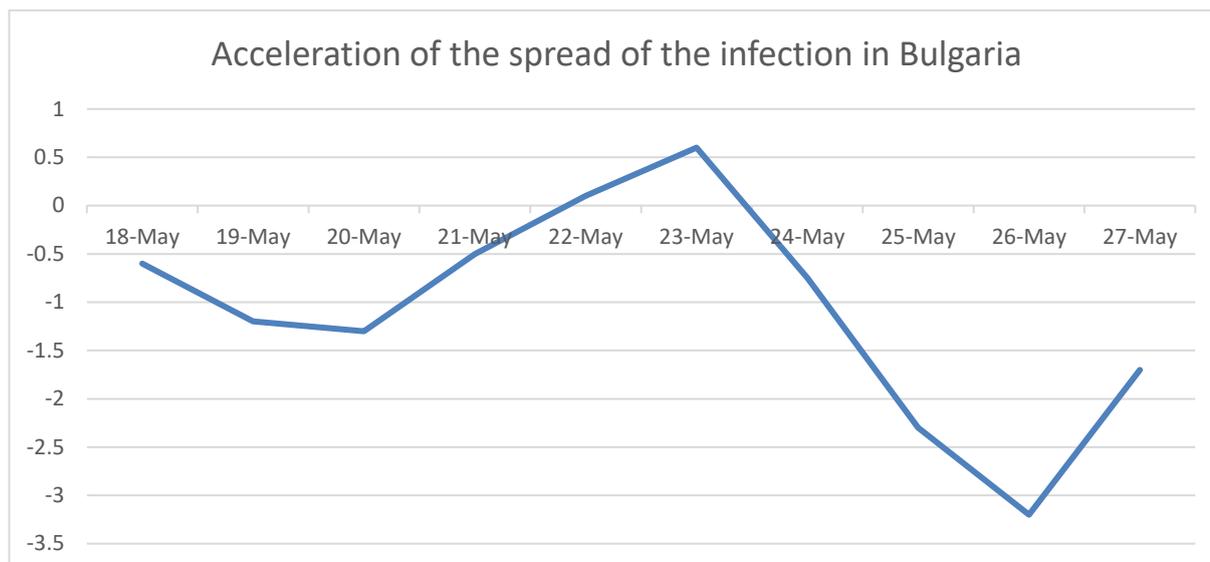
In contrast to Russia, the USA is experiencing fluctuating dynamics in the values of the acceleration of the spread of the infection. This is due to the fact that the country, in terms of time, is significantly ahead the development of the crisis. It takes about a month. Interesting for the development of the crisis in the United States is that a second short peak has been registered and it has also been suppressed by the general trend of declining rate of spread. Next week we will continue to observe a decrease in the number of new infections. This will significantly relieve the healthcare system and increase the positive and optimistic attitudes among the society.

The CMDR COE prognosis made two weeks ago for an expected registration of newly infected with a high absolute value (with a declining trend) is not only confirmed and up-to-date, but also still valid for the next two weeks.

In the previous analysis of the situation in the USA CMDR COE predicted the following increase in the number of registered infected: 1643169, 1665078, 1686627, 1707819, 1728651. The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
1643169	1644899	-0,10517
1665078	1666828	-0,10501
1686627	1686436	0,01135
1707819	1706226	0,093338
1728651	1725257	0,196726

The deviation of the prognostic data from the model is low and allows not only its use for generating short-term prognosis, but also for medium-term analysis.

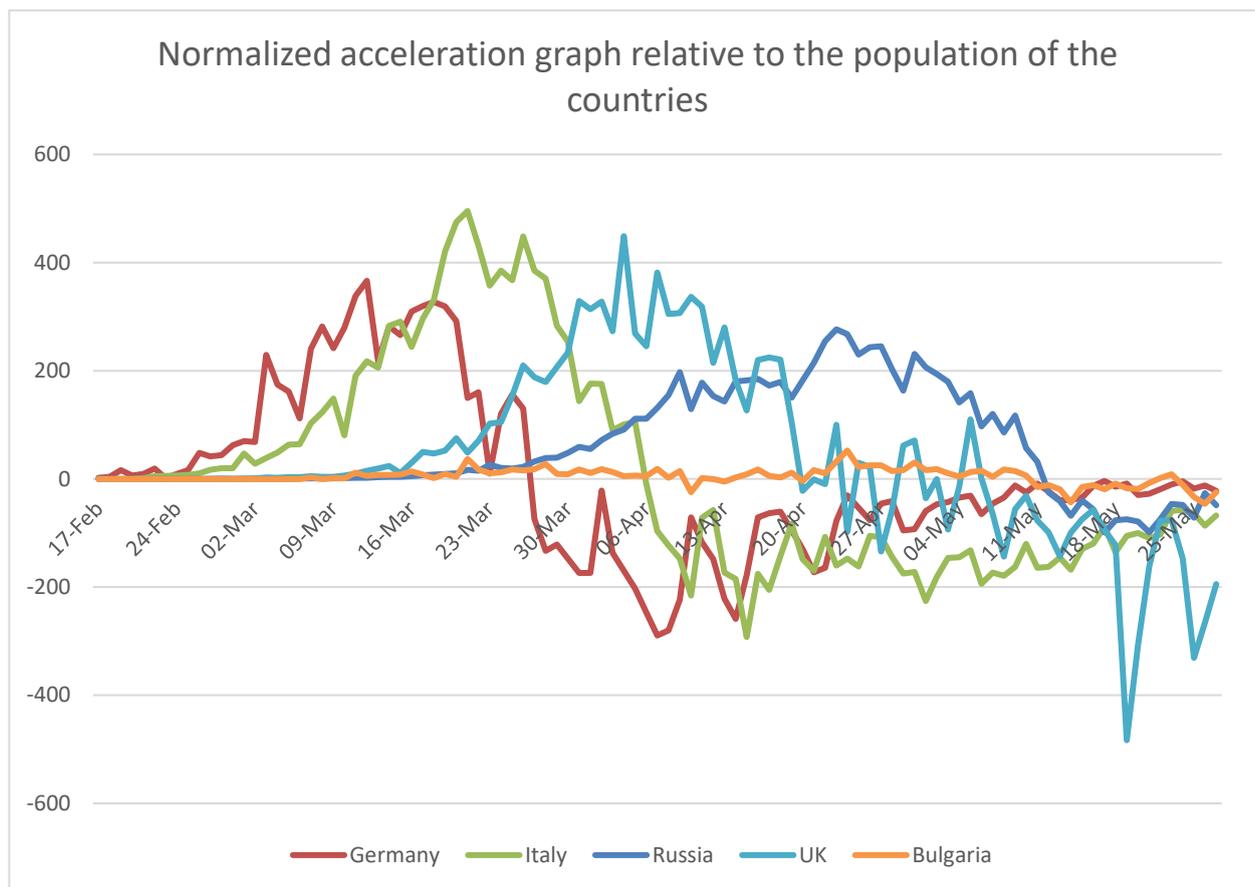


The situation in Bulgaria has not changed this week either. The waiting time for a significant development of the crisis and the spread of the virus is running out. Possible values of the number of newly infected of about 500 and more do not seem likely to be reached. Our country differs drastically from the severely affected European countries. At CMDR COE, we believe that it is due not to a single reason, but to several mutually reinforcing ones – average age of the population, BCG vaccine, specific flora of microorganisms specific to the region and related to the human immune system.

