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1. Background

In December 2019 pneumonia cases of unknown origin recorded in Wuhan, China raised concern among health officials. On December 31, an alert was issued by the Wuhan Municipal Health Commission, a rapid response team was sent to Wuhan by the Chinese Centre for Disease Control and Prevention (China CDC), and a notification was made to the World Health Organisation (WHO). Wuhan's Huanan Seafood Wholesale Market was shut down and disinfected after an epidemiological investigation implicated it as a source of the disease¹. Consequently, an active case finding was initiated and pursued (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020)

The onset of infection exhibits in December 2019. In early January 2020, the causative pathogen of the pneumonia was identified as a novel coronavirus, and genomic characterisation and test method development was initiated (Ibid). The peak onset of symptoms occurred in February, since when the onset of the illness is declining.

New cases are reportedly now *imported*² by returning nationals in a situation of global pandemic. Since 16 Mar 2020, the WHO is presenting regional figures rather than national ones³.

Some development in R&D related to COVID-19, still requiring further analysis, has illuminated sensitivity of the virus to ultraviolet rays and heat, lipid solvents can be killed by heating for 30 minutes at 56 °C; lipid solvents (National Health Commission of the People's Republic of China 2020). The incubation period is commonly set at 1–14 days and generally in the range of 3–7 days. The main source of infection is COVID-19 patients, but asymptomatic individuals infected with the virus may also infect others. The main modes of transmission are via droplets and direct contact. The possibility of aerosol transmission exists in relatively closed settings with exposure to high concentrations of aerosol for a long period of time. Other transmission routes need further investigation. Main elements of general response include hand washing, travel restrictions, and importantly - physical distancing⁴, self-imposed quarantine and officially imposed home quarantine, and legal implications (introduced during the crisis) which enforce restrictions.

The World Health Organisation (WHO) leads efforts aimed at the containment and mitigation of COVID-19 issuing guidance and protocols (Appendix 1), and coordinating communication.

¹ Bats have been potentially identified as the source of COVID-19 virus, but the intermediate host(s) has not yet been found (WHO-China Joint Commission on Coronavirus Disease 2020).

² Data from World Meters (<https://www.worldometers.info/coronavirus/#countries>) for 17 Mar 2020 supports this statement showing: 1 new case, Macao SAR [source]; 20 out of 21 new cases reported today are travelers from abroad [source]; 21 new cases, 13 new deaths (12 in Hubei), and 930 new discharges occurred in China on March 16, as reported by the National Health Commission (NHC) of China [source]

³ WHO Situation Report 57: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200317-sitrep-57-covid-19.pdf?sfvrsn=a26922f2_4

⁴ The author considers the newly established convention of terming COVID-19 measures as "social distancing" incorrectly representing a situation in which people are socially closer than perhaps ever before uniting in solidarity and shared sympathy for all those fighting with the spread of the virus. This is evident in social media, regular media – TV and radio, and showcased by numerous initiatives, including charities and donations, around the globe. Therefore, the author would suggest instead, referring to physical distancing as this is more indicative of what COVID-19 measures aim at and achieve in practice, though with varying success. Note, physical distancing does not necessarily require or induce social distancing, but changes the means of establishing and maintaining contact.

COVID-19 has gradually spread internationally with Europe currently experiencing an increase in disease transmission.

2. Characteristics of COVID-19

- a. Etiologic and Epidemiological Characteristics: Researching (continuous and systematic) the characteristics of the virus would enable addressing crucial unknowns regarding clinical severity, extent of transmission and infection, treatment options, thus accelerating the development of diagnostics, therapeutics and vaccines, and respectively - the development and implementation of effective control strategies. In light of the emergency character of the situation, China introduced changes in relevant normative framework. Importantly, for subsequent actions, on January 20, China's "National Infectious Diseases Law" was amended to classify the 2019-novel coronavirus diseases (COVID-19) a Class B notifiable disease and its "Frontier Health and Quarantine Law" was amended to support the COVID-19 outbreak response effort.
- b. Case Definition and surveillance
 - i. Transmission: Robust and systematic information gathering on cases enables the early identification and consequent isolation and care for patients, including providing optimised care for infected patients Main type of transmission, as per China CDC report (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020) is human-to-human (close contact – droplets) and surface-to-human (infected surfaces):
 - a) Community transmission – one community, different clusters with limited relation;
 - b) Local transmission - locations where the source of infection is within the reporting location;
 - c) Imported cases - locations where cases have been acquired outside the location of reporting;
 - d) Interrupted transmission - locations where interruption of transmission has been demonstrated (details to be determined)
 - ii. Types of cases: What is important to note here is the lag between the time patients fall ill (exhibit some sort of symptoms) and the time they actually are diagnosed and reported. In China, although confirmed cases peaked around end January 23–27, diagnosis of infection by nucleic acid testing of throat swabs only spiked around beginning February. (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020).

Box 1. Interim case definitions for the purpose of the FFX protocol
<p>Suspected case</p> <p>A. A patient with severe acute respiratory infection (fever, cough and requiring admission to hospital), AND with no other etiology that fully explains the clinical presentation, AND a history of travel to or residence in China during the 14 days prior to symptom onset,</p> <p>OR</p> <p>B. A patient with any acute respiratory illness AND at least one of the following during the 14 days prior to symptom onset:</p> <ul style="list-style-type: none"> • contact with a confirmed or probable case of COVID-19 infection, OR • worked in or attended a health-care facility where patients with confirmed or probable COVID-19 were being treated.
<p>Probable case</p> <p>A suspected case for whom testing for COVID-19 is inconclusive or who tested positive using a pan-coronavirus assay, and without laboratory evidence of other respiratory pathogens.</p>
<p>Confirmed case</p> <p>A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.</p> <p>Further classification of confirmed case</p> <p>A. Primary case (or index case): an individual who tests positive for COVID-19 and has the earliest onset date in a particular setting, for example, household, school, hospital, etc. Cases with onset dates less than 24 hours from the onset date of the primary case are considered to be “co-primary” cases.</p> <p>B. Secondary case: a contact who becomes a case with positive test result 24 hours or more after the latest positive test date of the primary and/or co-primary case; or with onset of symptoms 24 hours or more after the latest onset date of the primary and/or co-primary case.</p> <p>C. Imported case: a case with a history of travel from an affected area in the 14 days before disease onset.</p>

<p>Box 2: Chinese classification (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020)</p> <p>1. Confirmed cases</p> <ul style="list-style-type: none"> - diagnosed based on positive viral nucleic acid test results on throat swab samples <p>2. Suspected cases</p> <ul style="list-style-type: none"> - Wuhan-related exposure - recently resided in or visited Wuhan - Close contact with someone who recently resided in or visited Wuhan. - Comorbid conditions - self-reported medical history* <p>3. Clinically diagnosed**</p> <ul style="list-style-type: none"> - diagnosed clinically based on symptoms and exposures. Clinically diagnosed cases were suspected cases with lung imaging features consistent with coronavirus pneumonia <p>4. Asymptomatic***</p> <ul style="list-style-type: none"> - diagnosed on positive viral nucleic acid test results but without COVID-19 symptoms (e.g., fever, dry cough). The date of positive viral nucleic acid test result is pointed as the onset date for asymptomatic cases. <p>* As per the description of cases, Chinese <i>confirmed</i> and <i>clinically diagnosed</i> classification overlaps with WHO’s definition of <i>confirmed</i>.</p> <p>** As per Figure 1 below most commonly recorded were: <i>cardiovascular disease, diabetes, chronic respiratory disease, hypertension, and for cancer</i>.</p> <p>***Asymptomatic infection has been reported, yet rare, with patients asymptomatic on the date of identification/report went on to develop disease. Not a major driver for transmission (WHO-China Joint Commission on Coronavirus Disease 2020)</p>
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⁵ Box 1 source: The First Few X cases and contacts (FFX) investigation protocol for coronavirus disease 2019 (COVID-19): [https://www.who.int/publications-detail/the-first-few-x-\(ffx\)-cases-and-contact-investigation-protocol-for-2019-novel-coronavirus-\(2019-ncov\)-infection](https://www.who.int/publications-detail/the-first-few-x-(ffx)-cases-and-contact-investigation-protocol-for-2019-novel-coronavirus-(2019-ncov)-infection)

⁶ Compiled based on (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020).

c. Symptoms

Symptoms are categorised, based on their intensity, as *mild*, *severe*, or *critical*. *Mild* includes non-pneumonia and mild pneumonia cases. *Severe* include dyspnea, increase in respiratory frequency, decreased blood oxygen saturation, increased lung infiltrates >50% within 24–48 hours. *Critical* cases were those that exhibited respiratory failure, septic shock, and/or multiple organ dysfunction/failure (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020).

d. Demographics (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020)

Among confirmed cases in China, the majority were aged 30–79 years and considered mild. An overall case fatality rate of 2.3%. The COVID-19 spread outward from Hubei Province sometime after December 2019, and by February 11, 2020, 1,386 counties across all 31 provinces were affected. The epidemic curve of onset of symptoms peaked around January 23–26, then began to decline leading up to February 11.

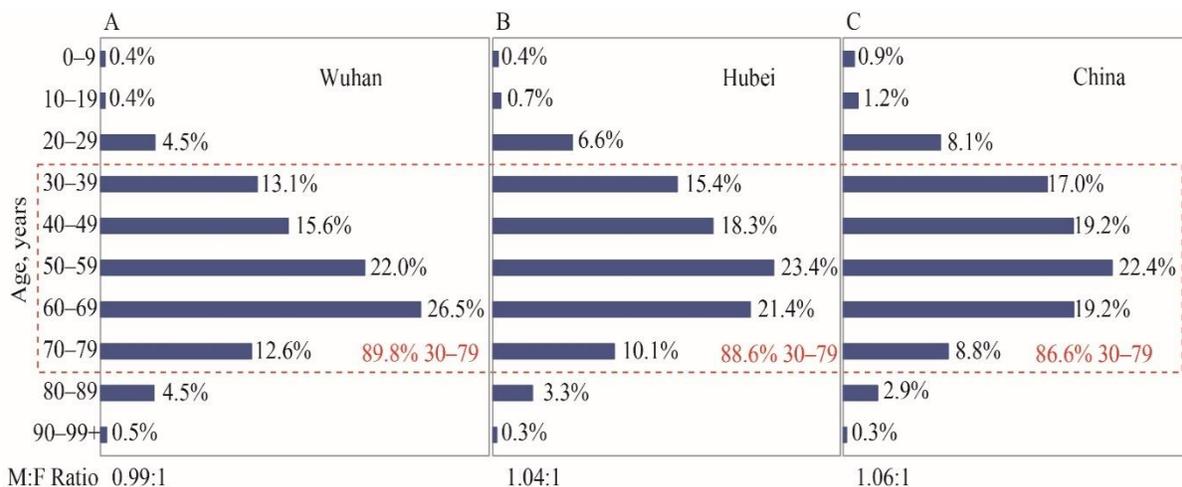


Figure 1 Source, including description: (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020).

Description: Age distribution and sex ratio of all confirmed COVID-19 cases in China through February 11, 2020. (A) patients diagnosed in the city of Wuhan only; (B) patients diagnosed in Hubei Province, which includes Wuhan as its capital city; and (C) patients diagnosed in China overall, including Hubei Province and all 30 other provincial-level administrative divisions (PLADs). Dashed red line highlights the proportion of patients in the 30–79 years age range. Sex ratio (i.e. male-to-female [M:F] ratio) is shown below each graph.

e. Timeline of cases

Chart 7: Timeline of Events in Hubei

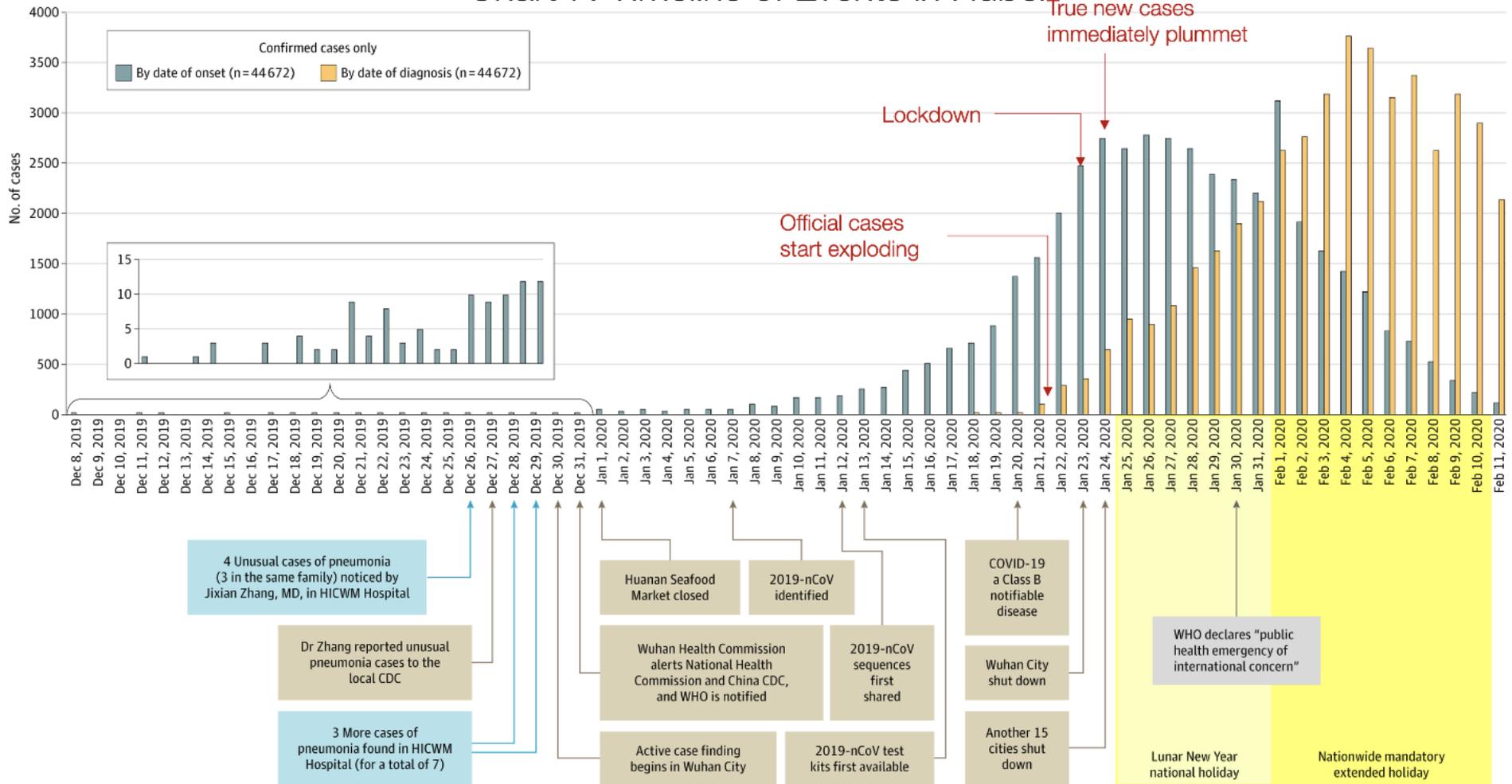


Figure 2

Source: Tomas Pueyo analysis over chart from the Journal of the American Medical Association, based on raw case data from the Chinese Center for Disease Control and Prevention

In Figure 2 (Pueyo, Coronavirus: Why You Must Act Now: Politicians, Community Leaders and Business Leaders: What Should You Do and When? 2020) the orange bars represent the daily official number of cases in China's Hubei province. The grey bars on the other hand, show the *true* daily coronavirus cases, i.e. when symptoms first exhibited in patients. The measure of quarantining and shutting Wuhan down did prove effective as cases started decreasing as a result. This chart will serve to inform an estimation on COVID-19 spread in the Republic of Bulgaria – onset of illness peak and de-escalation.

3. **Response** (based on (WHO-China Joint Commission on Coronavirus Disease 2020): China performed an unmatched disease containment effort. The strategy underpinning this containment was initially a national approach that promoted universal temperature monitoring, masking, and hand washing. As the outbreak evolved, and knowledge was **gained, a science and risk-based approach was taken to tailor implementation. Specific containment measures were adjusted to the provincial, county and even community context, the capacity of the setting, and the nature of novel coronavirus transmission.** A major focus of the response is on case detection (type) and contact tracing (transmission). China has a four-tier response system for public health emergencies that determines what measures it will implement, with level I being the most serious⁷. The biggest concern in a pandemic situation is the capacity of the healthcare system to tackle the emergency without getting overwhelmed in terms of both medical staff (qualified and skilled) and equipment (in this case ICU units).

A combination of public health measures is aimed at reducing human-to-human transmission including reducing secondary infections among close contacts and health care workers, preventing transmission amplification events (i.e. mass gatherings) through physical distancing, and preventing further international spread (curbing travel and movement). In general, and depending on time, scope, and strictness of implementation such measure may include rapid identification, diagnosis and management of the cases, identification and follow up of the contacts, infection prevention and control in health care settings, implementation of health measures for travellers, awareness-raising in the population and risk communication. In all cases, risk assessment should precede any response measure to ensure its relevance and effectiveness.

- a. **Risk assessment** (Direct quotations from (National Health Commission of the People's Republic of China 2020, 2-3) (emphases added)
 - i. **Low-risk areas** - the strategy is to “**strictly prevent importation**” - strengthening tracking and management of people coming in from areas with severe outbreaks and high-risk areas and enhancing health monitoring and services. Monitoring, detection, and reporting of outpatients with fever, including timely epidemiological investigations and tracking and careful management of close contacts should be strengthened. **The government should provide guidance to both urban and rural communities, government agencies, enterprises,**

⁷ WHO Situation Report 56.

and public institutions to strictly implement community prevention and control measures, improve environmental hygiene, and promote disease prevention knowledge and skills to the general public.

- ii. **Medium-risk areas** - the strategy is **“to prevent importation and stop local transmission”**. This includes the measures for low-risk areas, augmented with preparation for medical treatment, personnel, materials, and venues required for disease prevention and control efforts, and isolated medical observation and management of close contacts. School classrooms, building units, factory workplaces, and workplace offices will serve as the smallest units of regulation. Resources, such as personnel for prevention and control and tailored measures, can be identified and located based on a case-by-case review, epidemiological investigation, and epidemic situational analysis.
- iii. **High-risk areas** - the strategy is **“to stop local transmission, prevent exportation, and implement strict prevention and control measures”**. In addition to measures for medium-risk areas, this strategy involves stopping activities involving **gatherings of people and implementing regional traffic controls—with approval and in accordance with law and procedures**. Every county should conduct comprehensive screenings of patients with fever; admit and manage in a timely manner suspected cases, confirmed cases, and **asymptomatically-infected patients**; and isolate and place **close contacts under medical observation**. Disinfection shall be conducted in sites with community transmission or **clustered outbreaks** in urban residential areas or rural villages, and control measures shall be taken to restrict the gathering, entry, and exit of people from the above sites.