In the previous analysis of the situation in Bulgaria CMDR COE predicted the following increase in the number of registered infected: 2361, 2390, 241

The following values and model error were accounted:

Prognostic data	Reported data	Deviation %
2361	2372	-0,46353
2390	2408	-0,75519
2417	2427	-0,39431
2444	2433	0,445952
2469	2443	1,067335



The available statistics allow to generate informative analyzes of what is happening in the particular countries and compare them.

The CMDR COE has prepared such a country-specific graph showing the normalized acceleration for a large period of the crisis.

There are mainly two types of crisis development. Typical for the first type (e.g. Italy) is a sharp increase in acceleration (a strong exponential increase in the number of infected) followed by an almost symmetrically rapid decrease. This symmetry depends on several factors. Specific for the second type (e.g. Germany) is a smooth and slight increase and a corresponding slower and sloping decline. As a result, the area of the positive part must be equal to the negative. This shows that the weaker the decrease per day, the longer the process will last. This is evidenced by the fact that today Germany is more vulnerable to the crisis than Italy.

Another important aspect about the development in the particular countries is the change of the acceleration sign. This gives information about the time when the function changes its exponential behavior.

It is clear from the graph that in Germany this happened about March 27, in Italy on April 6, in Russia on May 12.

The graph also shows the normalized function of the infection acceleration in Bulgaria, which values differ by far from any of the considered countries.

The graph shows that the acceleration is again approaching positive values, which is expected and logical. An important issue is whether a second significant peak is possible. For the time being, the CMDR COE analysis shows that this is very unlikely for any of the countries examined due to the change in the initial conditions - a part of the population with immunity to the virus is already present, different climatic conditions and, lastly, the measures taken and the new temporary culture of socializing.

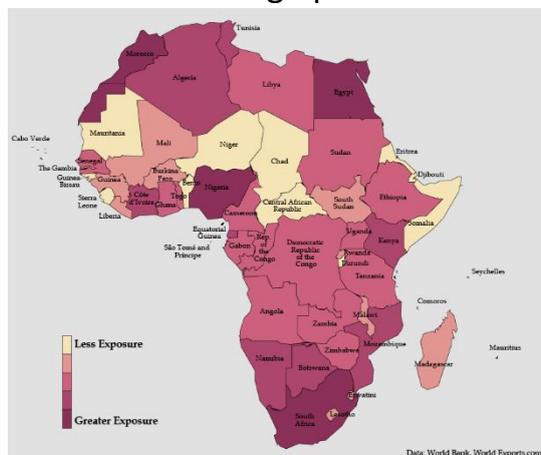
COUNTRIES & REGIONS ADDITIONAL OVERVIEW

In that part we provide additional information for some interesting cases, free CMDR COE sponsoring Nations, NATO and EU development in the last week.

1. AFRICA.

Three months into the coronavirus disease 2019 (COVID-19) outbreak in the WHO African Region (when Algeria confirmed the first case on 25 February 2020), all Member States have been affected, with Lesotho being the last to report a confirmed case on 13 May 2020. The COVID-19 incidence cases and associated deaths continue to rise, albeit with differential trends among countries. The region has been recording a daily case-count of more than 2 000 in the past three weeks.

Currently, 25 countries in the region are experiencing community transmission, 15 have clusters of cases and seven have sporadic cases of COVID-19. The region has also observed increased incidences of importation of cases from affected countries within the region, largely fueled by long-distance truck drivers and illicit movement through porous borders.



Of concern, health workers have been greatly affected by COVID-19, with 2 217-health workers being infected in 32 counties since the beginning of the outbreak. Overall, Nigeria has been the most affected, with 606 health workers infected, followed by South Africa (326), Niger (177), Cameroon (175), Ghana (126), Côte d'Ivoire (116), Sierra Leone (81), Zambia (80), Senegal (77), Democratic Republic of the Congo (63),

Gabon (57) and Guinea-Bissau (54). Based on the available data on age and gender distribution (n=5 091), the male to female ratio among confirmed cases is 1.8, and the median age is 44 years (range: 0 - 105). Males (63%) in the 31-39 and 40-49 age groups are more affected than females (37%) across the same age groups.

The COVID-19 outbreak has been ongoing in the African Region in the last three months, affecting all countries. The overall trajectory of the outbreak is still on the increase, although with differential trends among countries. Despite the rising trends being observed, many countries in the region have started easing

measures restricting social and economic activities. At this stage, it is critical that rigorous public health measures are implemented at all levels of the national health systems and in all communities. The emphasis remains on effective active case finding, testing and isolation of cases, contact tracing, physical distancing and promotion of good personal hygiene practices.

2. BRAZIL.

The World Health Organization has warned that Latin America has become the epicentre of the crisis and Brazil is the worst-hit in the region by far.

Health experts in Brazil have warned that the real number of confirmed infections may be far higher than the official records, due to a lack of testing. A study by the University of Washington found that the country could record more than 125,000 deaths by early August, that's almost a five-fold increase on its current total of 24,512.

Since Monday, only half of the automobiles registered in Sao Paulo — Brazil's largest city — have been allowed to drive on its streets. Car owners with license plates ending in an even number are allowed to drive on even-numbered calendar days, and vice versa for those ending in odd numbers.

Administrators hope limiting the number of people traveling on city streets will help slow the spread of the coronavirus. Just two months ago, Sao Paulo Mayor Bruno Covas called for citizens to do just the opposite, lifting weekday limits on traffic — which bar one-fifth of all cars from driving on a given day — in an attempt to relieve the city's public transport system. Sao Paulo's back-and-forth is emblematic of Brazil's overall approach to the COVID-19 pandemic. Brazil has no plan at all. Everyone just acts⁵.

Before he was forced from his post in mid-April, outgoing Health Minister Luiz Henrique Mandetta admitted that the real number of infections in the country was far higher than what was reflected in official statistics. Brazil is among the world's least-tested countries when it comes to COVID-19, and according to the online news site "The Intercept", Brazil also uses substandard imported testing kits, which in turn reduce their value in terms of information gleaned. Official data essentially only tracks hospitalized patients.

Brazilian President Jair Bolsonaro likely feels that is the right approach to the current pandemic. He has continually brushed off expert advice about the seriousness of the illness, calling it nothing more than "a little flu." Still, numbers — even official statistics — paint a dramatically different picture: Last weekend,

⁵ Domingos Alves, a lecturer at the University of Sao Paulo Medical School in the city of Ribeirao Preto.

the country saw a 10% spike in deaths. President Jair Bolsonaro continues to endorse the drug as a “possible cure”. Earlier he even celebrated with supporters the fact that Donald Trump administration is sending 2 million hydroxychloroquine pills to Brazil.