It is essential that dynamic research and analysis are continuously conducted to timely adjust risk levels and gradually reduce emergency levels or/and ultimately terminate emergency response upon confirmation of a steady decline in cases, i.e. effective control of the risk of epidemic spread.

b. Main focus of the response⁸

Precision, prevention and control tailored to specific areas and levels in accordance with the Law of the People's Republic of China on the Prevention and Treatment of Infectious Diseases and the Regulations on Emergency Response to Public Health Emergencies (China CDC Weekly 2020). **Epidemic risk level is therefore assessed for each county/district based on demographic and epidemiological situation.**

Organisation: CPC Central Committee and the State Council launched the national emergency response in China by declaring in December 2019 a public health emergency. A Central Leadership Group for Epidemic Response and the Joint Prevention and Control Mechanism of the State Council were established.

⁸ Adapted from (WHO-China Joint Commission on Coronavirus Disease 2020), (National Health Commission of the People's Republic of China 2020) and (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020) including direct quotations. Emphases added.

General Secretary Xi Jinping personally directed and deployed the prevention and control work and requested that the prevention and control of the COVID-19 outbreak be the top priority of government at all levels. A formal investigation was initiated, which involved **a broad interagency coordination and support within delegated authority and responsibilities**, which proved beneficial in enabling efficient and effective (tailored) response while eliminating duplications, costly waste, overburdening, and facilitating communication. Specific entities in this cooperation effort included the city (Wuhan Municipal Health Commission and Wuhan CDC), provincial (Health Commission of Hubei Province and Hubei Provincial CDC), and national (National Health Commission and China CDC) authorities and resources.

The city where the virus reportedly originated – Wuhan - is the largest city in Central China, Hubei Province, with a population of over 11 million people (Worldometers 2020). By means of isolating the virus and minimising the spread to other countries, a preventive measure, defined by WHO as "unprecedented in public health history"⁹, the city was gradually completely shut down and placed under a quarantine. Other cities followed suit.

By categorising COVID-19 as a **Class B notifiable disease, Chinese law required all cases to be immediately reported to China's Infectious Disease Information System**. Entry of each case into the system was performed by local epidemiologists and public health workers who **investigated and collected information on possible exposures**. All case records contain national identification numbers, and therefore, all cases have records in the system and no records are duplicated (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team - China CDC 2020). **The existing information system coupled by qualified and skill personnel (administrative and medical) enabled systematic recording of vigorously collected data, which then informed subsequent medical analysis and conclusions.**

c. **Phasing.** Three major phases can be defined in China's response to COVID-19¹⁰:

- i. **Phase 1.** The overall aim was to **control** the source of infection, **block** transmission and **prevent** further spread. The response mechanism was initiated with **multi-sectoral involvement in joint prevention and control measures**. Information on the epidemic was notified to WHO on 3 January, and whole genome sequences of the COVID-19 virus were shared with WHO on 10 January. Protocols for COVID-19 diagnosis and treatment, surveillance, epidemiological investigation, management of close contacts, and laboratory testing were formulated, and relevant surveillance activities and epidemiological investigations conducted. **Diagnostic testing kits were developed, and wildlife and live poultry**

⁹ Reuters. January 23, 2020 in Worldometers (<https://www.worldometers.info/coronavirus/#ref-12>)

¹⁰ What follows is adapted or quoted from WHO-China Joint Commission on Coronavirus Disease 2020. Emphases added.

markets were placed under strict supervision and control measures.

- ii. **Phase 2.** The main strategy was to **reduce** the intensity of the epidemic and to **slow down the increase in cases**. In **Wuhan** and other priority areas of Hubei Province, the focus was on actively **treating patients, reducing deaths, and preventing exportations**. In other provinces, the focus was on preventing importations, curbing the spread of the disease and implementing joint prevention and control measures. Wuhan implemented strict traffic restrictions. The protocols for diagnosis, treatment and epidemic prevention and control were improved; case isolation and treatment were strengthened. Measures were taken to ensure that all cases were treated, and **close contacts were isolated and put under medical observation**. Information about the epidemic and prevention and control measures was regularly released. **Public risk communications and health education were strengthened; allocation of medical supplies was coordinated**, new hospitals were built¹¹, reserve beds were used and relevant premises were repurposed to ensure that all cases could be treated; efforts were made to maintain a stable supply of commodities and their prices to ensure the smooth operation of society.
- iii. **Phase 3.** The focus was on **reducing clusters of cases**¹², thoroughly controlling the epidemic, and striking a balance between epidemic prevention and control, sustainable **economic and social development, the unified command, standardized guidance, and scientific evidence-based policy implementation**. **A risk-based prevention and control approach was adopted with differentiated prevention and control measures for different regions of the country and provinces**. Relevant measures were strengthened in the areas of epidemiological investigation, case management and epidemic prevention in high-risk public places. **New technologies were applied such as the use of big data and artificial intelligence (AI) to strengthen contact tracing and the management of priority populations**. Pre-school preparation was improved, and work resumed in phases. Normal social operations are being restored in a stepwise fashion; knowledge about disease prevention is being popularised to improve public health literacy and skills; and a **comprehensive programme of emergency scientific research is being carried out to develop diagnostics, therapeutics and vaccines, delineate the spectrum of the disease, and identify the source of the virus**.

¹¹ As of Feb. 28, Wuhan had created 16 temporary hospitals, adding 13,000 beds, with 12,000 people treated so far. Overall, the number of Wuhan hospital beds have risen from 5,000 to 23,000. Source: Ibid.

¹² "Clustered cases - two or more cases with fever and/or respiratory symptoms in a small area such as in families, offices, schools, workplaces, and other gatherings within 14 days, in which there exists the possibility of human-to-human transmission or common exposure." (National Health Commission of the People's Republic of China 2020, 1-2)

4. Measures - examples¹³

Special attention on ever strengthening cross-sectoral information sharing and regular discussion and assessment of the epidemic trends with clear terms of reference for stakeholder involved in the coordination¹⁴. Restrictive measures commensurate with China's strategy of curbing the spread of the virus through containment have led significant economic slowdown: 1. Drop in domestic demand and hence, supply (decrease in volume of production) and 2. Drop in foreign demand (decrease in export – largest trade partners not buying themselves fighting COVID-19). Interdependency and massive outsourcing of production to the country, has had wide spread international repercussions, i.e. shortages of raw materials as well as ready goods. However, the country has been working on elaborating targeted and tailored economic, financial, and social measures which to steadily normalize the socio-economic situation alleviating the fallout of the strict containment measures.

a. **Testing** (before deciding on lifting specific measures).

In addition, such massive testing also provides much needed information on asymptomatic cases (Wuhan offering more than 50,000 coronavirus tests a day, 2020). Ongoing work on creating protocols to facilitate such massive testing. For instance, in one of the major iPhone makers in China nobody can enter the factory area without being tested. To that end, the company has installed a testing facility to support testing and has developed a specific protocol to assist the process (Hirt, 2020). Additionally, the National Health Commission mandates (testing fees covered by the government) anyone who works in service sectors or places with high exposure to the public to undergo nucleic acid tests for the virus before leaving Wuhan, according to a notice released on Saturday. The requirement covers teachers, medical staff and other workers at elderly care homes, jails and detention centres (Testing intensifies as clusters of infections increase, 2020).

An average of 54,000 people tested daily since March 30 with nucleic acid testing in 189 testing labs across Central China's Hubei province (Latest developments in epidemic control on April 20 (1), 2020).

b. **Travel restrictions** – gradually tightening measures

- i. phase one: travel bans (foreign and domestic) to COVID-19 hot spots, including inter-city travels; incoming travellers to China (both foreign nationals and Chinese) inquired about travel and medical history, and tested, mandatory quarantine (Waghorn 2020);
- ii. phase two – as of late March - foreign citizens (excluding diplomatic workers) including such with resident permits, temporarily not allowed to transit or enter China with the exception of Chinese nationals or arrivals with a Hong Kong passport (Al Jazeera 2020). Weekly flights to and from China will drop to around 130 after restrictions on both domestic and foreign flights (National Health Commission of the People's Republic of China 2020).
- iii. Travel restrictions to and through the country remain strict. Efforts for strengthening epidemic prevention and control at land and sea border ports

¹³ A non-exhaustive list of measures recurring in the literature reviewed as most enabling the China's strategy of COVID-19 containment and subsequently, economic and social recovery in the short and long-term.

¹⁴ Source: Protocol for Prevention and Control of COVID-19 (Ed..6), China CDC

with strict enforcement quarantine requirements for all inbound travellers at designated venues to minimize the risk of causing local transmission (Xinhua 2020).

- iv. Strengthening closed-off management (specifically designated areas) for drivers of cross-border freight vehicles, including medical checks¹⁵, vehicle disinfection and temporary channels and special accommodation areas for the freight drivers and required transportation companies to ramp and epidemic prevention and control gears for the drivers (Govt announces stricter steps for cross-border freight drivers to control spread of virus 2020).
- c. **Economy** - financial stimuli (Lee 2020) - monetary tools to ensure banks have sufficient liquidity, while also implementing interest rate reforms - real interest rates lowered, through improving liquidity to encourage banks to lift lending to smaller and private companies.
- i. injections in stock markets;
 - ii. re-pricing loans – floating rates, and funding loan extensions;
 - iii. ensuring liquidity for financial markets, while trying to maintain the financial infrastructure in the worst affected areas;
 - iv. decreased amount of cash that banks must hold as reserves for the second time in 2020, releasing billions of yuans (for more low-interest loans);
 - v. funding tax cuts, rent cuts and reductions in interest payments and utility costs - local reduction (for areas most severe hit by the outbreak of the disease) in tax, utility charges, property rents and social insurance premiums¹⁶ is consistently promoted (Ibid);
 - vi. banks offered discounted government loans to lower financing costs for SMEs (Ibid);
 - vii. industries severely affected by COVID-19 including transportation, catering, accommodation and tourism, the maximum period for carrying forward losses is extended from five years to eight years (Fang 2020);
 - viii. special government relief funds;
 - ix. reportedly, local governments will be allowed to issue more special bonds as the government aims to speed up the construction of planned key infrastructure projects as well as to launch some new projects for public health, emergency-materials supplies, 5G networks and data centres (Al Jazeera 2020);
 - x. China is promoting **consumption, expanding effective investment, and advancing the transformation of development patterns**. A focus is placed on sectors, such as retail, catering, education, culture and sports. Importantly, targeted investment is channelled into infrastructure, for instance improving facilities and services like parks, green spaces and the expansion of 5G coverage. Financial support is also provided to local enterprises, specifically to advance R&D and innovation (Juan and Xingguang 2020).

¹⁵ Transportation companies to ensure proper prevention and protection gears for drivers (Govt announces stricter steps for cross-border freight drivers to control spread of virus 2020).

¹⁶ Some local governments (most affected areas) covering insurance premiums (Ibid).

- a. **E-commerce** is also in the focus of authorities. In addition to its 59 existing, China will set up 46 new integrated pilot zones for cross-border e-commerce (Yue 2020). In combination with measures and policies to boost commerce, such as exemption of value added and excise taxes on retail exports will support the recovery and future prosperity of firms located in these zones. In addition, cities hosting the zones are considered for inclusion in a pilot programme on retail imports via cross-border e-commerce and companies will be supported in the joint building and sharing of overseas warehouses (Ibid).
- b. In an effort to support the recovery of the global supply chain, major ports in coastal areas of China have restored their operations to roughly pre-COVID-19 level (Ying 2020).
- xi. China is promoting **consumption, expanding effective investment, and advancing the transformation of development patterns..**

d. Science and Technology.

- i. China places utmost importance on technological innovation, which has proven effective in managing and coping with COVID-19. Therefore, the country has emphasised its intention to strengthen the development of cutting-edge technologies (advanced computing, core software, broadband communications, block-chain, optoelectronics, micro/nano electronics, artificial intelligence and new materials) and new formats of industries¹⁷. Quarantine and epidemic control have highlighted the utility of digital products in the fields of remote office, videoconferences, online education, online museums and digital entertainment. In addition, big data and artificial intelligence have been put to use by the government and all walks of life, for instance, many Chinese research institutes and enterprises applied artificial intelligence technology and products in epidemic analysis, body temperature measurement, virus testing and auxiliary (AI) diagnosis and treatment (including intelligent robots) (Xinhua 2020).
- ii. In an attempt to collate and systematise knowledge on COVID-19, China developed a resource centre (2019 Novel Coronavirus Resource Centre) at the Academy of Sciences, which to pool all genome sequence data and related information about the novel coronavirus and to provide open access to information for all researchers and health workers around the world (YANGFEI 2020).
- iii. 24 march - Circular on Coordinating the Prevention and Control of Novel Coronavirus Pneumonia in Tandem with Economic Development and Working Hard in National Economic and Technological Development Zones - leading role of national economic and technological development

¹⁷ Chinese Ministry of Science and Technology (MOST) will provide guidance and support for new businesses and new models that have shown great potential in the epidemic prevention and control, with a focus on new health industries, sci-tech services, smart cities, modern logistics and education services. Ibid.

- zones in stabilising foreign trade and foreign investment; attracting, securing and stabilizing business
- iv. China launched a mobile inflatable biosafety laboratory in Shenzhen, Guangdong province, to test samples of the novel coronavirus (Pei 2020). The laboratory is capable of testing from 5,000 to 10,000 samples / day and can serve as an emergency solution **for countries with no biosafety labs**. The lab has a modular layout and air-supported structure, which makes it suitable for unfolding at almost any location (can be carried by an aircraft). It's compressible, packable, and uses green materials. Conforming to global biosafety requirements and industry standards, the lab features five functional areas — sample collection, sample reception, reagent preparation, sample preparation and sample amplification area — the company said. The equipment includes automatic nucleic acid test instruments, antibody detection, a gene sequencer and other novel coronavirus detection equipment.
 - v. A School of Public Health aiming at boosting talent training and scientific research and also further enhance China's capabilities in public health management was established by the Tsinghua University and China Vanke Co (Shuo 2020). The school enrolls postgraduate students in four research fields - **preventative medicine, comprehensive healthcare, big data in healthcare**, and public health policy and management. In the next five to **10 years, the school will provide support for China's epidemic control**, vaccine development and decisive think-tanks related to major public health policymaking.
 - vi. Apps that assign individuals scores to people if they have been in contact with someone infected or are infected themselves. Depending on the score, specific protocols are generated which involve mobility restrictions (home quarantine). In case of a home quarantine, a seal is placed on the door and neighbours monitor whether that seal is broken (collective responsibility) (Hirt 2020).

e. **Potential treatment.**

- vii. Convalescent plasma collected from patients who have recovered from COVID-19 reportedly contains antibodies that are effective in combating the virus¹⁸. About 200 to 300 millilitres of pure plasma are drawn from a single donor. Plasma donated from recovered patients “is in short supply and involves a complicated processing procedure and high costs, its use is mainly limited to the treatment of severe patients” (Chi 2020).
- viii. **Traditional Chinese Medicine (TCM)**. Reportedly “[t]raditional Chinese medicine has [...] played a big role in the prevention and treatment of

¹⁸ US Food and Drug Administration (FDA) notes that “[a]lthough promising, convalescent plasma has not yet been shown to be safe and effective as a treatment for COVID-19. Therefore, it is important to study the safety and efficacy of COVID-19 convalescent plasma in clinical trials. Source: <https://www.fda.gov/vaccines-blood-biologics/investigational-new-drug-ind-or-device-exemption-ide-process-cber/recommendations-investigational-covid-19-convalescent-plasma>

COVID-19.” (Ibid) The vast majority of confirmed patients in China have been treated with TCM.

- ix. As of 17 April, over 500 COVID-19 patients in Wuhan have been treated by plasma donated by recovered patients. The Wuhan Blood Centre has collected nearly 380,000 ml of plasma from 1,101 recovered patients for treating (Over 500 COVID-19 patients treated by convalescent plasma in Wuhan 2020).
- x. A study suggested that the use of angiotensin-converting enzyme inhibitors (ACEIs) and angiotensin II receptor blockers (ARBs) among hospitalized COVID-19 patients with hypertension is associated with lower risk of all-cause mortality (Study suggests ACEI/ARB safe of COVID-19 patients with hypertension 2020).
- xi. Interdisciplinary approach to treatment for severe COVID-19 patients - blood purification reportedly proved beneficial in significantly improving the condition of patients with multiple organ failures and cytokine storm (Blood purification therapy boosts survival rate of COVID-19 patients 2020). Clinical data showed that more than one-third of COVID-19 patients suffered from proteinuria and more than one-fourth - from hematuria, both signs of kidney injury.
- xii. Traditional Chinese Medicine (TCM) – a highlight in China's COVID-19 treatment is the resort to TCM in the process of treatment, which has proved effective in alleviating early symptoms and shortening the time for full recovery (absence of the virus in the body) (Comprehensive measures lead to Wuhan's high cure rate, low mortality rate: official 2020)

f. Vaccine.

Phase one of a clinical trial for the first *inactivated*¹⁹ vaccine against COVID-19 (created by the Wuhan Institute of Biological Products Co—a subsidiary of the China National Biotech Group Company—and the Wuhan Institute of Virology of the Chinese Academy of Sciences) will take place soon in Jiaozuo, Henan province, northern neighbour of Hubei province. The vaccine reportedly had passed ethical review and is currently at the "prospective registration" phase for both phase one and phase two clinical trials, which will be randomized, double-blind, placebo controlled experiments (Henan to host clinical trial for COVID-19 vaccine 2020). The study is estimated to conclude before Nov 10, 2021²⁰. In addition, another type of vaccine based on genetic engineering is currently under development.

- g. Legal framework and institutional reform.** Following up on lessons-learned and weaknesses exposed during the outbreak of COVID-19, China has set on improving public health legislation and law revisions to guard against major public health risks (Xinhua 2020). Enhancing law-based governance capacity in public health is seen through the perspective of centralized and unified leadership of the

¹⁹ “An inactivated vaccine uses the killed version of the germ that causes a disease to trigger an immune response, and thus is [...] safe because dead germs can't cause illness, according to the United States Department of Health and Human Services.” (Henan to host clinical trial for COVID-19 vaccine 2020)

²⁰ It is estimated that it would take around 12 to 18 months to get a vaccine approved for mass use (Henan to host clinical trial for COVID-19 vaccine 2020).

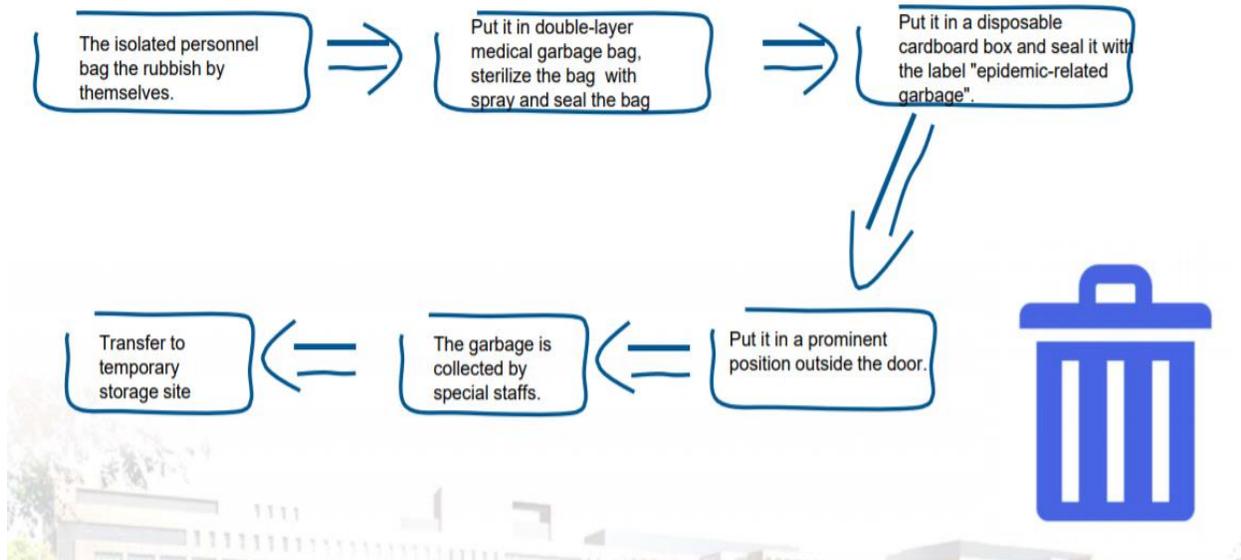
CPC Central Committee and a people-centred approach (Ibid). What is envisaged is a coordinated mechanism for legislation and law revision and a special task group, which to review the implementation of relevant laws and emphasise push for scientific and effective legislation and revisions.

- h. **Social specificities.** Emphasis on traditional Chinese culture characterised as “collectivism” and social discipline (Xiaodong and Zhe 2020).
- i. **Cyber defence** (Xinhua 2020). The situation caused by COVID-19 pandemic has reportedly increased instances of cybercrime. In this respect, China is stepping up efforts to punish cybercrime, particularly linked to COVID-19 that violate individual privacy, endanger data security and hamper epidemic prevention and control efforts.
- j. **International cooperation**²¹.
 - xiii. Sharing of data and lessons-learned, and ensuring humanitarian support - face masks, testing kits and protective suits; ventilators and protective equipment for urgent overseas orders.
 - xiv. A focus is placed on regional and international cooperation. Most prominently, regional cooperation through strengthened integration²² through the advancement of ASEAN plus three (China, Japan, and the Republic of Korea) initiative aims at enhancing experience and information sharing, conducting joint research and development of drugs and vaccines, and building up regional mechanisms for epidemic control (China calls on ASEAN Plus Three countries to work for early victory against COVID-19 in East Asia 2020)
- k. **Waste management.** China created a sound waste-management organisation with a special treatment of biologic waste (figure below).

²¹ Information (timeline) on China’s international reaction and activities available here: http://en.nhc.gov.cn/2020-04/06/c_78840.htm

²² Focus on furthering the Regional Comprehensive Economic Partnership (RCEP) agreement, potentially finalizing by the end of this year (Xinhua 2020).

Epidemic-related domestic waste can not be mixed with general domestic waste



Source: China CDC: <http://www.chinacdc.cn/en/COVID19/202004/P020200403532998573742.pdf>

5. Summary of main control measures implemented in China at the provincial and municipal levels in a context of a phased approach to responding to COVID-19 (Direct quotation (WHO-China Joint Commission on Coronavirus Disease 2020, 28).
 - a. **Monitoring and reporting:** COVID-19 included in the statutory reporting of infectious diseases early on and plans were formulated to strengthen diagnosis, monitoring, and reporting.
 - b. **Strengthening ports of entry and quarantine:** Customs Department launched the emergency plan for public health emergencies at ports across the country and restarted the health declaration card system for entry and exit into cities as well as strict monitoring of the temperature of entry and exit passengers.
 - c. **Treatment:** For severe or critical patients, the principle of "Four Concentrations" was implemented: i.e. concentrating patients, medical experts, resources and treatment into special centres. All cities and districts transformed relevant hospitals, increased the number of designated hospitals, dispatched medical staff, and set up expert groups for consultation, so as to minimise mortality of severe patients. Medical resources from all over China have been mobilized to support the medical treatment of patients in Wuhan.
 - d. **Epidemiological investigation and close contact management** (see **Figure 3** below) Strong epidemiological investigations are being carried out for cases, clusters, and contacts to identify the source of infection and implement targeted control measures, such as contact tracing.

- e. **Social distancing**²³: Cancelled or suspended activities like sport events, cinema, theatre, and schools and colleges in all parts of China. Enterprises and institutions have staggered their return to work. Transportation Departments setup thousands of health and quarantine stations in national service areas, and in entrances and exits for passengers at stations. Hubei Province adopted the most stringent traffic control measures, such as suspension of urban public transport, including subway, ferry and long-distance passenger transport. Every citizen has to wear a mask in public. Home support mechanisms were established. As a consequence of all of these measures, public life is very reduced.
- f. **Funding and material support**: Payment of health insurance was taken over by the state, as well as the work to improve accessibility and affordability of medical materials, provide personal protection materials, and ensure basic living materials for affected people.
- g. **Emergency material support**: The government restored production and expanded production capacity, organised key enterprises that have already started to exceed current production capacity, supported local enterprises to expand imports, and used cross-border e-commerce platforms and enterprises to help import medical materials and improve the ability to guarantee supplies.

²³ As already stated, the author insists that the correct term is rather *physical distancing*.

Fig. 2. Case investigation algorithm and summary of data-collection tools

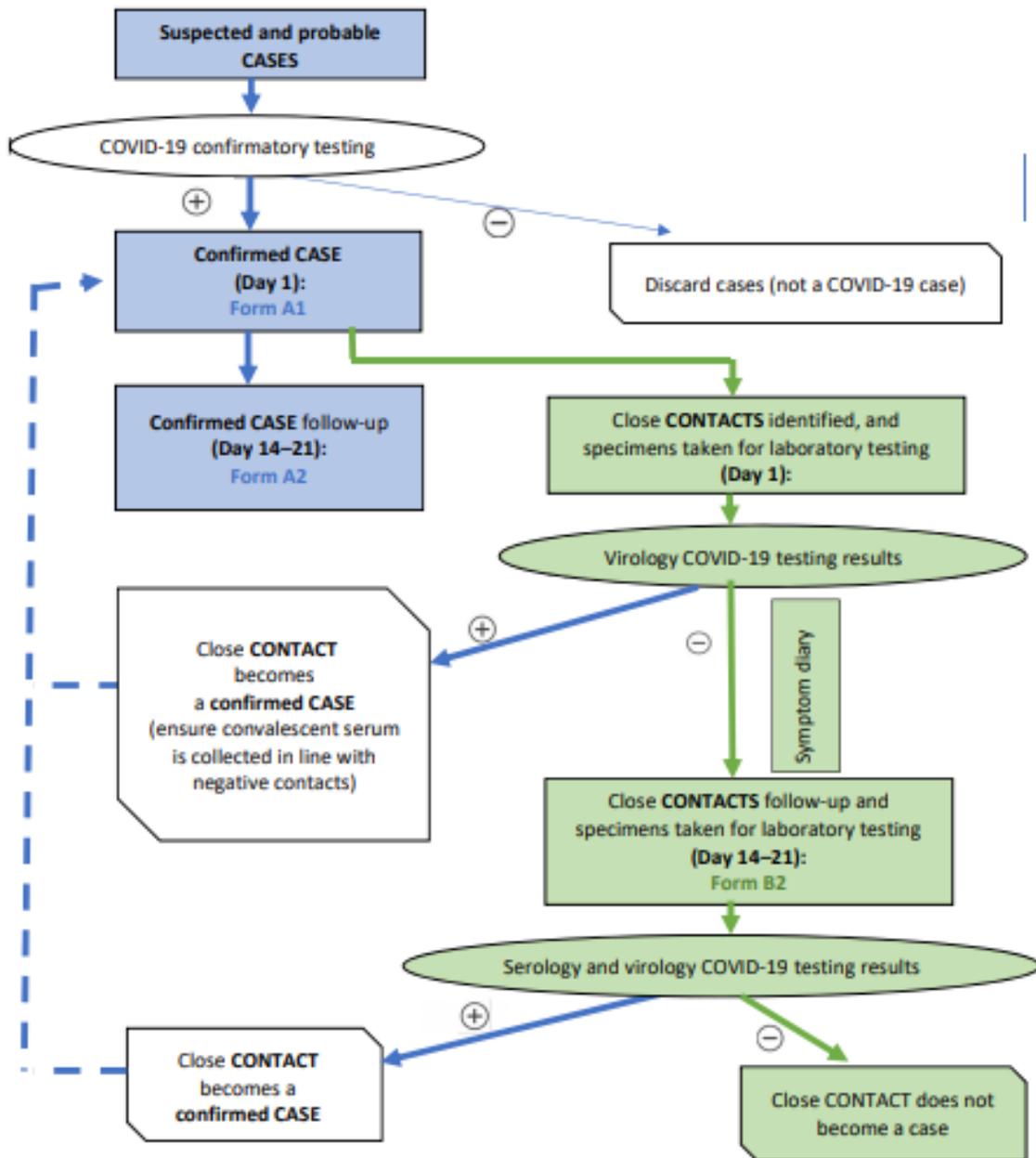


Figure 3 - Source: WHO: The First Few X cases and contacts (FFX) investigation protocol for coronavirus disease 2019 (COVID-19)

6. Strategy and trends

COVID-19 epidemic spread very quickly taking only 30 days to expand from Hubei to the rest of Mainland China. China followed protocols and procedures developed by WHO and rapidly developed testing tools and additional preventive measures. Furthermore, the country managed to apply total isolation and to ensure the understanding and compliance of its population. China had already in place a well-developed system of emergency situation laws, guidance, procedures, and command and control which enabled the country to swiftly re-organise its standard routines to handling an emergency situation.

In the past week, reportedly eighteen provinces across China have lowered their coronavirus emergency response level, nevertheless, the country is reporting new COVID-19 cases of people returning from abroad²⁴. The efforts of Chinese scientists and public health experts apart from remarkably quick, have also been highly successful at isolating the causative virus, establishing diagnostic tools, and determined key transmission parameters such as the route of spread and incubation period.

China's overall **strategy** as of the onset of COVID-19 could be described as **containment** through suppression of the virus' transmission rate with an appreciation of actions required for a rapid and sustainable socio-economic recovery. Critical enabling elements in the implementation of this strategy have been lessons-learned from previous health emergencies (i.e. SARS 2003), which led to targeted actions for strengthening preparedness and capacity / capability-building initiatives. Overall, China's **approach** has been premised on **highly effective coordination and communication between institutions at all levels; well-developed national public health system and a highly developed technology sector; swift (and centralized) decision-making; science-based, risk-informed and phased approach, and timely, transparent and focused public information, which ensured wide public support**. Solidarity among provinces and cities has also been remarkable. This whole-of-government / society and people-centred approach has proven its utility in containing the transmission of COVID-19 in China.

Currently, China is cautious of a possible rebound to COVID-19²⁵ and is therefore preparing to apply "even more tailored and sustainable approaches that are anchored in very rapid case detection, instant activation of key containment activities, direct oversight by top leadership, and broad community engagement." (WHO-China Joint Commission on Coronavirus Disease 2020, 18)

Gradually, and after steadily reaching the peak of onset of the disease, the trend has been on **stabilisation and recovery** – focus on (virus) *carriers* from abroad and *asymptomatic* cases as possibly rebounding to an outbreak. Massive testing of asymptomatic cases as of beginning of April. Recording mostly imported cases, with few indigenous ones; respectively slowly and gradually loosening internal measures, tightening travels to and out of the country to prevent a rebound.

²⁴ WHO Situation Report 56.

²⁵ Confirmed information on whether immunity to the disease is built after recovery is still not available.

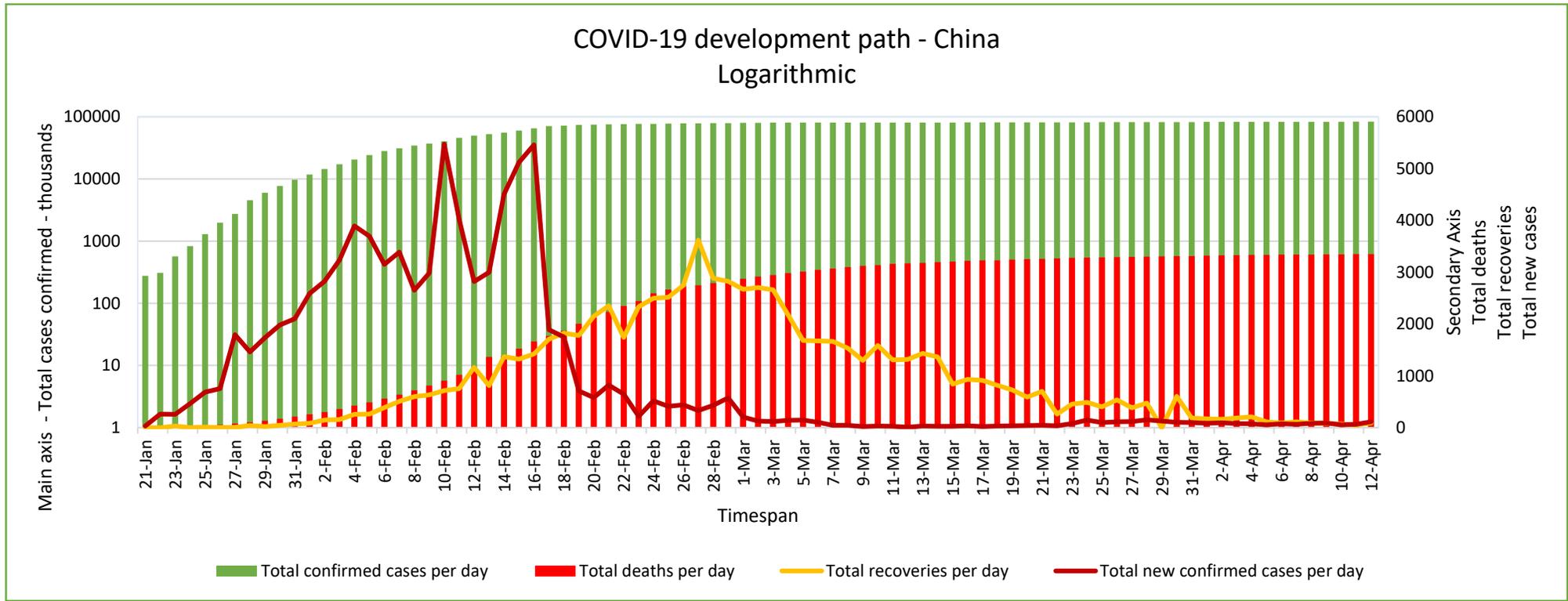


Figure 4

Figure 4 exhibits COVID-19 spread in China as of first officially confirmed case until 12 April. Data on total cases confirmed per day, total deaths per day, total new confirmed cases per day has been gathered from WHO Situation reports²⁶. Data on total recoveries per day comes from WorldoMeter’s statistics on China (WorldoMeters 2020).

²⁶ Starting from issue 1 (21 Jan 2020) until 80 (9 Apr 2020). WHO does not provide statistics on COVID-19 recoveries.

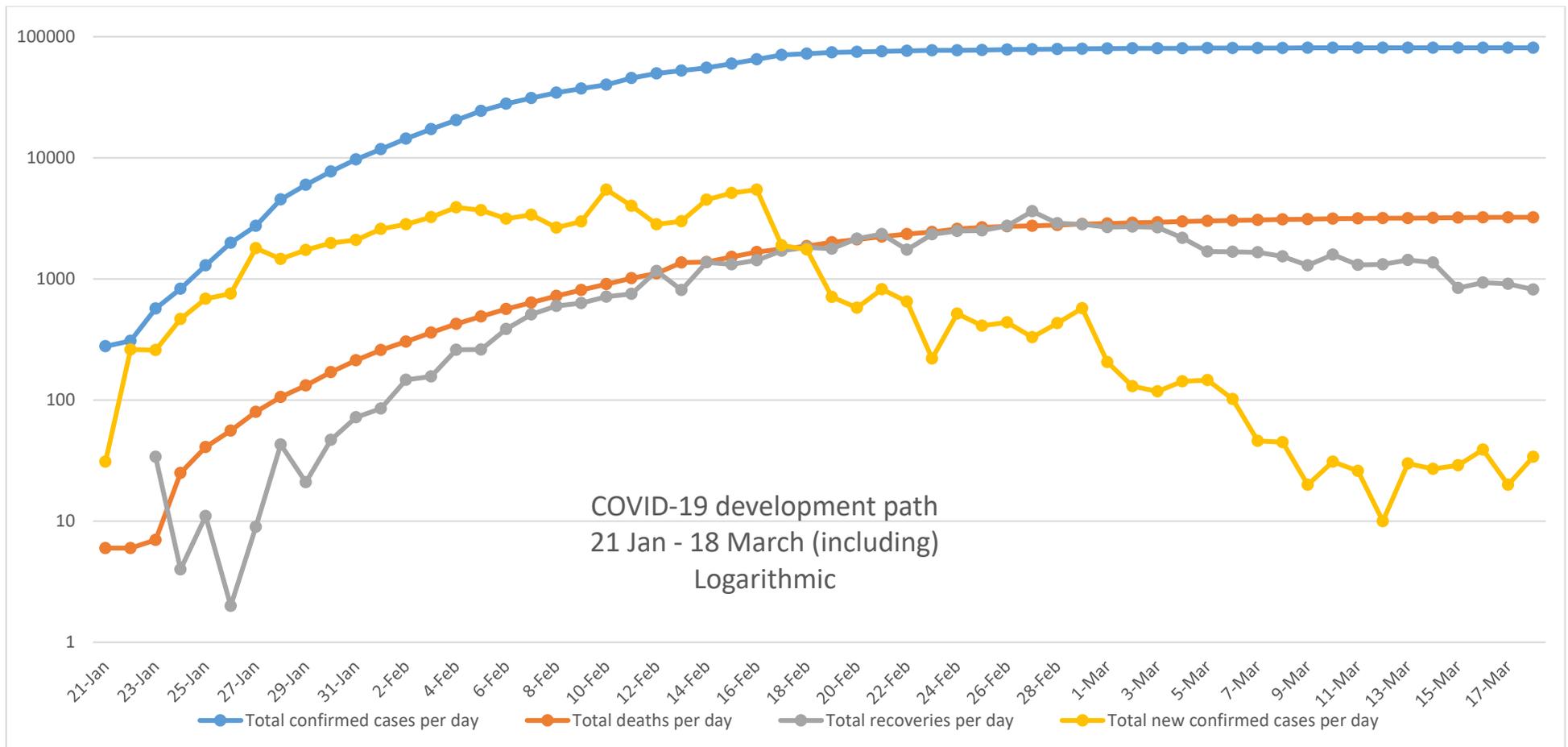


Figure 5

Figure 5 shows COVID-19 development path in China as of the official data on confirmed cases published by WHO (Sit Rep 1) until the first time no indigenous cases have been reported (18 March 2020) in Wuhan. The latter serves as an important point in China's response to COVID-19, effectively measures taken refocusing attention to containing imported transmission.