In the northwestern metropolis Manaus, in the state of Amazonas, Mayor Arthur Virgilio Neto announced last week that four or five times as many burials were taking place in the city than normal. Like many other cities, Manaus, too, set up makeshift field hospitals to care for the ill. Still, many

sick people did not dare come to the overcrowded facilities for help. The number of Brazilians dying at home has jumped by 20% since March. In the state of Amazonas that number is more than two and a half times higher than average. One reason for that spike in numbers is the fact that so many Brazilians simply live too far away from hospitals to get to them. That is true of indigenous peoples, but not only. Millions of Brazilians live in isolated rural areas. Findings by the Oswaldo Cruz Foundation, a top public health research institute located in Rio, show infections skyrocketing in communities with 20,000 residents or less — lending an even greater sense of urgency to that trend.

Although Bolsonaro has taken to wearing a face mask in public now and again, he has still never tired of telling people that the damage caused by the economic shutdown will be far greater than that caused by the virus itself.



Nevertheless, many parliamentarians and even members of his own government are beginning to see things differently. Mayors and governors in particular have been begging people not to pay attention to President Bolsonaro and adhere to health guidelines and stay home instead.

One of Bolsonaro's most visible opponents has been Joao Doria, the governor of Sao Paulo state. Although he supported Bolsonaro in the last election, he recently told BBC: "It is amazing when you have two viruses to combat: The coronavirus and [the] Bolsonaro virus. This is not the moment for politics; it is the moment to protect people."

As the leader of Brazil's most populous and economically powerful state, Doria would seem destined to challenge Bolsonaro in the 2022 presidential election, a fact of which Doria is certainly cognizant. Doria has taken an entirely different approach to dealing with the virus than has the president. Doria has introduced strict social-distancing measures, pointing to international practices and scientific advice. He is doing so to distinguish himself from other governors and position himself against Bolsonaro.

Yet, despite Doria's approach, strict social-distancing rules and curfews have yet to actually be imposed in Sao Paulo. So far, only a few cities, including Fortaleza in the northeastern state of Ceara, or the port city of Recife in Pernambuco on the Atlantic coast, have begun implementing such rules. On Monday, parts of Rio de Janeiro and neighboring Niteroi followed suit.

But since Brazil's lockdown began, local markets have remained almost as full as ever. Some think Bolsonaro may well be right to say more people would die of starvation than of COVID-19 in Brazil if a strict lockdown were to be put in place, as most people there earn their living as day laborers.

3. BULGARIA.

Analysis done by the Military Medical Academy and the National Centre for Infectious and Parasitic Diseases showed that the measures imposed in Bulgaria to combat Covid-19 were effective. Main three indicators are proving that theory:

- The first indicator is 14-day cumulative morbidity, meaning that comparisons were made of numbers of proven cases with the previous period. On April 2, this indicator had been 4.5 per 100 000 population, while at the beginning of May, it had increased to 10.7, and now had decreased to 7.8, which is ascribed to people complying with the measures.
- The second indicator is what it is known as the disease's effective reproductive number, meaning how many people one person may infect. With whooping cough, one patient infects 17 people and with influenza, one person infects two. With coronavirus, one person infects three. When the number reaches one, the epidemic is deemed to be extinguished. Currently in Bulgaria, the figure is in the range of 0.8 to 1.2. In the first weeks of the disease, it was 1.7 and in early May was 1.17.

- The third indicator is the time it takes for the number of cases to double. In the beginning, in Bulgaria it was 10 days, later it rose to 12 days, and now was more than a month.

With order from 26.05., the Minister of Health eases some measures introduced due to COVID-19. Cultural and entertainment events (theaters, concerts, stage performances, classes in dance, creative and musical arts) are allowed, with seats up to 30% of their total indoor capacity and up to 50% of their total outdoor



capacity. The order of the Minister also states that as of 01.06.2020 visits to indoor areas of restaurants, fast food restaurants, drinking establishments, coffee shops, children's and sports facilities indoors, entertainment and playrooms are allowed, including those in shopping malls such as malls and bars. Disco clubs, piano bars and nightclubs continue to be closed. Almost 240,000

jobs will be saved thanks to the 60/40 Governmental measure. To date, the National Employment Agency has received 14,351 applications from employers for compensation for maintaining the employment of their employees. Up to 28.05. The COVID-19 situation in Bulgaria is as follows:

- COVID-19 cases: 2477
- Deaths: 134
- Recovered: 965.
- Active cases: 1378

Despite the last 4 days, the daily recovery cases are higher than the new ones, Bulgaria is still not so close to moment when we can say that the crisis is under control. Another issue is still the low number of tested people and that mass testing is still not apply on full.

4. DENMARK.

Denmark's borders are still closed to foreign visitors with some exceptions. The Danish government has closed the Danish borders to control the spread of the coronavirus. Danish citizens are allowed to re-enter the country, but visitors from most other countries are denied entry. People wishing to visit family members in Denmark are also denied entry unless they are visiting a seriously ill relative.



From May 25, people with a permanent residence in one of the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) or

Germany will be allowed to re-enter Denmark if they fall into the following categories:

- People who own a summer house in Denmark
- Persons who have a relationship with a person living in Denmark or who are engaged to a person living in Denmark
- People who have grandparents in Denmark
- Business trips to and from Denmark if they are carried out responsibly in terms of health, may be resumed if the applicable precautionary measures are followed. Business trips must comply with industry-specific security precautions.
- Except for the above, general family visits, tourism trips, business trips, study trips or similar are not grounds for entry into Denmark that are worthy of recognition.
- By May 29 at the latest, the Danish government will reassess the temporary border controls and the related entry ban as well as the existing travel warnings.

Denmark has opened its borders to couples who were separated from their partners by the coronavirus lockdown. Rules currently require people to prove their relationship with photos, text messages and emails. The justice minister has announced these regulations will be relaxed in the coming days, so all that is needed is a letter signed by both parties.

It is highly likely a number of European countries are considering reopening Europe's internal borders as the outbreak eases. But certainly many restrictions remain in place. Permanent residents of Finland, Iceland, Germany, Norway and Sweden all qualify, provided their partner is a resident of Denmark. Currently, the authorities say people must give the name, address and contact details of their partner in Denmark, as well as phone records, photos and text histories to prove the relationship. Opposition parties, however, criticized the stringent rules, prompting a government rethink. While they are sticking to the guidance about "serious" relationships, partners will simply need to sign a piece of paper declaring this is the case, and will be allowed to enter the country. The rules also say anyone from Germany or the Nordic countries who owns a holiday home in Denmark can come to the country.

5. FINLAND.

The corona virus situation has created difficulties especially for children from low-income families in Finland. More than quarter of 13–17-year-olds feel

that their mental well-being has been quite or very poor during the economic and social crisis triggered by the virus.

The situation is difficult especially for children from low-income families, with 43 per cent of them describing their mental well-being as quite or very poor. Such



children also estimated that they have struggled with remote learning and their family needs more support more often than their peers from higher-income families. The state of emergency has affected child well-being also by kindling

concern about how their family will manage mentally and financially. While a fifth of respondents viewed that the financial standing of their family has eroded due to the crisis, over a fifth (22%) expressed their concern about the livelihood of their family. Such concerns were expressed by over a half (57%) of children from low-income families. Well over a third (37%) of respondents stated that they are worried about the ability of their provider to manage in the circumstances and over a quarter (26%) that the mood of their providers is affecting the entire family. Almost two-thirds (62%) of children from low-income families said they are worried about their providers. Finnish children also told they have found it hard to maintain their social relationships during the crisis. Over a half (55%) of them said they feel lonelier than usual. A quarter of children estimated that their family or one of its members would require help or support in the daily life to cope with the state of emergency. The share jumped to 47 per cent among children from low-income families. Over one in ten (13%) of those who needed help also said they had failed to get help. Three-quarters of all respondents gauged that their school performance has been affected negatively by the lack of in-person teaching. Eight per cent of them, meanwhile, viewed that the reason for their poor performance is the situation at home, such as substance abuse, mental health issues or mental or physical violence. Such reasons were cited by up to 15% of children from low-income families. Over one-tenth of children also reported both that they do not have the tools required for remote learning and that they had not had a nourishing or warm meal during the period of remote learning.