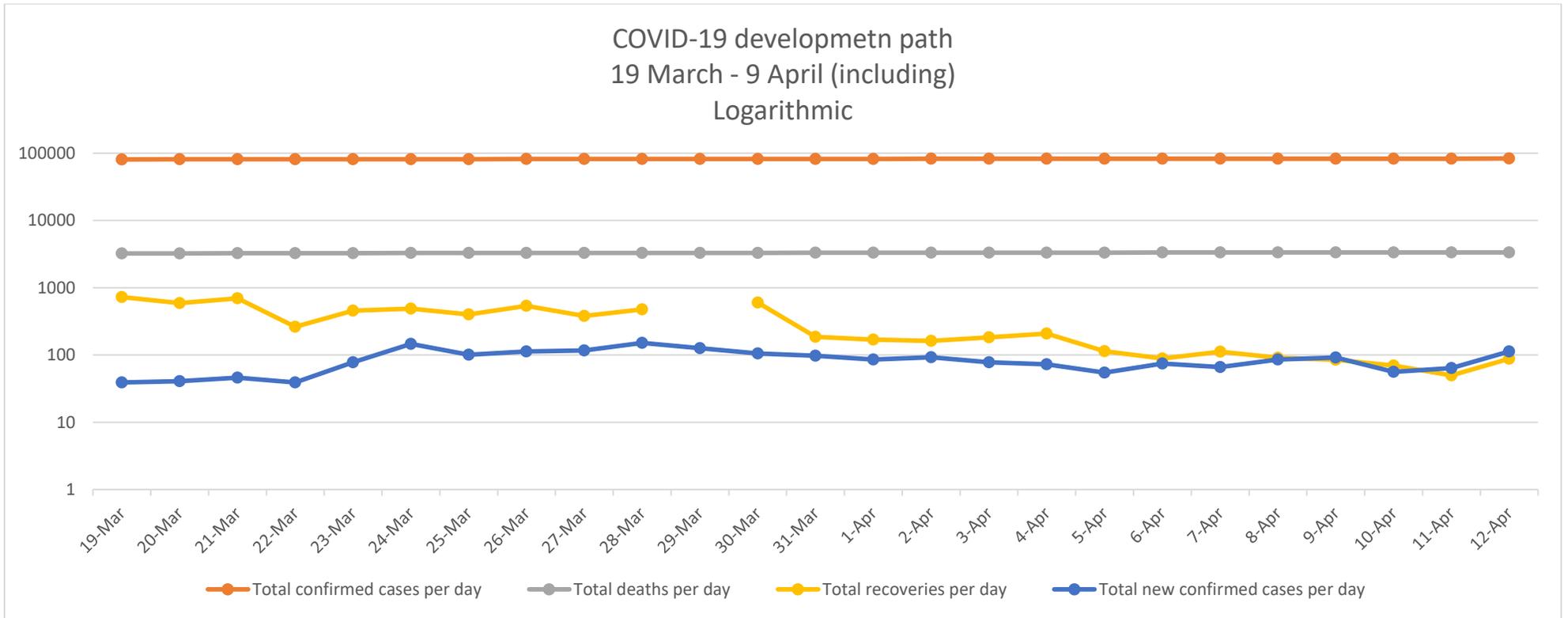


Figure 6

Figure 6 displays development after March 18. The period could be characterised as stabilization with no spikes in either of the parameters observed. The interruption of total recoveries per day line signifies zero cases per that specific day. Of reported new cases, the majority are *imported* cases of infection, hence the focus on travel restrictions, particularly non-Chinese citizens.

Within the period 13-22 April, China's main strategy remains **CONTAINMENT AND GRADUAL RETURN TO ECONOMIC ACTIVITIES** – suppression of virus transmission rate and state support for businesses. Critical point: preparedness and capacity and capability-building before the occurrence of a crisis. Swift (centralized) decision-making leveraging a strong national public health systems and a highly developed technology sector.

The general trend is of focusing on two imperatives: **Safeguarding lives and safeguarding livelihoods** – targeted and precise measures according to the specific risk level (i.e. risk assessment²⁷) of the epidemic situation – phased and cautious initiation of **stabilisation and recovery (Wuhan and Hubei province²⁸)** – focus on (virus) *carriers* from abroad and *asymptomatic* cases as possibly rebounding to an outbreak. Massive testing of asymptomatic cases as of beginning of April. Recording mostly imported cases, with few indigenous ones; slowly and gradually loosening internal measures, coupled by an increase in testing capacity to ensure people can safely return to their daily routines (businesses). Keeping tight travels restrictions to and out of the country to prevent a rebound. Utilisation of modern technology and focus on research and development (vaccine and treatment).

²⁷ From *low* to *high* risk areas (i.e. regions, cities, communities) (based on risk criteria defined by China State Council discussed in **Invalid source specified.** and in **Invalid source specified.**): 1. **low risk** – *no new cases* in the last 14 days - restrictions on inbound travellers and returning personnel strengthened; closure measures gradually lifted; 2. **medium-risk** – fewer than 50 cases or over 50 but without a concentrated outbreak - strengthened management of close contacts of confirmed cases and discharged patients returning to their communities, and 3. **high risk** – over 50 cases and a concentrated outbreak - strict enforcement of containment measures, including public gatherings, with centralized procurement and supply of living materials for community residents. **Against these criteria, Wuhan is now classified as a low-risk area.**

²⁸ Beijing has reopened 73 major tourist sites, or 30.7 percent of the total in the municipality (Latest developments in epidemic control on April 20 (1) 2020).

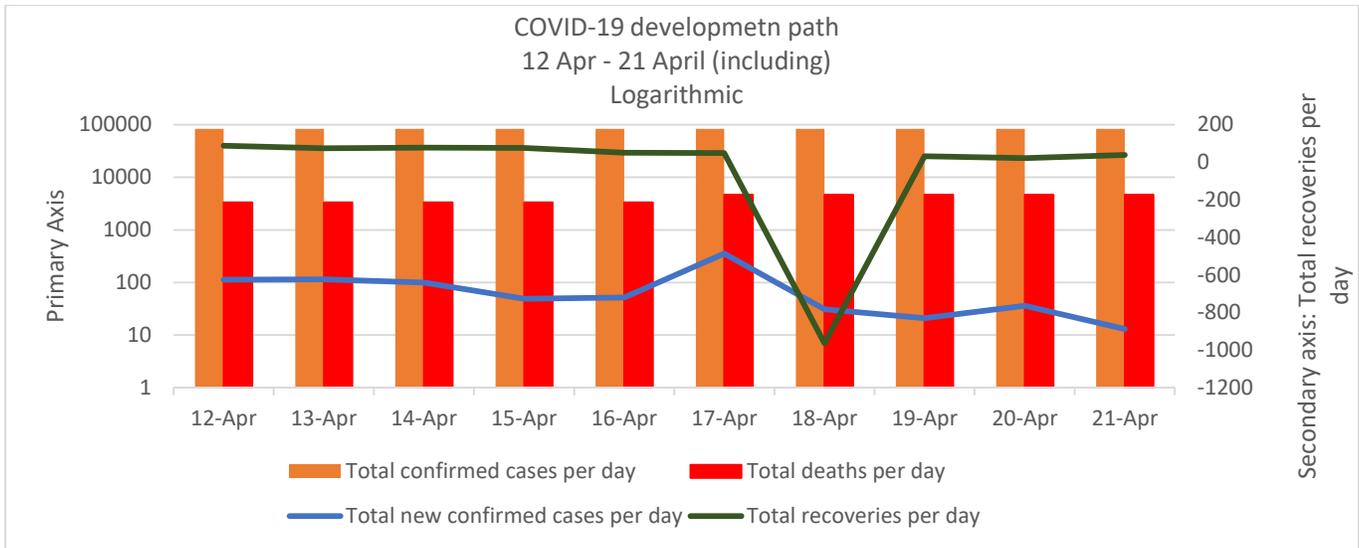


Figure 7: COVID-19 development as of last Weekly Update.

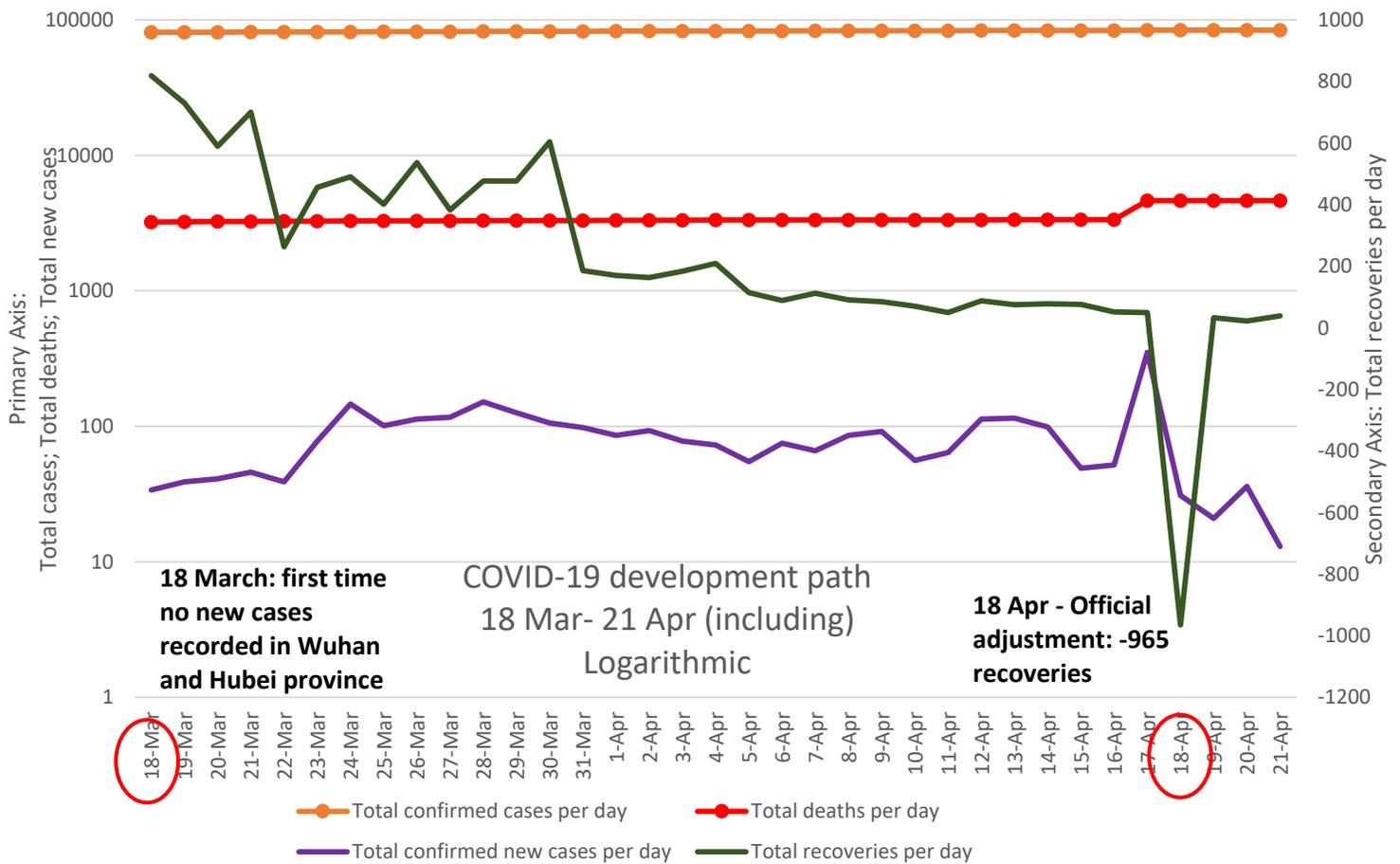


Figure 8: COVID-19 development as of 18 March when for the first time there were no new cases reported in the epicentre of the infection - Wuhan and Hubei province, until the last day of the present Weekly Report.

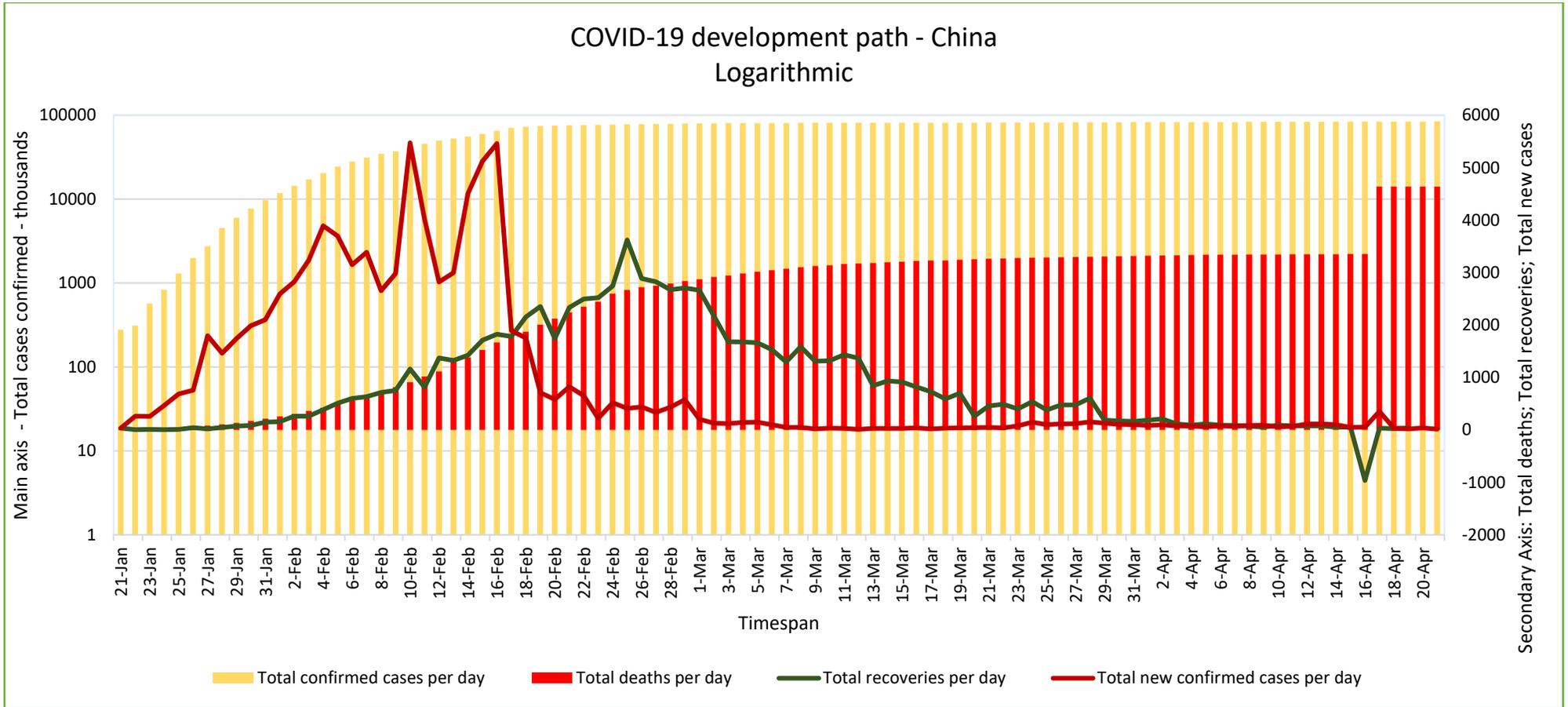


Figure 9: Covid-19 development as of onset of the disease.

Economy – preventing a possible domestic rebound of the outbreak and stabilizing economic fundamentals while ensuring people's basic living needs²⁹ are met (Wei 2020). **Timely adjust of anti-virus measures in light of local conditions (at all administrative levels)** to create favourable conditions for the resumption of work and production (Xinhua 2020). A general trend for expansion in domestic demand; increase in investment and support for small and medium-sized enterprises alongside tailored and phased containment measures where required - increasing the potential of consumption by enabling businesses to resume operations (Wei 2020). China seeks to renovate old residential communities, ramp up investment in traditional and new types of infrastructure, augment the upgrading of traditional sectors and boost investment into emerging strategic sectors, spur private investment and encourage exporters to explore the domestic market (Wei 2020).

²⁹ Efforts to advance spring agricultural production and maintain stable market supply and prices of non-staple food such as pork, vegetables and fruits (Xinhua 2020). In addition, measures offering temporary living allowances to people in hard-hit regions, and expanding access to unemployment insurance are also in the focus (Ibid).

6. General Considerations

Poor health status and polluted environment (environmental degradation), particularly air quality (i.e. smog levels in big cities) have been widely reported as increasing the negative effects of COVID-19. Improved environmental management and healthcare systems would prove sound preventive measures for any future pandemics and therefore should become a short-to long-term priority for governments worldwide. Climate change efforts should also be ramped up with a view to ensuring long-term solutions for increased overall human security. The latter, as the dominant focus on people-centred actions in response to COVID-19 shows, should be further explored particularly in light of governmental approaches to future crisis management of any kind with specific attention to societal resilience.

In response to COVID-19, political narrative across the globe has invoked “war” rhetoric, thereafter supposing a war-like operational organisation. For instance, China has “established a quasi-wartime work mechanism led by the country’s top leader”; UK’s Prime Minister Boris Johnson has “enlisted” the nation in a televised address (BBC 2020); President Trump is fighting “an invisible enemy”. However, little has been mentioned about the role of the military in the “fight” against COVID-19, or about whether military *modus operandi*, particularly in terms of operations in response to crises, could provide a model for decision-making and planning, mobilisation and allocation of resources, and organisation and distribution of tasks among key stakeholders for the different stages of the crisis. In terms of the role, specific attention should be paid on military direct and indirect involvement in collective response measures, minding specific requirements within areas such as, inter alia, CIMIC and the protection of civilians (PoC). Should there be an examination of the analogy with a military approach in response to a crisis, something which remains a matter of discussion³⁰, then what could prove of particular relevance to the demands of the crisis at hand is the model for distribution of tasks and activities among the tactical and the operational and strategic levels³¹. Burden-sharing is what enables the military to simultaneously attend to the imperatives of the current situation without losing sight of the desired end state³². Critically important is the capacity to identify markers that signal transiting from one stage to another, that is, when COVID-19 restrictive measures could and should be phased out and what should take their place by means of recovery and stabilisation. Noteworthy, from a military perspective, a centre of gravity is what keeps different elements together and towards intended effects. As Orion (Orion 2020) argues, in the response to COVID-19 public perception forms a centre of gravity of societal resilience, and transparent and timely communication has indeed been a key element of success stories coming from countries like Singapore, Taiwan, and South Korea.

COVID-19 has surfaced shortcomings have put individual states, and the international community writ large, into an ordeal of scale and intensity that overwhelmed existing coping capacities. Thus, COVID-19 has put values, principles, mechanisms and procedures to a stress

³⁰ German President Frank-Walter Steinmeier explicitly pointed out that COVID-19 “is not a war” and that “[n]ations are not against other nations, soldiers against other soldiers”. He emphasized the COVID-19 “is a test of our humanity” (Carter 2020).

³¹ A thought-provoking piece on this analogy is provided by Assaf Orion (Orion 2020).

³² In the case of COVID-19 response this could, inter alia, concern the health (both physical and mental) and wellbeing of the population, including respectively state of the economy, the institutions (Orion 2020).

test, which has highlighted a need for a (over)due critical examination of what constitutes *normality*³³. COVID-19 has been a test for resilience from the personal, through societal, to organisational levels. Various responses across the globe reveal that the pandemic strained extant coping capacities of not only underdeveloped, poor or war-torn countries, but likewise, if not more severely – of the most advanced (economically and technologically) members of the global community. The lack of preparedness leads to another area, where underperformance surfaces - foresight and strategy. Despite the appreciation that pandemics carry a high possibility / high intensity risk of occurrence, planning for adequate preparedness and response, both at national and international levels, has significantly lagged behind requirements imposed by a global pandemic, and statistics on the rapid spread of COVID-19 and the inability to meet demand for protective and emergency equipment³⁴, serve to ground this statement.

The lack of supply in a crisis of a global humanitarian nature also shows that humanitarian aid at present is not geared towards epidemics or pandemics, but rather to other situations (i.e. conflicts) identified as a primary cause for humanitarian emergencies (Gong 2020). Therefore, COVID-19 serves as a reminder for the international community to review humanitarian inventory so as to be better placed to respond to similar situations in the future (Ibid). When it comes to collective response, COVID-19 poses yet another critical test, one on solidarity and trust from the national and local, through the regional, and to the international level. Understandably, trust in institutions falling short of upholding and acting upon underlying principles of solidarity and support in times of crisis significantly dwindles. Likewise, trust in and support for projects which fail to legitimise their *raison d'être* should also be expected to teeter.

7. General recommendations and conclusions for Bulgaria

Chinese approach and thereby measures in response to COVID-19 are marked by essentially a highly proactive surveillance to immediately detect cases, very rapid diagnose and immediate isolate cases, tracking and quarantine of close contacts, and a high degree of population understanding and acceptance of these measures (WHO-China Joint Commission on Coronavirus Disease 2020). The success of such strict and time-sensitive measures would depend on the speed of decision-making (leadership and political processes), the quality of implementation (enforcement and support by the public) and strength and viability of the public health system.

Based on the development trajectory of COVID-19 in China (Figure 2), using a model proposed by Pueyo (Pueyo 2020), and accounting for three differences in conditions as per the applicability of the example: 1. size, scale and distribution/ availability of human, technical (i.e. equipment) and financial resources, and available infrastructure (i.e. specialised institutional and normative framework); 2. political organisation and political system, and 3. overall societal cohesion and collective consciousness, the following represents a prognostication for COVID-19 spread in

³³ Political discourse has been focused on “a return to the normal way of living”, which, given the lessons already identified, could mean a return to a baseline – social, political, economic, that exhibits critical shortcomings in enabling adequate preparedness for, prevention of and response to a pandemic.

³⁴ As Gong argues, the “inability to provide adequate protection for frontline staff [erodes] public confidence in the government’s ability to tackle the epidemic successfully” (Gong 2020) thus undermining efforts to contain the spread of the disease.

Bulgaria. Taken China case, the disease occurs in December (early to mid); in January China isolates the pathogen and starts working on tests; February sees the peak of the onset and since mid-March a de-escalation is slowly yet steadily taking place with new cases being imported. In the case of Bulgaria, the onset of the illness could be traced to the beginning of March, **the peak of the onset then, using rough estimation, could be expected around May with (steady)**

Decision-making matrix

Figure 7 (below) shows that Non-pharmaceutic measures are interrelated, and failure to introduce early-on measures results in more urgent stringent actions, and more *expensive* (in every aspect) measures later on. The examples provided point at difficult trade-offs between health protection and economic viability.

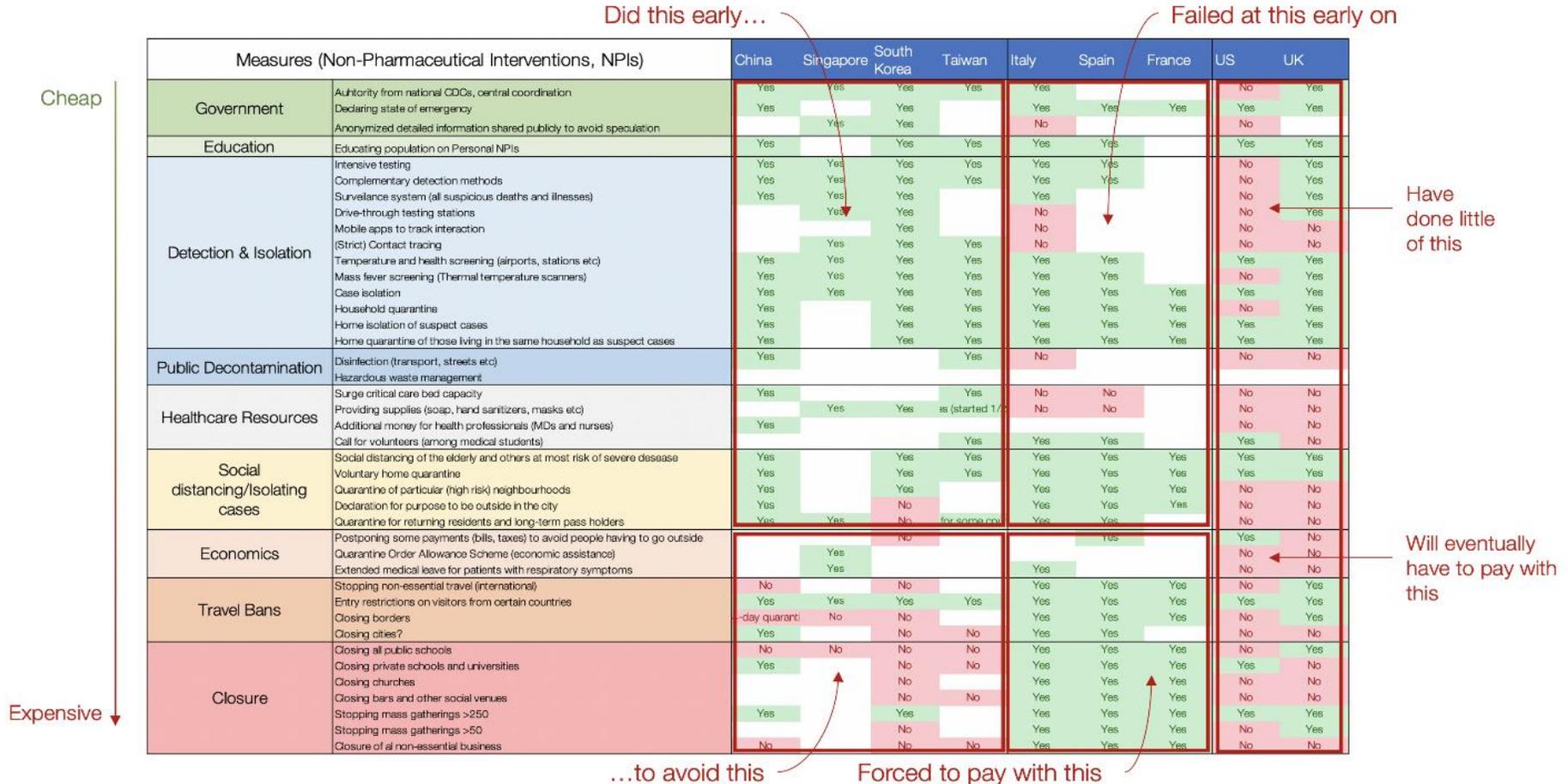


Figure 7: Non-pharmaceutique Interventions (NPIs). Source : (Pueyo, Coronavirus: The Hammer and the Dance 2020).

In an attempt to provide a matrix for COVID-19 decision-making, holding that suppressing transmission rate is key to a successful disease containment, the author would like to suggest, adapting the model presented by Pueyo (Pueyo, Coronavirus: The Hammer and the Dance 2020), the following:

	Benefit As per reducing the transmission rate – estimation of transmission rate	Realisation of benefit (confidence in benefit)	Importance if realised	Cost	Decision on impleme ntation	Elaboration, If partial implementation
Measures			Choose an item.	Choose an item.		Choose an item.
			Choose an item.	Choose an item.		Choose an item.
			Choose an item.	Choose an item.		Choose an item.

The matrix aims to estimate the impact of every measure on reducing the transmission rate, and their social and economic costs so as to enable informed and analysis-based decision-making. This is not an exhaustive list of consideration but an illustration of an additional tool for better informing the process of decision-making.

Benefit as per reducing the transmission rate – involves calculation of transmission rate and estimation of change after introduction of a concrete measure. The closer the transmission rate to 0, the smaller the possibility of an outbreak of infection (the slower the peak of onset and fewer cases resulting in death) (Pueyo, Coronavirus: The Hammer and the Dance 2020).

Realisation of benefit – would the benefit materialize – gauging from low to high confidence in the success (achieving the intended outcome) of the measure.

Importance if realised – as per the decrease of transmission rate - from low to high.

Note that, there could be measures that score low in confidence in realisation but high on importance if achieved.

Cost – in material terms of the implementation of the measure - could be per day / week/ month – BGN

Decision on implementation – alongside other analysis and assessment – whether to apply the measure or not, or to some extent (partially).

Elaboration for partial implementation – why such decision – what in the current situation prevents from full implementation; expectations of future full implementation. Allows to follow changes in understanding of the severity and scope of the crisis.

Within the 13-23 period, China's approach to COVID-19 clearly indicates, as noted by Hirt, that the country is sequentially and cautiously seeking to respond to two critical imperatives: **safeguarding lives and safeguarding livelihoods** (Hirt 2020). The focus for achieving the former is firmly placed on suppressing COVID-19 transmission where the backbone of such a strategy is well-developed healthcare system (required capabilities and capacities (equipped and (enough) trained medical staff). Thereafter, a number of strict measures, most prominently such on and related to physical distancing, travel restrictions, massive testing coupled by rigorous contact tracing and recording, targeted (not blanket) quarantines and the use of modern technology (big data analysis and AI) to facilitate the generation and processing of information critical in the process of finding treatment and eventually developing a vaccine are applied.

Once risk assessment points to conditions favourable to improving livelihood by resuming economic activities, a cautious tailored (administrative units) and targeted return to economic activities is to be guided and strictly monitored as, in between the end of lockdowns and vaccine for mass use, the virus will still be present yet work should resume to ensure livelihoods. Therefore, navigating safely such an environment would require developing protocols and methods which to guarantee safe return to work and production is critical in this intermittent period (Hirt 2020).

Key questions as to when and how (and how much) to lift measures remain. And different areas, regions, may and do differ significantly in their readiness to restart (local) economies (Cadena, et al. 2020). Therefore, key message from China is massive testing and a clear understanding that measures will be lifted cautiously and sequentially in congruity with local specificities (different scenarios based on risk and available resources) and when there is sufficient evidence that strict preventive and protective measures are, regardless of partial opening, present. Modern technology, specifically IT, has proven essential in facilitating the re-orientation of production, in informing decision-making, and in providing a medium for people to remain socially close while physically distanced.

A significant question remains whether some of China's COVID-19 measures, and protocols thereafter (i.e. the health status and seal on the door) could be socially acceptable (to enable a (temporal) behavioural change) in countries with different cultural background, and social and political organisations. Strict, at times *draconian*, measures have reportedly allowed China to suppress the local transmission of COVID-19 at levels well exceeded by countries with fewer such measures.

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¹¹ WHO Situation Report 56.

¹² Confirmed information on whether immunity to the disease is built after recovery is still not available.

¹³ For detailed description of the model see (Pueyo 2020). The model is more a conceptual basis than a rigorously confirmed method of calculation with a key message that actual number of cases is higher than confirmed (diagnosed) cases.

1. Background

COVID-19 pandemic has triggered unprecedented response measures across the globe and has clearly indicated that vulnerability and risk assessment should be coupled by commensurate preparedness measures to effectively prevent the spread of a highly infectious disease. The pandemic has also challenged global, and particularly European, socio-economic models. While countries fight with time in an attempt to hammer out measures to address the crisis, the differences in approach become evident. From virtually little to none (up until recently the UK), through light (Sweden) to heavy precautionary and restrictive measures (China), fighting an invisible, yet known enemy has raised significant questions as per preparedness and anticipation, resolve and solidarity, confidence in and public support for actions.

A positive characteristic of global connectedness and interdependence in a time of pandemics is the flow of information and the exchange of good practices. Therefore, searching for good examples illuminates countries who not only experience epidemics, but learn from lessons identified during times of emergency. Taiwan's response to COVID-19 showcases that systematic and massive tracking and tracing, coupled by mass testing within a strategy of suppression and containment are critical in curbing the spread of the virus. This strategy is in a stark contrast with the response of the majority of countries in Europe, which largely favour a mitigation course of action, i.e. "flattening the curve", so that preparedness is ramped up and capacity is gradually built to face the peak of onset. Preparedness and resilience, however, are long-term capacities, which inform capability development and prime for facing emergencies, before the actual occurrence. Taiwan's response to COVID-19 exemplifies the added value of lessons well-learned from SARS epidemics in 2003 – the country developed well-gearred emergency response infrastructure primed for medical / health emergencies.

Taiwan's response represents a balanced understanding that if applied early-on less restrictive measures such as mass testing and quarantine for people at risk³⁵ lead to early identification even before symptoms occur, and prevent further transmission of the virus. Noteworthy, tailored and targeted awareness-raising and education enables people to identify symptoms earlier, improve personal protection (personal distance, mask-wearing, washing hands or disinfecting spaces), and thus reduce overall contagiousness (Pueyo 2020). Transparent and regular public risk information ensures trust and respect for measures, and increases mental strength and preparedness to deal with isolation and distancing. When these *lighter* early-on measures are not or are hastily (the urgency of the crisis) planned for, and ultimately fail to achieve the intended and expected outcome of reducing transmission (the situation largely in Europe and in the USA currently), stricter

³⁵ Such who have travelled to high risk countries, have been in contact with confirmed cases of COVID-19, or have been in contact with people who have returned from these countries at risk.

(physical distancing³⁶) measures could and should be considered regardless of the economic cost. The long-term cost-benefit analysis in such an emergency is not essentially economic, but human /social.

The assessment of the effects of measures applied to limit the transmission of the virus requires skilled, well-trained and well-equipped³⁷ medical personnel, which is a task for the education system. Assessing the effects of measures on the financial stability is a matter of importance for the economic system. Importantly, these even if the respective analysis is performed independently, there should exist a clear understanding of the matter at stake – human life, of a common direction of preparedness for similar future scenarios, and an exit strategy for the long term.

Taiwan has maintained a considerably low number of confirmed cases, and detected most cases³⁸ of possible community spread, while Europe and the United States are currently the epicentres of the global pandemic (Chang 2020). Taiwan's containment is possible due to the well-functioning healthcare system linked to the country's medical education and training system, which provides skilled personnel well-equipped (including technical infrastructure) to understand the virus better, respectively respond to it in a more effective manner.

Given Taiwan's example, an early response successfully limiting the transmission of COVID-19 is a function of discipline by the entire population, which is supported by high levels of trust and acceptance of the process of elaboration and implementation of measures. The latter process is kept transparent through an accurate, timely and understandable risk communication. Key to the strategy of containment of COVID-19 is suppressing its transmission rate, as Pueyo points out, to an average that prevents an outbreak into an epidemic or pandemic (Pueyo, Coronavirus: The Hammer and the Dance 2020), and Taiwan provides a noteworthy example to this effect.

³⁶ The author considers the newly established convention of terming COVID-19 measures as "social distancing" incorrectly representing a situation in which people are socially closer than perhaps ever before uniting in solidarity and shared sympathy for all those fighting with the spread of the virus. This is evident in social media, regular media – TV and radio, and showcased by numerous initiatives, including charities and donations, around the globe. Therefore, the author would suggest instead, referring to **physical distancing** as this is more indicative of what COVID-19 measures aim at and achieve in practice, though with varying success. Note, physical distancing does not necessarily require or induce social distancing, but changes the means of establishing and maintaining contact.