It is highly likely the prolonged state of emergency places a burden especially on low-income families whose income has been disrupted abruptly or whose parents fall into the risk groups. It is expected the government will guarantee sufficient income and social security to families with children especially now. Reaching families in need of help has become immensely important, and people hope the

government and municipal decision makers make sure student health care and social services are available and easily accessible also digitally.

The survey found that the two-month suspension of in-person instruction had an impact on the majority of children, but – again – especially on children from low-income families. These children will likely be left without a warm meal also during the summer holiday and in the event of further school closures or school-wide quarantines in the autumn.

6. GREECE.

As of 27 May, in total, 2,903 COVID-19 cases and 172 deaths (fatality rate of 6 %) due to COVID-19 have been reported. 1,374 persons are estimated to have recovered and 17 patients are critical/serious Condition. 1,374 persons are estimated to have recovered and 22 patients are critical/serious Condition.

During the last 7 days (from 21 May to 27 May) in total only 53 new cases of covid-19 and 6 new deaths were recorded.



ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ

As of 27 May, each disease carrier infects significantly less than other person. The reproduction number, which indicates how quickly a disease is spreading, is significantly between 0,35-0.40 according to Greek National Health Organization.

Intensive care unit (ICU) cases, considered a good indicator of where a country stands on the curve, appear to have peaked on 5 April at 93 patients and have been gradually declining ever since In one and half month, the numbers of hospitalized in ICUs declined from 91 to 17.

The 25th May 2020 signaled the transition from the third stage of phase 2 (third phase of easing the lockdown restrictions) to the fourth stage of phase 2 (fourth phase of easing the lockdown restrictions). The main goal of this stage is to safely return to a semblance of normalcy. The fourth stage encompasses the reopening of restaurants, café, special care centers for children and disabled persons and allow travel to and from all of the Greek islands.

Greece took strict but necessary measures timely. The first measures were taken just one day after the first confirmed case and quite before the first death. Actions such as the lockdown and fully-quarantine vulnerable towns and villages have protected the national health system and eliminated the number of deaths. The lockdown was imposed much earlier than in most countries in the western world while Greeks reacted to the lockdown with full compliance. According to Greek

special covid-19 Committee the toll rate in the country will be approximately 13,685 if the measures had not taken timely. Similarly, Greece has strained easing the strict measures when the epidemiological status had been improved significantly. Currently, it is moving ahead with a reasonable relaxation of restrictive measures. The key to further success remains the individual responsibility and disciplined alongside collective maturity".

Greece base almost 30% of its total GDP on tourism. There are a lot of concerns and debates about what is going to happen taking into consideration the decade-long economic crisis, which struck the country. The tourist season will resume on 15 June when the country intends to open tourist activities to the countries with similar epidemiological data to those of Greece, at the same time, Greece is the number two country worldwide for the number of beaches were awarded the prestigious blue flag for this year. Greek scientists claim that the fish population in the Aegean and Ionian Seas has shown a remarkable recovery perhaps due to the coronavirus lockdown and the restrictions imposed on fishing. However, the exact increase in fish recovery will not be known until 2021 and beyond.



The overall situation is assessed as quite positive and optimistic. However, can quickly be out of hand continued vigilance is vital.

7. INDIA

Since the first case of coronavirus at the end of January, India has reported more than 150,000 Covid-19 infections. More than 4,000 people have died of the infection. To put this in some context, as of 22 May, India's testing positivity rate was around 4%, the death rate from the infection around 3% and the doubling rate of infection - or the amount of time it takes for the number of coronavirus cases to double - was 13 days. The recovery rate of infected patients was around 40%. Like elsewhere in the world, there are hotspots and clusters of infection.

More than 80% of the active cases are in five states - Maharashtra, Tamil Nadu, Delhi, Gujarat and Madhya Pradesh - and more than 60% of the cases in five cities, including Mumbai, Delhi and Ahmedabad, according to official data. More than half of people who have died of the disease have been aged 60 and older and many have underlying conditions, hewing to the international data about elderly people being more vulnerable to the disease. The more than two-month-long grinding lockdown, official data suggests, has prevented the loss of between

37,000 and 78,000 lives. A paper published in Harvard Data Science Review appears to support that - it shows an eight-week lockdown can prevent about two million cases and, at a 3% fatality rate, prevent some 60,000 deaths.

India is now among the top 10 countries worldwide in terms of total reported infections, and among the top five in the number of new cases. Infections are rising sharply, up from 536 cases on 25 March when the first phase of the world's harshest lockdown was imposed. The growth of infections is outpacing growth in testing - tests have doubled since April but cases have leapt fourfold. Epidemiologists say the increase in reported infections is possibly because of increased testing. India has been testing up to 100,000 samples a day in the past week. Testing criteria has been expanded to include asymptomatic contacts of positive patients. The bungled lockdown at the end of March triggered an exodus of millions of informal workers who lost their jobs in the cities and began returning home in



droves, first on foot and then by train. Some four million workers have travelled by rail from cities to their villages in more than half a dozen states in the past three weeks.

There is mounting evidence that this has already led to the spread of infection from the cities to the villages. And with the messy easing of the lockdown earlier this month, there are growing fears of infections spreading further in the cities. When the infection peaks in July, as is expected, a spike in infections could easily lead to many avoidable deaths as hospitals run out of beds for, or delay treatment to, infected patients who need timely oxygen support and clinical care to recover. Most experts say a one-size-fits-all strategy to contain the pandemic, impose, and lift lockdowns will not work in India where different states will see infection peaks at different times. The reported infection rate - the number of infections for every 100 tests - in Maharashtra state, for example, is three times the national average.

8. MEXICO

Mexico have logged it's highest single-day coronavirus death tolls to date, raising fears the pandemic is surging across Latin America amid ambivalent and delayed reactions from the governments of this populous country. Mexico also reached a new landmark on Wednesday night, reporting 501 new deaths over the previous 24 hours and 3,455 new confirmed cases.

Mexico is facing a rising death toll – and questions over its response to the pandemic as the government pushes to reopen the economy. Investigations by

the New York Times, the Wall Street Journal and El País have all suggested that the government of Andrés Manuel López Obrador is severely undercounting both cases and deaths.