³⁷ 3D printing is already gaining traction in terms of supporting the production of life-saving emergency equipment such as ventilators and intensive care units (ICUs). This also helps companies possessing 3D printing capabilities and not operating within their standard business routines (i.e. car companies) to re-orient production and thus keep their businesses functional. More on this topic in Appendix 1.

³⁸ Mass testing to identify and isolate cases, i.e. places where the virus is concentrated.

2. Response



Figure 8: Data for 13 April 2020. Source: Taiwan Centers for Disease Control: <https://sites.google.com/cdc.gov.tw/2019-ncov/taiwan>

Despite proximity to the original outbreak of COVID-19 (i.e. China), the high number of people working or residing in China (i.e. high exchange of travels / visits), and a high density of population³⁹, Taiwan is successfully containing the spread of the COVID-19 (Figure 8). The country's situation remains in stark contrast with developments in Europe, particularly in Italy and Spain, and now – the USA.

Also in contrast is the fact that Taiwan has had to manage the crisis without any direct communication channel with the World Health Organisation (WHO)⁴⁰ (Di Paolo Emilio 2020). Not being part of WHO (observer status) also prevents systematic sharing of data⁴¹ (on cases), information (response), and best practices (measures) in tackling the pandemic.

Taiwan Response could be generally described as “a combination of preparedness, technology, and transparency” (Shapiro 2020) aimed at *containing the spread* COVID-19 by strict control of internal transmission⁴² through mass testing for detecting cases of possible community spread, and contact tracing⁴³. Critically, public acceptance and respect for measures implemented is remarkably high and attributed to a timely, transparent and understandable public risk communication.

³⁹ Total area: 35,980 km², density of population: 658.05 km², concentrated in urban zones (CIA 2020).

⁴⁰ For more on this matter see, for instance, (Hale 2020), (Yip 2020), and (The Guardian 2020)

⁴¹ WHO does not provide separate data for Taiwan and it is not clear for the author whether WHO computes Taiwan's data on COVID-19 together with data for China. Worldometers data on China statistics vary in relation to data from WHO on the same country.

⁴² The majority of cases reported are such of people coming to the country – *imported* cases.

⁴³ Contact tracing, including door-to-door monitoring to identify cases with symptoms (Di Paolo Emilio 2020). Furthermore, existing neighbourhood **warden system** facilitates enforcement of the quarantines and helps delivery of meals and other assistance (Shapiro 2020).

Coordination lies at the centre of efforts, which are exerted in a well-organised, and tailored for emergency situations, legal and operational framework. A central command led by the Ministry of Health and Welfare⁴⁴, the Taiwan Centres for Disease Control (Taiwan CDC), and the specially designed National Health Command Centre⁴⁵ (NHCC)⁴⁶ ensure interagency interaction and coordination of efforts, capacities and capabilities for swift yet well-informed, science- and analysis-based decision-making and response. The Central Epidemics Command Centre (CECC or Central Command) was established to coordinate a wide-array of combating measures, including departmental coordination and mobilisation of resources. In addition, Taiwan's *single-player* healthcare system ensures universal coverage and hence, access to services.

Mass testing and systematic contact tracking and recording allowed Taiwan to identify, process and contain transmission of COVID-19. Daily PCR testing capacity for COVID-19 reached approximately 1,300 samples⁴⁷ and, critically, **people who tested negative for the virus were retested to keep track of new cases.** Sex-disaggregated data on medical and travel histories is collected to create patient profiles and further seek links and patterns (including in terms of transmission⁴⁸) and ultimately shed light on COVID-19 characteristics, thus increasing the understanding of the virus⁴⁹. In addition, a

⁴⁴ The Minister acting as a commander-in-chief (Shapiro 2020).

⁴⁵ Established in the aftermath of the SARS outbreak in 2004. See, for instance, (Duff-Brown 2020) and (Di Paolo Emilio 2020). It is a unified central command system that includes the Central Epidemic Command Centre, the Biological Pathogen Disaster Command Centre, the Counter-Bioterrorism Command Centre and the Central Medical Emergency Operations Centre. This joint framework serves as a comprehensive platform for preventing major epidemics (source: Taiwan Centres for Disease Control: <https://www.cdc.gov.tw/En/Category/MPage/gL7-bARtHyNdrDq882pJ9Q>)

⁴⁶ NHCC prepared a list of 124 measures for managing COVID-19 spread. See (Wang and RH 2020)

⁴⁷ Daily capacity for Bulgaria for PCR testing was reported at approximately 1000-1200 samples.

⁴⁸ An example of a notice issued by Taiwan CDC:

1. Sex-disaggregated data and anonymity kept: *“On March 25, the Central Epidemic Command Center (CECC) announced 19 new confirmed imported cases of coronavirus disease 2019 (COVID-19) in Taiwan. Among the 19 imported cases (Cases #217-235), 12 patients are women and seven are men, with their ages ranging between 10 and 69 years old. These patients entered Taiwan between March 12 and March 22 and displayed symptoms between March 15 and March 23. The countries these patients had traveled to before the onset of disease include Belgium, Egypt, France, Thailand, Turkey, the Netherlands, the United Kingdom and the United States.*

2. Search for patterns among cases (continuous monitoring and analysis of links), regardless of sequence: *“With respect to Cases #222-225, the four patients studied abroad at the same education institution in the United Kingdom as Case #152. “*

3. Identifying clusters: *“They were detected at the airport and reported to health agencies when entering Taiwan on March 22. Infection with COVID-19 was laboratory-confirmed in the cases on March 25. Related investigations suggest that it is a cluster infections on campus. [...]Case #226 is a member of a travel group to Egypt. During the home isolation period, the patient had a dry throat on March 21, and health officials arranged medical care for the patient who was then tested for COVID-19. Infection with COVID-19 was laboratory-confirmed in the case on March 25. A total of ten individuals in the cluster involving the tour group have been diagnosed with COVID-19 (nine group members, one contact).”*

4. Importantly, non-cluster cases are marked for further investigation: *“The remaining 13 cases are not linked to other confirmed cases.”*

The full text of the notice is available at: <https://www.cdc.gov.tw/En/Bulletin/Detail/pqRXxBZDUwUzwGLYDkxk3g?typeid=158>

⁴⁹ Key questions still lacking definite scientifically derived answers: 1. How does the virus spread? 2. How long does the virus survive? On what surfaces? 3. How can the spread be slowed down? 4. What is the share of asymptomatic carriers? Are they contagious? How much? 5. What are effective treatments? 6. How do different social distancing measures impact the transmission rate? What's their cost? 7. What are best practices in tracing and tracking?

specific focus is placed on identifying and containing cluster cases, which to also enable information sharing with other countries (for imported cases).

a. Normative / legal framework

Overall, all measures undertaken by the emergency establishment of Taiwan have firm legal grounds (Chang 2020). Lessons-learned from 2003 SARS included specific legal changes, most importantly the adoption and continuous update⁵⁰ of the Communicable Disease Control Act.

In addition, Special Act for Prevention, Relief and Revitalization Measures for Severe Pneumonia with Novel Pathogens (Special Act or COVID-19 Special Act) was promulgated in February 2020. Under this act, two important regulations were adopted: 1. the Regulations Governing Compensation for Periods of Isolation and Quarantine for COVID-19 (10 March 2020) stipulating that those imposed with isolation or quarantines, or such who must take care of isolated or quarantined can receive (eligibility criteria) a daily compensation of 1000 NTD for 14 days (Chang 2020).

As early as 30 December 2019, Taiwan CDC undertook inspections on travels from Wuhan, China⁵¹. On 15 January 2020, the CDC officially added the novel coronavirus, COVID-19, into the Category V Communicable Disease. These measures were, as Chang points out, “undertaken well before the first meeting of the WHO’s Emergency Committee and its declaration of the new coronavirus as a global emergency” (Chang 2020), which emphasises Taiwan’s pre-emptive and anticipatory capacity. However, such a capacity would not have been possible without a firm and legally-grounded technical and institutional infrastructure.

Taiwan’s approach in fighting COVID-19 has demonstrated the country’s capacity to swiftly manage a health crisis in a transparent, democratic and legal manner. The legal and normative framework is hammered out in cooperation and consultation with a vibrant civil society able to support governmental efforts in elaborating workable and effective solutions in time of high public health urgency (Chang 2020).

b. Technology and big data analysis

Taiwan integrated databases belonging to the National Health Insurance Administration, National Immigration Agency, and Customs Administration and then used artificial intelligence and big data techniques to identify people at greatest risk through their travel and medical history (Shapiro 2020)⁵². Information collected concerned every citizen’s 14-

⁵⁰ Latest in 2019. See (Chang 2020).

⁵¹ Including, health officers boarding planes to check passengers for symptoms, not allowing disembarkation prior to a medical check-up (Shapiro 2020).

⁵² Shapiro (Shapiro 2020) also points to a potentially serious transmission issue concerning an estimate of 50,000 undocumented workers from Southeast Asia, the majority of whom serving as caregivers for the elderly. Their reluctance to seek medical help and treatment and to report symptoms could cause a significant downturn in efforts to curb COVID-19 spread. Proposals made by civil society organization revolve around amnesty for the illegal immigration status.

day travel history and led to requests for those who had visited high-risk areas to self-isolate. Further, information about infected patients' location and TOCC (travel, occupation, contact, and cluster) resulted in rapid case identification by generating real-time alerts during a clinical visit based on travel history and clinical symptoms.

QR codes were used to classify travellers' infectious risks based on flight origin and travel history in the last 14 days - people who had not travelled to high-risk areas were sent a health declaration border pass via SMS for faster immigration clearance; people who had travelled to high-risk areas were quarantined at home and tracked through their mobile phones⁵³

A mask-rationing system (see below in Concrete measures) was introduced which used the National Health Insurance (NHI) cloud computing system for monitoring the respect for the rationing rules and for the sale of the masks. A significant challenge, well-managed by Taiwan, was handling the additional load during peak sales periods so that mask sales did not compromise the main function of the NHIA's PharmaCloud System of storing medical records and allowing health care institutions access to them (Yip 2020).

3. Measures⁵⁴

Measures have been applied in clusters with restrictiveness gradually tightening. Phased application: phase 1 seeing less restrictive measures with a focus on case detection, contact tracing and quarantine – reliance on public understanding of the situation. Phase 2 responding to the risk of rebounding after containment of transmission rate achieved – increase in restrictiveness and introduction of a ban on public gatherings. Slowdown in economy and production, less than in the case of China and potentially due to the less restrictive (and gradually tightening) measures for distancing, the stable fiscal position of the country and its well-developed tech sector.

a. Social⁵⁵ distancing measures

- i. Since the pandemic of COVID-19 is largely under control, businesses and events are not compulsorily closed or banned, however, there are specific requirements stipulated in Guidelines for Large-Scale Public Gatherings in the Wake of the COVID-19 Outbreak: 1. ability to gain information on participants beforehand; 2. air ventilation and replacement; 3. distance between participants; 4. whether participants are in a fixed position; 5. event duration; 6. hand hygiene and surgical masks. If an assessment of the nature of the gathering points to a high degree of risk, the CECC recommends that the

⁵³ Phone tracking to enforce mandatory quarantine was based on phone sim cards and nearby base stations. Despite assurances from Taiwanese officials that the action is legal as the tracking takes place only during the period of mandatory quarantine (The Guardian 2020), caution should be exercised as to eliminate the possibility of overstepping democratic principles.

⁵⁴ Based on / adapted from (Wang and RH 2020).

⁵⁵ As mentioned earlier – the author refers to *physical distancing*.

gathering be postponed or cancelled, or held in a different manner (Taiwan CDC info notice).

- ii. Masks, sanitizers, thermometers - a rationing system for purchasing face masks was introduced based on odd or even numbered National Health Insurance (NHI) cards, and places the limit for an adult at two face masks at government fixed price per week at NHI contracted pharmacies and local public health clinics in rural areas. Masks made available for children under the age of 12. By late February, Taiwan distributed nearly 6.5 million masks to primary and secondary schools, as well as after-school institutions, plus 84,000 litres of hand sanitizer and 25,000 forehead thermometers. Soldiers were mobilised to production lines at local mask factories. 60 additional surgical mask machines installed (technology) with 10% of capacity reserved for children. Each machine can manufacture 100,000 surgical masks per day - daily output boosted to 10 million masks a day.
- iii. 1 April - all members of the public must wear masks on trains and inter-city buses from April 1 (Huang and Hsin-Yin 2020)⁵⁶;
- iv. people in home isolation/home quarantine shall be imposed with cumulative penalties and in addition thereto, be forcibly placed under group quarantine if they leave home; they may not apply for disease prevention compensation, and a necessary surcharge will also be imposed⁵⁷;
- v. LINE Bot system, called Disease Containment Expert, was officially launched and aims to track people in home quarantine. The Central Epidemic Command Centre (CECC) added a new function to the current SMS reporting mechanism, allowing those in home quarantine/isolation to report their health status via SMS. With the Line Bot system, those in home quarantine can voluntarily report their health status to the disease prevention staff every day and obtain information concerning disease prevention. In addition to information on disease prevention and health status reporting, the system also sends home quarantine related details and notes to users two days before the end of the home quarantine period to remind them to conduct an additional 7-day period of self-health management.
- vi. People using the public transport have to wear face masks all the time and undergo temperature checks before entering a bus or MRT station. Those who refuse to wear face masks on public transport after being advised to do so will be fined up to NT\$ 15,000 .

b. Travel restrictions

- i. Wuhan's case considered showing that a travel ban is only useful when it is enacted early on, not after an outbreak has occurred. Therefore, already at the end of December 2019 Taiwan Centres for Disease Control began

⁵⁶ Also Taiwan CDC Press Release. Focus on protecting from asymptomatic cases of COVID-19

⁵⁷ Taiwan CDC

monitoring passengers who arrived in the country from Wuhan (arrivals were subject to health screenings before human-to-human transmission of the virus was confirmed on Jan 20).

- ii. border controls and ban on exports of surgical masks.
- iii. Central Epidemic Command Centre (CECC) announced (1 Apr) that inbound travellers subject to home quarantine are prohibited from traveling to offshore islands by plane or boat; urged residents of offshore islands to undergo home quarantine and related measures on the main island of Taiwan;
- iv. effective period of the ban on traveller transits through Taiwan extended until April 30 (Ibid).
- v. Inbound travellers subject to home quarantine are prohibited from traveling to offshore islands by plane or boat. The CECC urged residents of offshore islands to undergo home quarantine and related measures on the main island of Taiwan (Taiwan Centres for Disease Control 2020)⁵⁸.
- vi. effective period of the ban on traveller transits through Taiwan has been extended, from the original ending date April 7 to April 30. Beginning April 3, all inbound travellers who have had a fever or respiratory symptoms in the past 14 days will be required to have their specimens collected for COVID-19 testing at the airport or hospital, and take designated transport vehicles to a designated location for home quarantine as instructed (Taiwan CDC Info page).
- vii. On April 18, the CECC reported that there has been a sharp rise in the number of coronavirus disease 2019 (COVID-19) cases in Southeast Asia. The CECC announced that beginning 00:00 Taipei Standard Time on April 21, inbound travellers who have visited Southeast Asia in the last 14 days (starting 00:00 Taipei Standard Time on April 7) should complete the COVID-19 Health Declaration and Home Quarantine Notice and confirm if their residence satisfies the home quarantine requirements before boarding (Taiwan CDC). Should these requirements be not met, inbound travellers should stay at a quarantine hotel after entering Taiwan. Those who make a false health declaration will be fined up to NT\$150,000 (Ibid).
- viii. On 17 April, MOFA announced that all travellers who entered Taiwan on or before March 21, 2020, on a visitor visa, a landing visa, or through a visa-waiver program and who have not overstayed their legal stay period will now be granted a second automatic 30-day extension. No application is required. The total period of stay cannot exceed 180 days (The day after entry date will be counted as the first day of stay). These conditions are subject to change and may be adjusted as circumstances require. In addition, the National Immigration Agency (NIA) has announced the Expanded

⁵⁸ Noteworthy, the fine is applied in a situation where there appears to be no legal measure requiring but rather a very strong recommendation.

Overstayers Voluntary Departure Program. Foreign nationals who have overstayed their visas and inform authorities from March 20 to June 30 are entitled to penalty relief measures: They will not be detained or receive an entry ban, and will be given only a minimum fine (Bureau of Consular Affairs, Taiwan).

- ix. Effective March 19, all foreign national are prohibited from entering Taiwan except for those who hold Alien Resident Certificates (ARCs) or documents proving they are in Taiwan for diplomatic or other official purposes or to fulfil business contracts, and those who have received special permits (American Institute in Taiwan , 2020).
- x. To prevent cross-border transmission risks, travellers are not allowed to transit through Taiwan at present (Ibid).

c. Technology.

- i. On April 14 that a trial run of the online ordering of 3D child-size face masks will begin from April 15 until April 17. The online ordering system, eMask, will automatically verify the NHI card data, and online order registration will be allowed for people 16 or under (Taiwan CDC)⁵⁹.
- ii. EMask purchasing system introduced. The CECC announced that from April 19 face masks will not be distributed to pharmacies contracted by the National Health Insurance Administration (NHI) and local public health centres every Sunday, allowing the personnel to have time off to rest (Taiwan CDC)⁶⁰.
- iii. A special map which shows locations visited by infected people has been developed (using an application)⁶¹ and are widely used by Taiwanese to inform them to more strictly monitor their health condition and take preventive measures (Taiwan CDC)⁶².

d. Economy and finance – two-phased plan of an economic relief package to give emergency aid to businesses and individuals (Cheng-chung, Su-ping and Kao 2020)

- i. special budget to help fund industries affected by the pandemic and to provide an additional money from government budgets and funds, such as the Employment Security Fund and the Tourism Development Fund, toward emergency relief and economic stimulus measures;
- ii. money for loans for businesses;
- iii. special unpaid leave of fourteen days for workers for taking care of dependent children;

⁵⁹ Available here: <https://www.cdc.gov.tw/En/Bulletin/Detail/6dggXSRhpZIPVY3sM6FZdg?typeid=158>

⁶⁰ Available here: https://www.cdc.gov.tw/En/Bulletin/Detail/IFawnwS_aHwQPQ0LOkzQjQ?typeid=158

⁶¹ The locations and time period are marked on a map accessible here: <https://bit.ly/2xyUgs3> (Taiwan CDC).