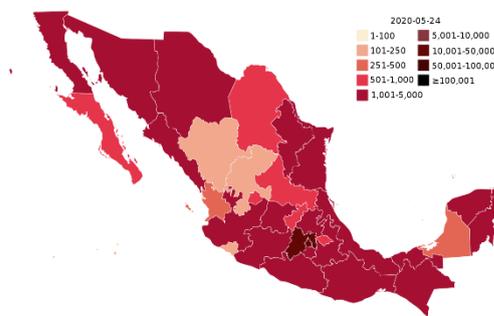
But Mexico has been under pressure from US officials to open businesses – especially auto plants and export factories along its northern border. On Wednesday, the Mexican president claimed victory, saying: “The safe-distancing campaign has brought us control – a flattening of the curve” as his government unveiled plans to relaunch its flagging economy.

Construction, mining and car manufacturing will be declared “essential” activities and resume operations on 18 May. On the same day, schools and businesses in areas with low Covid-19 case numbers – dubbed “municipalities of hope” – will start reopening with the rest of the country projected to reopen on 1 June.

The reopening comes amid persistent fears that its public health response – which has depended on a disease modeling rather than widespread testing – has failed to capture the scope of the crisis.

Analysts say Mexico’s Covid-19 statistics must be read with nuance since there is a lag in the reporting of health information: the nightly death toll does not necessarily reflect the number of deaths the previous day.

Dr Alejandro Macías, Mexico’s former flu commissioner, tweeted on Tuesday after the record death toll was announced: “It’s the largest number until now and shows the we are still on the increase ... It’s likely we haven’t seen the worst. The United States, a country with three times the population, has already registered 20 times more deaths.”



9. NORWAY.

The Norwegian Institute of Public Health’s updated overview of Coronavirus research shows that one can be severely affected by the virus if one is older and has high body mass index (BMI).

After the previous quick summary, BMI was listed as a risk factor, and this is confirmed in the research we have now reviewed. The department director of health services at FHI, to Dagens Medisin stated that the same way as age, they see that the risk increases with increasing BMI.

It should be added that several of these factors should be looked at individually. High BMI, for example, presents a greater risk of cardiovascular disease.



The new estimate of risk factors for serious impact of Covid-19 is FHI's third summary of research in the field. Among the eleven studies, four are from the United States, three from China, two from the United Kingdom, one from Iran and one from Brazil. Seven are not peer-reviewed.

The studies are so-called multivariate analyses, and they consider two or more factors. The studies do not give a clear picture of the effects of gender and ethnicity. Some studies from the UK and the US find associations between ethnicity and risk of serious illness, but care should be taken to emphasize demographic factors that may be linked to socio-economic factors. It is almost certain that the new overview does not form the basis for changing the risk advice.

10. PERU.

After more than 50 days under lockdown, Peru's overall official count of more than 135,000 confirmed coronavirus cases and 3,983 dead places it second only to Brazil in Latin America.

Iquitos faces an added obstacle in efforts to contain the disease: as the largest city in the world, which cannot be reached by road, it depends on intermittent air deliveries for essential supplies of medicine, personal protective equipment and oxygen.

The city's main public hospital was overflowing with nearly five times the number of patients its 180 beds could hold, said Graciela Meza executive director of the regional health office, who herself was recovering from the virus.



Most victims have died from a lack of oxygen; 90% have died because of lack of medical supplies. Hundreds of critically-ill patients were seated outside in rocking chairs around the hospital grounds or, in the last few days, in three field hospitals erected in football pitches and stadiums in the city.

The comments reflected growing outrage at the slow response of the regional government amid allegations that private companies were profiteering from a monopoly on oxygen tanks.

The local prosecutor's office in Iquitos has announced an investigation into reports that the Loreto regional government was paying inflated prices for oxygen cylinders – including alleged purchases from a company owned by the daughter of a counselor.

Growing anger over chronic shortages coincided with a visit by Peru’s health minister, Víctor Zamora, on Monday. The minister pledged to establish daily flights to take medical supplies and oxygen from Lima to Iquitos and replenish the numbers of medical professionals, as more than a dozen doctors infected with Covid-19 were evacuated.

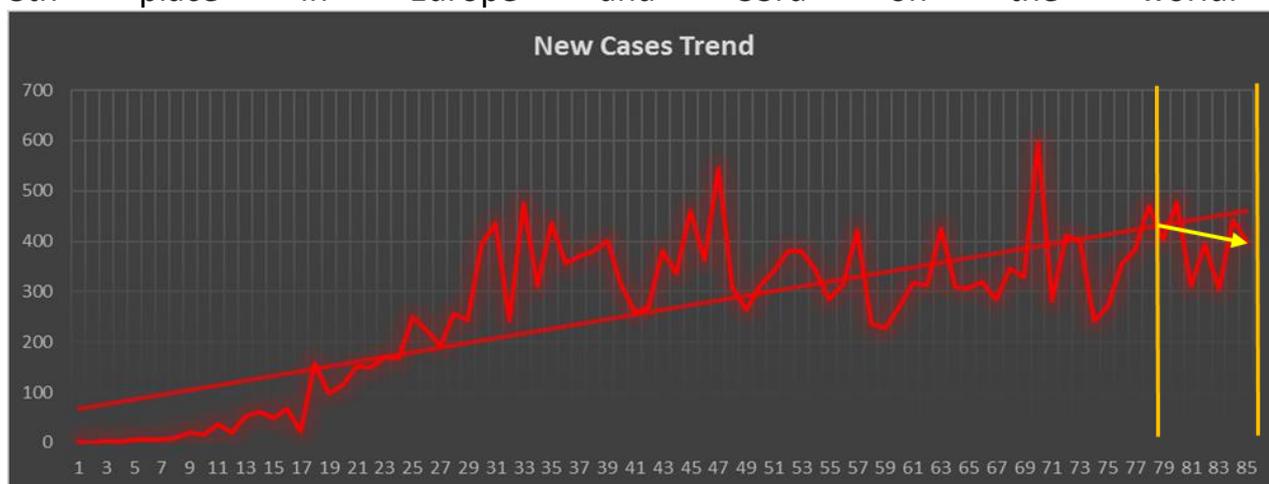


Zamora also promised to build two new oxygen plants in Iquitos, which needs 800 cylinders a day, but warned the construction would take several weeks. The existing plant can produce a maximum of 250 cylinders a day, according to local reports.

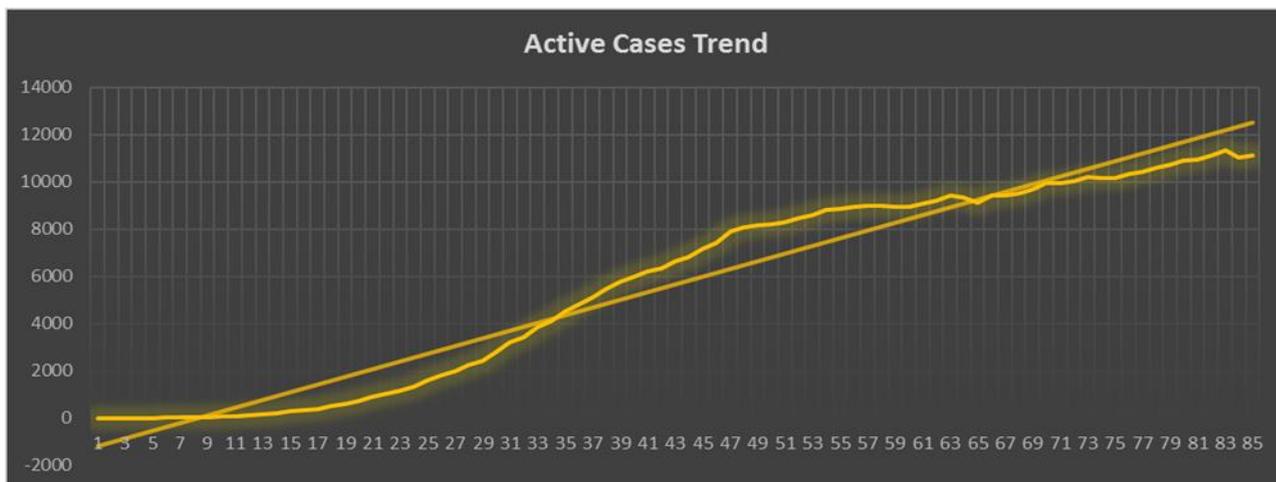
The pandemic could not have arrived at a worse time to North-Peru. Iquitos was already struggling with the tail end of a dengue fever outbreak coupled with a bout of leptospirosis.

11. POLAND.

From the beginning of pandemic number of infected people is still growing and reached 22 473 (+ 2 734), disease growth rate dropped a bit during last week and is below linear trend line now. However average number of infected grown and is 391 (recently 362) people a day during last week, which placed Poland on 8th place in Europe and 33rd on the world.



Active cases trend line does not change significantly from last report and is slightly below linear. This means that, number of cured patients is close to the number of new cases.

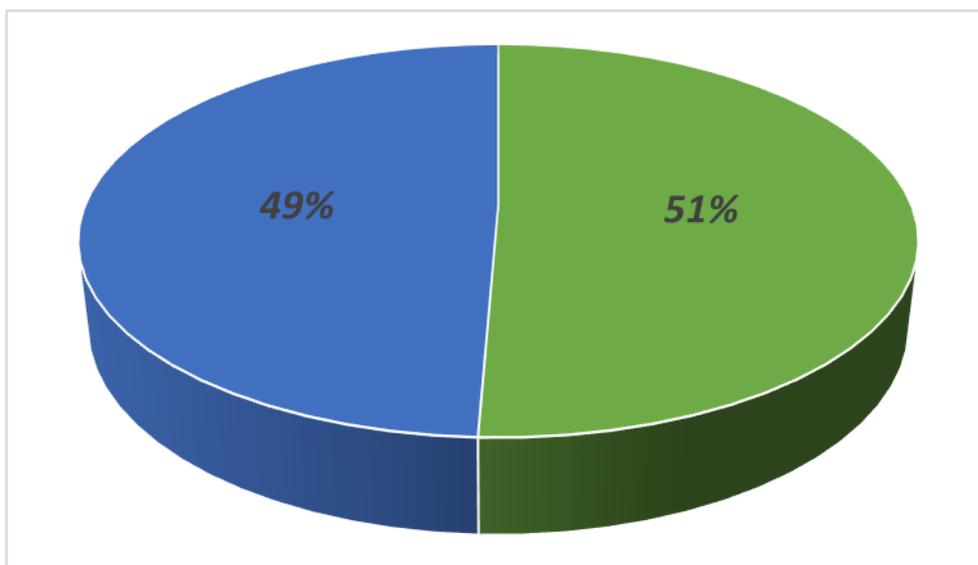


Number of tests done so far is 824 774 / +149 913 from last report;
 Reported number of people cured from coronavirus so far – 10 330 / +2 147 from last report. 1028 people died so far (521 men and 507 women), average age of died person is 76 years, the youngest persons who died was 18th years young man who died on 24th APR in Kędzierzyn Koźle Hospital. The patient had cerebral palsy and epilepsy. On 14th MAY also 18th year old women passed away in Regional Hospital in Radom. Local epidemic institution informed that she had coronavirus and comorbidities, but not informed which specific once.

Age structure of died people in Poland

0	1	2	3	4	5	6	7	8
-	-	-	-	-	-	-	-	0
9	9	9	9	9	9	9	9	+
0	2	0	1	2	5	1	2	4
			3	7	7	9	8	4
						5	7	7
0	0	0	1	3	6	1	2	4
%	%	%	%	%	%	%	%	%

Gender structure of died people in Poland



Silesia District is still the most affected region in Poland with almost 7600 confirmed cases that is 34% of all cases in Poland now. Still the main source of infection are coalmines located in this area where virus is transfer among miners and their families.

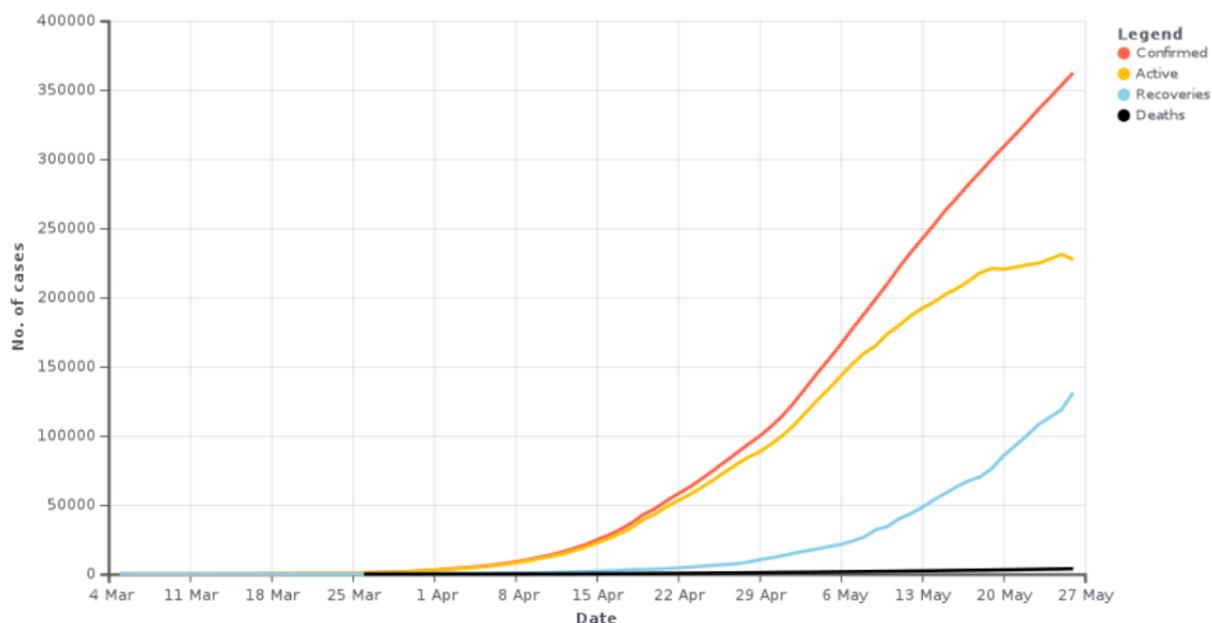
Prime Minister and Ministry of Health informed that next easing of restrictions will come to force starting from this weekend and includes no obligation of wearing masks but only on open areas, no specified limits of number of people in shops, restaurants and churches. Hotels can open its restaurants and bars. Week later (from 6th of JUNE) also cinemas, theaters and more sport / recreation facilities can be reopen, like swimming pools, fitness clubs.