⁶² Available here: <https://www.cdc.gov.tw/En/Bulletin/Detail/cnMr83F6VKbvwwCDCmvrLvQ?typeid=158>

- iv. tax breaks and cutting rents to help local businesses affected by the coronavirus (Pei-chi and Yeh 2020) - tax deduction incentives for businesses providing workers with paid leaves;
 - v. businesses that have posted a 15 percent drop in monthly revenue from the same period of last year will be eligible to apply to postpone their tax payment deadlines by up to one year, while tenants of city government-owned properties will be given a 50 percent cut on their monthly rent (Ibid);
 - vi. 15 percent discount on water bills for local businesses operators and a 50 percent discount for hospitals and hotel owners that sign up with the city to become "quarantine hotels," to thank them for their help in combating the coronavirus (Ibid).
- e. Disinfection - coordination between the CECC, the Environmental Protection Administration, the Ministry of Education, and local environmental protection departments to disinfect public spaces around schools and school areas open to the public during winter break - Ministry of Education oversaw commissioning of licensed companies to disinfect universities and colleges (Wang and RH 2020).

4. Strategy and trends

Taiwan's overall strategy as of the onset of COVID-19 outbreak could be described as containment through suppression of the virus' transmission rate with an appreciation of actions required for a rapid and sustainable socio-economic recovery. Critical enabling elements in the implementation of this strategy have been lessons-learned from previous health emergencies (i.e. SARS 2003), which led to targeted actions for strengthening preparedness and capacity / capability-building initiatives. Overall, Taiwan's approach, similarly to China's, has been premised on highly effective interagency coordination and communication between institutions at all levels; well-developed national public health system and a highly developed technology sector; science-based, risk-informed and phased approach, and timely, transparent and focused public information, which ensured wide public support. Initially, Taiwan's measures (i.e. mass gatherings) are marked by a smaller degree of restrictiveness (recommended character) as compared to China.

Currently, and similarly to China, Taiwan is cautious of a possible rebound to COVID-19, specifically in light of the majority of new cases reported being *imported*. The country is increasing the restrictiveness of measures (i.e. public gatherings, school attendance, travels to the country).

Gradually, and after steadily reaching the peak of onset of the disease, the trend has been on stabilisation and recovery – focus on (virus) carriers from abroad and asymptomatic cases as possibly rebounding to an outbreak. Massive testing continuous and the CECC provided a summary of its main strategies (Taiwan Centers for Disease Control 2020):

- f. **Expanding testing capacity:** A national testing network has been established to improve Taiwan's testing capacity. The strategy allows the maximum testing **capacity per day to reach 3,800⁶³** specimens, and COVID-19 testing to be conducted in different areas to reduce wait time for test results;
- g. **Community surveillance:** A community specimen surveillance program and protocols of different levels of care for patients have been implemented to enhance community surveillance network.
- h. **Expanding hospital capacity:** Phased (4 phases) plans for healthcare preparedness in the designated emergency response hospitals and wards;
- i. **Inventory of clinical beds:** Health agencies constantly keep track of available beds for severe cases of COVID-19.
- j. **Requisitioning facilities:** to increase the number of designated sites for group quarantine.
- k. **Patient diversion and transfers:** ward segregation and transport of COVID-19 patients have been made to ensure appropriate care is given to patients.

⁶³ Previously – 1 300 per day (see earlier analysis: 20200327-COVID-19- Case study –TAIWAN), hence observing a more than three-fold increase in capacity.

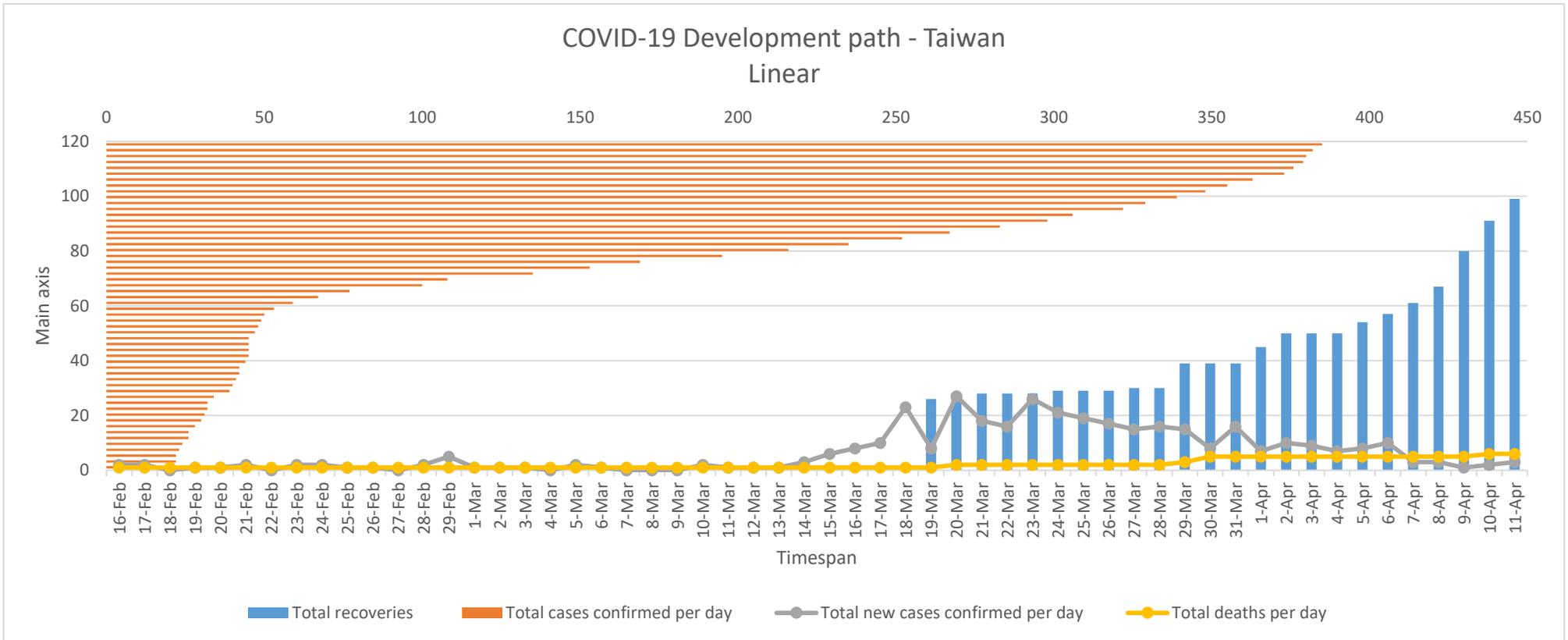


Figure 9

Figure 2 shows COVID-19 development path since first confirmed case until 12 April 2020. Noteworthy is the relatively low number of confirmed infections, the low and steady (no sharp spikes) pace of new confirmed cases, against a massive testing campaign, and the low number of deaths for the whole period.

Within the 13 – 23 review period, the main strategy remains **CONTAINMENT AND GRADUAL RETURN TO ECONOMIC ACTIVITIES** – suppression of COVID-19 transmission rate and state support for businesses leveraging on resilient systems (i.e. healthcare) and society. Focus on coordination and interagency cooperation – communication. Leveraging a strong national public health systems and a highly developed technology sector. Less strict measure of physical distancing as compared to China of a recommended character, including for mass gatherings. Stable fiscal position. Sustaining a high degree of trust in governmental institutions through, for instance, transparent and timely risk communication.

The general trend is of focusing on two imperatives: **stabilisation and recovery** – two imperative: **safeguarding lives and safeguarding livelihoods** – targeted and precise measures according to the specific risk level (i.e. risk assessment) of the epidemic situation – phased and cautious initiation of **stabilisation and recovery** – focus on (virus) *carriers* from abroad and *asymptomatic* cases as possibly rebounding to an outbreak. Massive testing of asymptomatic cases. A focus on (virus) *carriers* from abroad and *asymptomatic* cases as possibly rebounding to an outbreak. Recording mostly imported cases, with few indigenous ones; increasing the restrictiveness of measures (i.e. public gatherings and school attendance). A tendency for stricter distancing measures and bans on mass gatherings. Figure 3 and 4 below trace COVID -19 development path as of outbreak monitoring (16 February) until the current weekly update – 22 April 2020. It is evident that Taiwan is moving on a steady pace on the virus curve managing to suppress transmission and ensure the recovery of patients. The results are exemplary given the country's population (approx. 24 millions) and geographical proximity to, and economic and social relations with the epicentre of the disease.

Figure 2

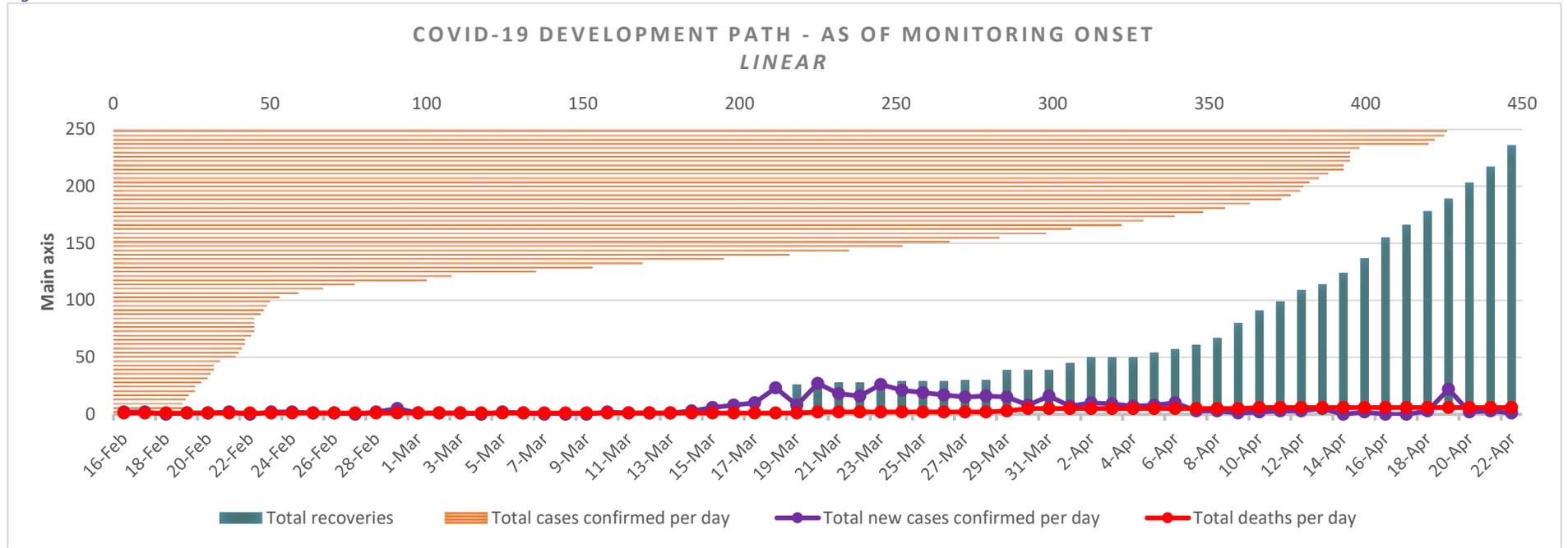
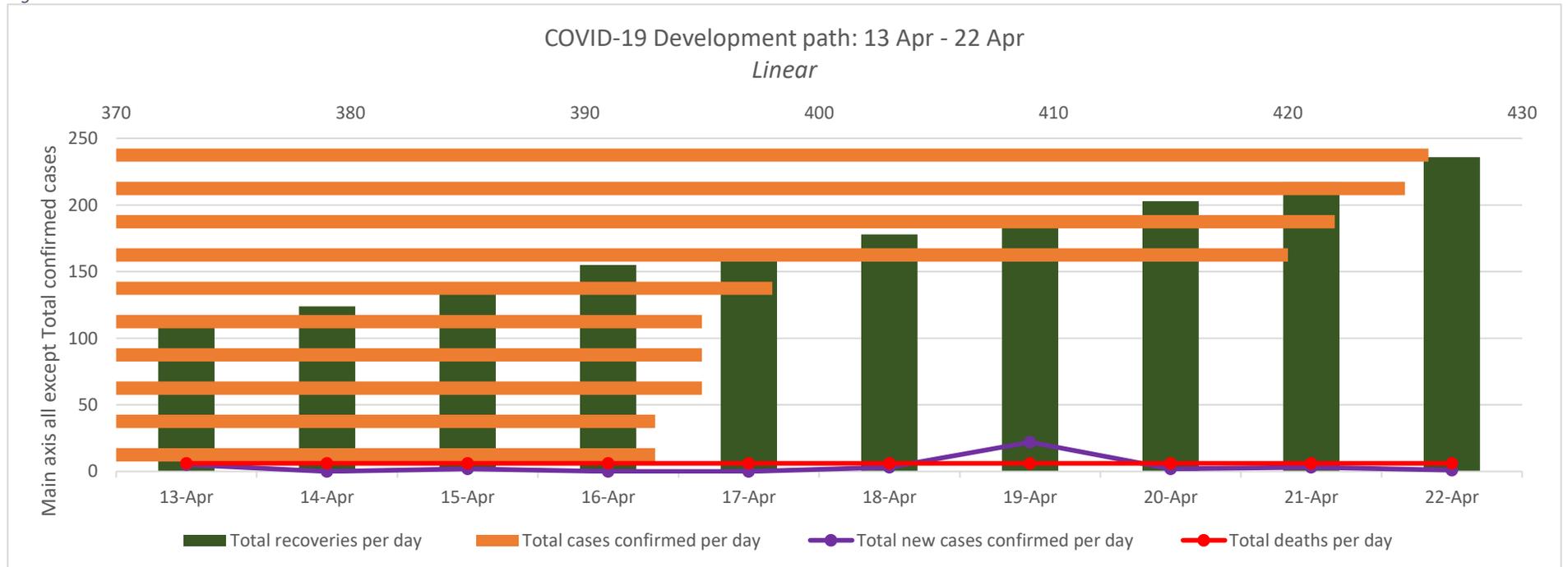


Figure 3



5. Conclusions

Taiwan's approach could be described as a combination of quick legally-based mobilization, organised institutional cooperation and coordination, emergency implementation of data analysis and new technologies, wide public trust, and transparent communication strategy aimed at containing the transmission of the virus.

Taking Taiwan's case, Bulgarian authorities should step up testing and improving tracking investigations while also strengthening data recording and analysis, including through the use of AI for big data analysis. Coordination of different systems providing separately critical information on medical status and travel history would evidently enable better case identification and subsequent quarantine, hence decrease in transmission rate. Achieving full population support and thereby increased respect for measures implemented, should be a matter of first order priority. The communication established is transparent and regular, however, cases of disrespect for hygiene instructions and worse – quarantine, signal that channels of communication should be diversified and messages tailored to reach out to specific societal groups⁶⁴ while also analysing data disaggregated by, inter alia, age, sex, social and economic status, ethnicity.

Supporting local production, as in the mask production example, is a beneficial approach and should be extended to include re-organisation of production of businesses currently not operating under standard routine to capitalize on capacities available for handling shortages caused by the crisis. Exploring 3D printing capabilities for the production of emergency equipment, i.e. ventilators, could also prove a salient measure in the emergency of the situation.

Taiwan is an example of a resilience in societal, political and economic terms, a country which despite political setbacks (WHO membership) has been responding to COVID-19 in a coordinated and cooperative manner. Well-developed and connected state systems (especially a robust healthcare system) has enabled the country to apply less strict physical distancing measures as compared to China, and yet to achieve a significant virus transmission suppression. Most prominently, a “combination of efforts by medical professionals, government, private sector and society at large have armored [the] country's defences” (Ing-Wen 2020). Taiwan's history from previous medical crises, namely SARS 2003, has created specific cultural and public habits enabling, augmenting and sustaining preparedness and response capacity. Taiwan was able to muster private sector support (production reorientation) in the production of protective and preventive gear, particularly masks, which to meet the increased critical demand during the crisis. Overall, the manufacturing, medical and technological sectors have created working synergies which to alleviate and redistribute the burden of the crisis. Notwithstanding, COVID-19 is causing

⁶⁴ Attention should be placed on communicating timely and clearly measures for addressing communities at risk, i.e. Roma communities, refugee camps, migrants, homeless people

tremendous pressure on social life and the economy, which Taiwan is addressing in a cautious and tailored manner (Stokes 2020).

Taiwan's example generates a key message, which highlights the importance of phasing out measures against a stable suppression of the virus transmission rate. The latter requires continuous and targeted risk assessment accounting for regional / area / community / sector specificities.

8. General Considerations⁶⁵

Poor health status and polluted environment (environmental degradation), particularly air quality (i.e. smog levels in big cities) have been widely reported as increasing the negative effects of COVID-19. Improved environmental management and healthcare systems would prove sound preventive measures for any future pandemics and therefore should become a short-to long-term priority for governments worldwide. Climate change efforts should also be ramped up with a view to ensuring long-term solutions for increased overall human security. The latter, as the dominant focus on people-centred actions in response to COVID-19 shows, should be further explored particularly in light of governmental approaches to future crisis management of any kind with specific attention to societal resilience.

In response to COVID-19, political narrative across the globe has invoked “war” rhetoric, thereafter supposing a war-like operational organisation. For instance, China has “established a quasi-wartime work mechanism led by the country's top leader”; UK's Prime Minister Boris Johnson has “enlisted” the nation in a televised address (BBC 2020); President Trump is fighting “an invisible enemy”. However, little has been mentioned about the role of the military in the “fight” against COVID-19, or about whether military *modus operandi*, particularly in terms of operations in response to crises, could provide a model for decision-making and planning, mobilisation and allocation of resources, and organisation and distribution of tasks among key stakeholders for the different stages of the crisis. In terms of the role, specific attention should be paid on military direct and indirect involvement in collective response measures, minding specific requirements within areas such as, inter alia, CIMIC and the protection of civilians (PoC). Should there be an examination of the analogy with a military approach in response to a crisis, something which remains a matter of discussion⁶⁶, then what could prove of particular relevance to the demands of the crisis at hand is the model for distribution of tasks and activities among the tactical and the operational and strategic levels⁶⁷. Burden-sharing is what enables the military to simultaneously attend to the imperatives of the current

⁶⁵ Identical with those appearing on *COVID-19 Response: China case study* (13 Apr 2020) as both reports were finalized at the same time.

⁶⁶ German President Frank-Walter Steinmeier explicitly pointed out that COVID-19 “is not a war” and that “[n]ations are not against other nations, soldiers against other soldiers”. He emphasized the COVID-19 “is a test of our humanity” (Carter 2020).