National airliner PLL LOT announced that from 1st of JUN several air connections will be reopen, however at the beginning only for domestic flights and with sanitary regime (50% of seats available and masks are obligatory on board for entire flight).

12. RUSSIA.

In Russia, the number of people infected with the coronavirus as of May 27, 2020 exceeds 362,000. More than 3,800 people have died in the country.

Charts [edit]

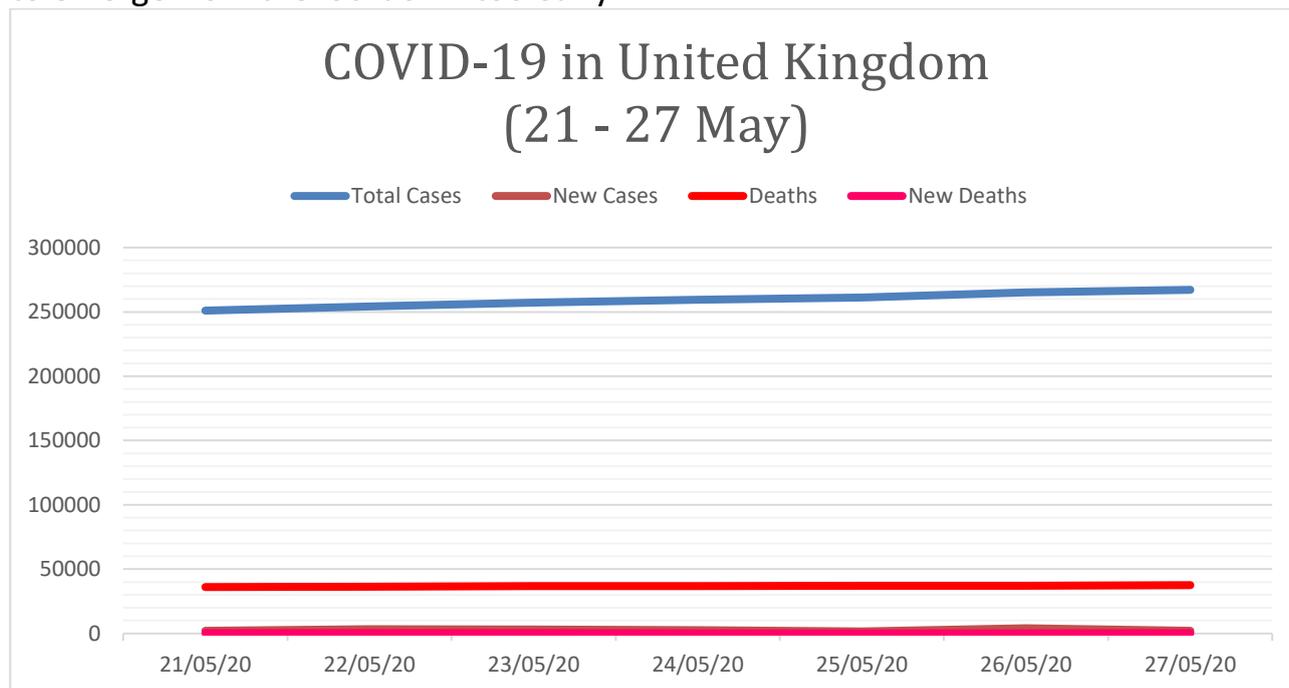


For the eleventh day in row, the number of newly infected is less than 10,000. Russia remains third in the world in the number of cases after the United States and Brazil. In the last 24 hours, 174 people have died from the coronavirus in the country, which is a record in the black statistics since the beginning of the epidemic in Russia. Thus, the total number of deaths in Russia has reached 3807. In the last day, most deaths were registered in the Moscow region, St. Petersburg and Dagestan. More than half of the dead, more than 2,110 people, are in the capital, Moscow. 12 331 patients recovered and were discharged from hospital. Thus, the total number of recoveries in Russia is already 131129. However, the coronavirus spread rate in the country reached one for the first time since May 13, based on headquarters data. In Moscow, where most people are infected and died from the coronavirus, the key indicator, which shows how many people an infected person infects on average, is also at its highest level since May 13 - 0.

13. UNITED KINGDOM

The total number of infected in the Kingdom reached 267,240 with 16,332 new cases for the week, which is slight increase from the previous weekly period. The country is still on 5th position by infected people in the world chart. In the last couple of weeks, the UK has the highest rate of confirmed deaths from COVID-19 in the world. COVID-19 registered death cases are 37,460, which is the second death toll rate after US. However, since 20 May until 27 May, there is a decreasing trend in the daily reported deaths from COVID-19 in UK as the impact of the lockdown and other containment measures begin to be realized. Some experts on the Island believe that this trend could be reversed if the country begin

to emerge from the lockdown too early.



The new Test & Trace programme launches on 28 May. This is the new approach announced by the UK Government to tackle the coronavirus. The latest infection rate, or "R number", sits between 0.7 and 1.0, according to the Government. The Government has said that the R number is one of the most important factors in deciding when lockdown measures can be eased.

14. USA

The USA continue to lift more restrictions on business and personal activity imposed about two months ago to combat the spread of the coronavirus pandemic. Some of the biggest changes are in Texas, which is allowing activity in bars, child-care facilities and professional sports without spectators for the first time, as well as boost the seating capacity allowed at restaurants in almost all parts of the state. Many U.S. states are opening up beaches, other tourist hot spots just in time for the Memorial Day holiday weekend (May 25), and the unofficial start of summer.



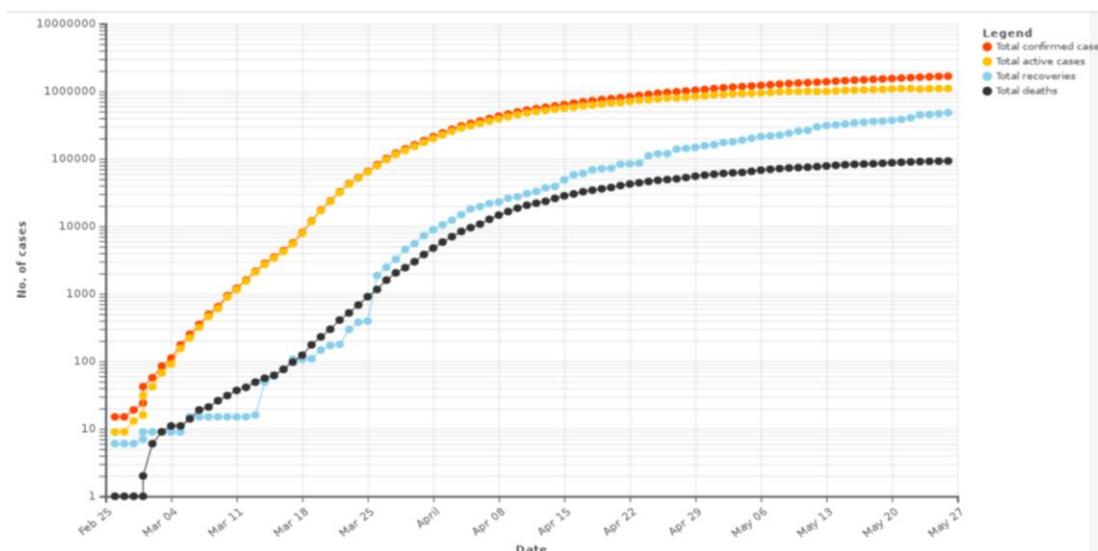
The latest developments again show how what is allowed continues to vary widely by state. Some governors are loosening rules in select parts of their states, rather than everywhere. Social distancing remains a constant, and face coverings are increasingly required in stores. Los Angeles County has ordered that facemasks are mandatory whenever people are outside their homes. Some states, including Florida, Texas and Hawaii, continue to require self-quarantine for travelers and visitors from certain states for two

weeks. Montana is lifting its self-quarantine rule on June 1, earlier than had been expected. As all 50 states have begun to ease restrictions in some capacity, experts have warned citizens to stay vigilant and continue to take precautions to avoid a resurgence.

The economic toll of the coronavirus has been widespread. Unemployment in April surged to 14.7% as 20.5 million people lost their jobs in that month alone, after the economy contracted at a 4.8% annualized pace in the first quarter. In the weeks since the virus shut down much of the U.S. economy, almost 45 million people have applied for unemployment benefits, though some have since returned to work as businesses reopen.

The Trump administration has adopted travel restrictions against Canada, Mexico, and Brazil and European countries, among others. The U.S. State Department's travel advisory remains at Level 4, which instructs its citizens to avoid all international travel amid the global outbreak of the coronavirus.

As a number of schools and kindergartens look to re-open across the country, the CDC (Center for Disease Control and Prevention) issued a series of key guidelines that all education facilities should adhere to in an effort to help protect students, teachers, administrators, and staff in a bid to slow the spread of the Covid-19 virus.



New York remains the hardest hit state, with 363,836 cases and 29,302 deaths. New Jersey, Illinois, and California follow next. In 17 states, the numbers of new cases are trending upward. Those states include Georgia, Arkansas, California and Alabama. In 20 states, the numbers of new cases each day are generally going down. In addition, in 13 states, the numbers appear to be holding steady. The death toll in the US continues to surge with 101,736 deaths and 1,739,887 cases and more than 483,092 patients have recovered as of May 27. The US continues to lead worldwide cases and deaths from the virus. As of May 22, 2020, the U.S. had the most confirmed active cases and deaths in the world, and its death rate was 285 per million people, the ninth-highest rate globally.

15. EUROPEAN UNION

European companies have shown extraordinary solidarity in this crisis. Several companies across Europe have shifted production from textiles, clothes, and cosmetic products to personal protective equipment such as facemasks, ventilators and sanitizing gel. Some European companies have pledged to donate products in an act of solidarity with citizens. The European Commission helps companies retool and ramp up production of personal protective equipment by making guidelines on standards freely available, accelerated approval and made recommendations on conformity.

On 20 May, the European Commission proposed country-specific recommendations for all EU Members States and the United Kingdom, based upon the Commission’s growth strategy, which promotes competitive sustainability to build an economy that works for people and the planet. The recommendations cover areas such as investments in public health and resilience of the health sector, preserving employment through income support for workers, and investments in people and skills. A coordinated European economic

response is crucial to relaunch economic activity, mitigate damage to the economic and social fabric, and to reduce divergences and imbalances. The European Semester of economic and employment policy coordination therefore constitutes a crucial element of the recovery strategy.

16. NATO

NATO with the Euro-Atlantic Disaster Response Coordination Centre (EADRCC) stands ready to assist in the coordination of any offers being considered in support of the stricken nations. At this moment, seven (7) allied and nine (9) partner nations have requested international assistance through the EADRCC. In chronological order of requesting, these are Ukraine, Spain, Montenegro, Albania, The Republic of North Macedonia, The Republic of Moldova, Bosnia and Herzegovina, Georgia, Colombia, Slovenia, Afghanistan, Mongolia, Bulgaria, Tunisia and Iraq. Recently the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), requested international assistance through EADRCC. To date fourteen (14) requests for International assistance are active right now, since Spain and Italy and Slovenia have retrieved their respected requests. It is proven that the majority of Member States are difficult to react, since each of them needs the same materials and equipment.

NATO, despite the coordination carried out through the EADRCC, was no exception and performed mainly logistical tasks, which, although a show of solidarity, was not enough to demonstrate the real politico-military force it possessed. Under these circumstances, it is quite normal for the Alliance's political and military leaders to have some concerns about a possible next wave of a global pandemic, which has already led to coordination meeting between the Allies to establish a military operational plan for a future response. As the General Secretary already stressed, a more coordinated response to a second coronavirus wave would be a litmus test for credibility within the alliance.

CONCLUSIONS:

1. Latin America has become the epicenter of the crisis and Brazil is the worst hit in the region by far.

2. Resent top ten countries with highest new cases rate are: Brazil, USA, Russia, India, Peru, Chile, Mexico, Iran, UK and Saudi Arabia.
3. Unprecedented global demand for personal protective equipment (PPE), diagnostic tests and biomedical equipment required for the COVID-19 response has created acute market shortages of these essential supplies.
4. European Commission issued its proposal on a Recovery Fund and the Multiannual Financial Framework which may be an important step in the decision making process. It will help target support towards the sectors and regions most affected by the COVID19 pandemic.
5. Bulgaria has proven evidences that measures imposed in the country were effective, however it is still far to say that pandemic was completely managed.
6. Poland introducing next easing measures but still keeps its borders closed for foreigners, mine while facing problems with workers market, especially in agricultural sector which recently was heavy depended mostly on workers coming from Ukraine and Belarus.
7. Greece is looking forward to open tourist activities, while 30% of its GDP comes from tourism, especially having in mind the decade-long economic crisis, which struck the country.
8. The USA continue to lift more restrictions on business and personal activity imposed about two months ago to combat the spread of the coronavirus pandemic, however some state governors decided to gradually ease restrictions.
9. NATO's response to the coronavirus pandemic has shown that the Alliance can play a positive supporting role in helping member states respond to health emergencies.

RECOMMENDATIONS:

1. The state needs to adhere to the gradational exit strategy imposed because of the coronavirus and the developed restriction mitigation plan.
2. WHO encourages Member States to submit requests for supplies through the COVID-19 Supply Portal, a tool to enable national authorities and all

implementing partners supporting COVID-19 national plans to request critical supplies? The Portal may be accessed through the [COVID-19 Partners Platform](#), which provides guidance and instructions on the use of the Portal.

3. WHO in close collaboration with UN specialized agencies such as the International Civil Aviation Organization (ICAO) and other agencies in official relations with WHO under the Framework of Engagement with non-State actors, including the International Air Transport Association (IATA) developed recommendations for safe transport of dangerous goods, in particular infectious substances.
4. Decisions to move to each subsequent stage of easing the measures to be taken after meeting the necessary conditions: analysis of the trend of new cases, efficiency of health care and level of compliance with sanitary guidelines by the population.
5. Determine the need for additional resources and capacities during possible future pandemic waves.
6. Review the status of and replenish national, local, and household stockpiles and supplies. Review and revise national plans.
7. Evaluate the effectiveness of the measures used and update guidelines, protocols, and algorithms accordingly.
8. Start and continue with vaccination programmes in accordance with national plans, priorities, and vaccine availability.