⁶⁷ A thought-provoking piece on this analogy is provided by Assaf Orion (Orion 2020).

situation without losing sight of the desired end state⁶⁸. Critically important is the capacity to identify markers that signal transiting from one stage to another, that is, when COVID-19 restrictive measures could and should be phased out and what should take their place by means of recovery and stabilisation. Noteworthy, from a military perspective, a centre of gravity is what keeps different elements together and towards intended effects. As Orion (Orion 2020) argues, in the response to COVID-19 public perception forms a centre of gravity of societal resilience, and transparent and timely communication has indeed been a key element of success stories coming from countries like Singapore, Taiwan, and South Korea.

COVID-19 has surfaced shortcomings have put individual states, and the international community writ large, into an ordeal of scale and intensity that overwhelmed existing coping capacities. Thus, COVID-19 has put values, principles, mechanisms and procedures to a stress test, which has highlighted a need for a (over)due critical examination of what constitutes *normality*⁶⁹. COVID-19 has been a test for resilience from the personal, through societal, to organisational levels. Various responses across the globe reveal that the pandemic strained extant coping capacities of not only underdeveloped, poor or war-torn countries, but likewise, if not more severely – of the most advanced (economically and technologically) members of the global community. The lack of preparedness leads to another area, where underperformance surfaces - foresight and strategy. Despite the appreciation that pandemics carry a high possibility / high intensity risk of occurrence, planning for adequate preparedness and response, both at national and international levels, has significantly lagged behind requirements imposed by a global pandemic, and statistics on the rapid spread of COVID-19 and the inability to meet demand for protective and emergency equipment⁷⁰, serve to ground this statement.

The lack of supply in a crisis of a global humanitarian nature also shows that humanitarian aid at present is not geared towards epidemics or pandemics, but rather to other situations (i.e. conflicts) identified as a primary cause for humanitarian emergencies (Gong 2020). Therefore, COVID-19 serves as a reminder for the international community to review humanitarian inventory so as to be better placed to respond to similar situations in the future (Ibid). When it comes to collective response, COVID-19 poses yet another critical test, one on solidarity and trust from the national and local, through the regional, and to the international level. Understandably, trust in institutions falling short of upholding and acting upon underlying principles of solidarity and support in times of crisis significantly dwindles. Likewise, trust in and support for projects which fail to legitimise their *raison d'être* should also be expected to teeter.

⁶⁸ In the case of COVID-19 response this could, inter alia, concern the health (both physical and mental) and wellbeing of the population, including respectively state of the economy, the institutions (Orion 2020).

⁶⁹ Political discourse has been focused on “a return to the normal way of living”, which, given the lessons already identified, could mean a return to a baseline – social, political, economic, that exhibits critical shortcomings in enabling adequate preparedness for, prevention of and response to a pandemic.

⁷⁰ As Gong argues, the “inability to provide adequate protection for frontline staff [erodes] public confidence in the government’s ability to tackle the epidemic successfully” (Gong 2020) thus undermining efforts to contain the spread of the disease.

9. General recommendations and conclusions for Bulgaria

Taiwan's approach to and measures against COVID-19 shows that in the short to medium-term the Republic of Bulgaria should continue implementing strict distancing measures within an overall strategy of containment⁷¹, and these measures should be positioned on a firm legal foundation. Laws and guidelines for health emergencies of the kind should be updated and improved, and a specific command and control emergency structure should be specified and should be easily activated when required. Simultaneously, discussion on long-term effects of the emergency / crisis should be taking place among relevant stakeholders, including the civil society. An important long-term consideration which would require wide coordination and cooperation, should address bottlenecks, as showcased by the current crisis, within existing socio-economic models, particularly in Europe. Specifically, attention should be placed on (building / strengthening) societal resilience, and societal cohesion, solidarity (particularly among partners within various fora), and nurturing a collective consciousness – all of which to increase the preparedness of societies for similar future scenarios.

Response organisation, i.e. distribution of functions and related tasks, has shown the importance of a plan-ahead team (Hirt 2020) in decreasing the burden on decision-makers while ensuring foresight at all stages of the crisis. The plan-ahead team “plans across all horizons simultaneously” and “pulls together information, builds scenarios, devises actions for each scenario, then makes recommendations” (Hirt 2020) not dealing directly with the emergency. Such a distribution of work is founded on a clear understanding of the overwhelming capacity of a medical crisis, hence the need to involve actors in a targeted way. This has turned into a well-established practice in Taiwan and should become a lesson-learned for Bulgaria likewise.

⁷¹ Mitigation strategy has triggered a controversial discussion on “herd immunity” for COVID-19. The lack of medically confirmed immunity after recovery from the disease, coupled by mutation rate estimates for RNA-based viruses (some argue 100 times faster than DNA-based viruses) turns such a strategy into a very risky and potentially deadly enterprise particularly enabling further virus mutations (Pueyo, Coronavirus: The Hammer and the Dance 2020).

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Annex 3 Japan

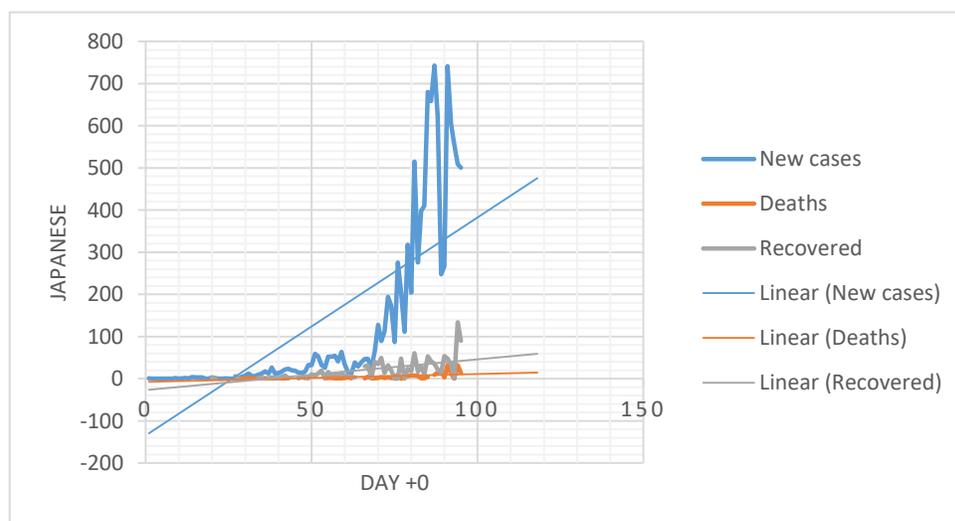
The Beginning

The 2019–20 coronavirus pandemic was confirmed to have spread to Japan on 16 January 2020 from China. A 30-year-old Chinese national who had previously travelled to Wuhan developed a fever on 3 January and subsequently returned to Japan on 6 January. He tested positive during a hospital admission between 10 and 15 January. He had not visited the Huanan.

The number of infections is rapidly increasing, primarily in urban areas, with clusters of infected patients reported one after another in areas such as Tokyo and Osaka. The number of patients with unidentified route (link) of transmission is also increasing. The effective reproduction number nationwide exceeded 1 as of March 15, and they must closely monitor the development of the virus. The number of infected patients suspected of entering from abroad increased notably from around March 11, and accounted for nearly 40% around March 22 and 23; however this rate has recently been falling. Lately, not only the younger generation, but also middle-aged and older people are source of patient clusters. As a recent trend, there are clusters in hospitals, elderly and welfare facilities, returnees from graduation trip to overseas, participants in evening meetings, as well as groups of chorus and dancing. There is not explosive spread of infection at the level observed in other countries. However, clusters of infected patients are reported one after another primarily in urban areas, and the number of infected patients is increasing rapidly. There are areas where the medical service system is becoming stretched, and the medical service system urgently needs reinforcement. Dysfunction of medical services may happen even before an explosive spread of infection occurs.

Statistics

Population Age	% 0-9 y	%10-19	%20-29	%30-39	%40-49	%50-59	%60-69	%70-79	%80+
Total: 127,202,192	11	13	15	19	9	10	12	5	6
Death rate	0,2	1,5	3,5	4,6	10,7	17,4	17,7	22,4	22



The country has 11.512 registered patients, of which 1356 are cured, 281 died and 9875 active cases.

Measures against COVID 19

After the COVID-19 outbreak on the cruise ship Diamond Princess, the Japanese government shifted its focus from a containment policy to a prevention and treatment one because it anticipated rising numbers of community spreads. This policy prioritized the creation of a COVID-19 testing and consultation system based on the National Institute of Infectious Diseases (NIID) and the government's existing 83 municipal and prefectural public health institutions that is separate from the civilian hospital system. The new system handles the transfer of COVID-19 patients to mainstream medical facilities to facilitate patient flow, triage, and the management of limited testing kits on their behalf to prevent a rush of infected and uninfected patients from overwhelming healthcare providers and transmitting diseases to them. By regulating COVID-19 testing at the national level, the Abe Administration integrated the activities of the national government, the local governments, medical professionals, business operators, and the public in treating the disease.

On 1 February, the Ministry of Health, Labor and Welfare instructed the municipal and prefectural governments to establish specialized COVID-19 consultation centers and outpatient wards at their local public health facilities by the first half of the month. Such wards would provide medical examinations and testing for suspected carriers of the disease to protect general hospitals from infection.

From 3 February, Japan would not admit anyone who had had history of travelling to and from Hubei Province or had a Chinese passport officially issued from Hubei. In addition, non-Japanese travelers were required to fill out health declaration questionnaires on whether they had (or would have) travelled to Hubei within the next 14 days.

On 5 February, PM Abe announced during the Fifth Meeting of the Novel Coronavirus Response Headquarters that the government would begin preparations to strengthen COVID-19 testing capabilities

On 12 February, Japan announced entry restrictions for anyone who had travelled to and from Zhejiang or had a Chinese passport issued from Zhejiang.

On 13 February, a woman in her 80s died in Kanagawa Prefecture, next to Tokyo, marking the first death from COVID-19 in Japan. She was the mother-in-law of a cab driver working in Tokyo who was also confirmed positive for the virus.

On 27 February, Shinzo Abe requested closures of all elementary, junior high, and high schools to curb the spread of the infections from 2 March to the end of spring vacations, which usually conclude in early April.

On 5 March, Japan announced new quarantine restrictions to be enforced for all visitors coming from China and South Korea. Shiga Prefecture also announced its first case.

On 6 March, South Korea protested against the quarantine measures for South Koreans going to Japan by suspending visas for Japanese citizens travelling to South Korea.

On 16 March, NHK reported that the Japanese government plans to expand entry restrictions to foreigners from four new countries. They will apply to three areas in Spain (including Madrid), four areas in Italy (including the northern region of Liguria), Switzerland's Ticino region, and all of Iceland.

On 07 April a state of emergency is in force in Tokyo and six other prefectures in Japan

12.04-23.04.2020 The rise of newly infected coronaviruses in Japan over the past few days (see chart) has necessitated a declaration of a state of emergency in the country. The measures enter into force on 17.04.2020. and will continue until the end of the Japanese holidays of the so-called "golden week" (until 6 May 2020). The state of emergency is necessary to stop the movement of people across borders and to impose a social distance in order to overcome the national crisis with a nationwide effort. The country is also

preparing a program of financial assistance of 100,000 yen for every Japanese citizen (Japan's population is approximately 120,000,000)⁴

Even in a state of emergency, the Japanese government will work to minimize the impact on social and economic functions and will not take measures such as "blockade" (city blockade) as is done in other countries⁵.

One of Japan's main anti-virus policies is to encourage work from home. This aims to create a social distance

Plans for distance learning for students of all ages have been drawn up. Unlike many countries, Japan did not suspend school hours and, according to a number of analysts, this has made the situation in the country worse. One of Japan's main anti-virus policies at the moment is to encourage home-based work and distance learning. This aims to create the necessary social distance.

Japan has extended the deadlines for individual income, consumption, and gift tax filing and payments indefinitely, and taxpayers are advised to pay and file when they can. Businesses with at least 20 percent decline in revenue since February may delay consumption, corporation, and income taxes for one year. Japan gives relief to companies whose sales have decreased at least 50 percent for a one-month or longer period by permitting the cancellation of taxable company status for consumption tax purposes. Japan has allocated ¥446 billion in response to the pandemic⁶.

Financial measures

Japan has passed two packages of small business loans, one \$4.6 billion package in February, and a \$15 billion one on March 11. The most recent spending bill also included \$4 billion for a number of programs including boosting mask production and stopping the virus from spreading to nursing homes.

On the monetary side of things, the Bank of Japan announced a significant increase in QE on March 16. It said it would be doubling the rate at which it was purchasing ETFs from \$56 billion a year to \$112 billion, and also increased purchases of corporate bonds and commercial paper.

Sources

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Annex 4 South Korea

The first confirmed case of a coronavirus in the country is on 01/20/2020. The infected woman is 35-year-old Chinese who traveled from Wuhan (China) to the airport near Seoul (South Korea). She was isolated for treatment. Using the experience so far in combating the epidemic, the government has used strict rules to track affiliates, along with mass testing. The government measures are indicated effective until the middle of February, when the so-called PATIENT-31 didn't follow the isolation guidelines and participates in a public liturgy at a church in Degu.

After that the large percentage of those infected in South Korea are associated with 2 major clusters - the aforementioned church and a nearby hospital in the city.

COVID-19 is not the first infectious disease with an epidemic risk facing South Korea. In 2015, another coronavirus, Middle Eastern Respiratory Syndrome (MERS), broke out in the country. Emergency quarantine measures were then imposed and a new law to control infectious diseases subsequently came into force, which increased the country's capacity to cope with future epidemics. The law allows all epidemiologic health services to require data from mobile operators for the location of confirmed infected people, which is compared with data from public video surveillance systems and credit card statements. In this way, it is possible to quickly identify the public places visited by the infected and to track all their contacts.

For years, South Korea has been systematically investing in high numbers of hospital beds for infectious diseases. In the epicenter of the contagion - Degu, the beds are quickly running out, and it is more for the quarantine places than those for intensive care, and there are no deficits in the beds for severe cases.

As soon as Chinese scientists first published the genetic structure of the new virus, four pharmaceutical South Korean's companies began developing test kits, all long before the country had its first outbreak. The first case of a coronavirus infected in South Korea is from 20 JAN. 7 days later another four have already been infected when the government holds a formal meeting with representatives of pharmaceutical companies in the country. The goal was quickly development of infection detection tests. Only a week later, the first test developed is already available. Thanks to the facilitated procedure for approving new diagnostic tests (procedure written in the new law after MERS), South Korea has a total of seven types of approved coronavirus tests, most of which are manufactured by private laboratories and purchased by the state.

The experience that can be drawn from the actions of the authorities in South Korea against the spread of COVID-19 can be described as a combination of:

- Early mass testing and care by the Government;
- High transparent institutions' activities;
- Early information campaign and high public awareness;
- Efficient use of new technology;

- Supporting the business.

Early mass testing and care by the Government

Within weeks of the outbreak of the epidemic in China, the newly developed COVID-19 test kits, which show results in only six hours, were urgently approved by the government and made available to clinics. South Korea's strategy was to perform as many tests as possible as early as possible, reaching 15,000 tests a day. Early detection allows for early treatment, and widespread testing means that mild or asymptomatic cases are more likely to be identified, which increases the total number of cases so that the proportion of dying decreases.

The state covers almost everything: the cost of testing for suspected, and the confirmed cases - the full cost of treatment, although most hospitals are private. Thus, most cases of the disease are caught at a relatively early stage, which partly explains the much lower mortality than the world average. Patients with mild symptoms stay at home, receiving financial compensation based on their income, as well as a package of vital products - food, soap, disinfectants and more. The rich healthcare system also allows for very good conditions for patients under quarantine who are treated in sanatoriums compared to "Five star hotels".

A state's decree prohibits the export of local mask production. The state purchases them from the producers and sells them at a reduced price to the citizens. They have rights to two masks (N-95) per week – had been given by a scheme that prevents queues.

Testing fees are \$ 134, but are free for people connected with confirmed cases - or those who test positive, which encourages population participation in measures.

High transparent institutions' activities

The South Korean government has won public participation in anti-virus measures and activities through transparency and timely and accurate information. Details of the movement of confirmed anonymous patients are uploaded on state and municipal websites and shared through the news. The places that infected patients had visited - restaurants, pubs, parks - are published. In this way, the public is additionally aware of how to minimize the risks of infection. And the public places visited by the COVID-19 infected people are closed for two days for complete disinfection, as is done on every subway train after each complete route.

Early information campaign and high public awareness

The main measures in the country are aimed at raising public awareness of the ways in which the infection is transmitted. With the first patients discovered, a massive information campaign is being launched about the measures that anyone can take to minimize the risk to themselves and others - compliance with the so-called Social distance and personal hygiene.

In addition, Koreans adhere to a very rigorous masking discipline built in previous epidemics in Asia (MERS, SARS) over the last 20 years. More over, most public buildings and stores do not allow people without mask entrance. And without formal quarantine, the

establishments and the streets become empty - everyone orders food from vendors and tries not to go out unless necessary. This leads to quiet streets and half-empty shops and restaurants.

Efficient use of new technology

The government approach is - massive and innovative tests combined with the widespread use of mobile applications and social networks.

In South Korea, anyone can find out where the infected people were and avoid these places. This is done through special mobile applications. An automatic notification system has been introduced (the phone rings in a noticeable way, regardless of its settings), which is activated through people's smartphones when they approach an area where there has been a recent confirmed infection. The state also sends messages to anyone who owns a smartphone, urging them to avoid gathering large groups, keeping distance, regularly disinfecting homes and ventilating. The automatic messages on mobile phones are also added timely information on the places where new infections are located, and the routes of the infected available with link.

With another installed mobile application, authorities monitor the movement of infected people.

Supporting the business.

South Korea's measures to support business were immediate, very fast and decisive. The additional \$ 1 billion budget voted on has been set up to support small and medium businesses. The aid takes the form of almost interest-free or low-interest loans, as well as special support for payment of wages. The government also deferred state claims.

Commercial and trade activities in South Korea has not been completely ceased, and some non-supply-related operations are operating under near normal conditions. People respect the most important thing - the requirement for social distance. Many of the employees work from home and the services are the most affected.

On 20th of April the Ministry of Economy and Finance announced Comprehensive Economic Policy Response to the COVID-19 Pandemic. (annex A)

Population Age	% For all ages	0-9 years	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70-79 years	80+ years
Total case	10480	130	558	2856	1115	1399	1926	1327	694	475
%	100	1.24	5.32	27.25	10.64	13.35	18.38	12.66	6.62	4.53
Total Deaths/	211	0	0	0	1	3	14	29	63	101
%	100	0,00	0,00	0,00	0,47	1,42	6,64	13,74	29,86	47,87

11 APR 2020 / Total population: 51,71 million

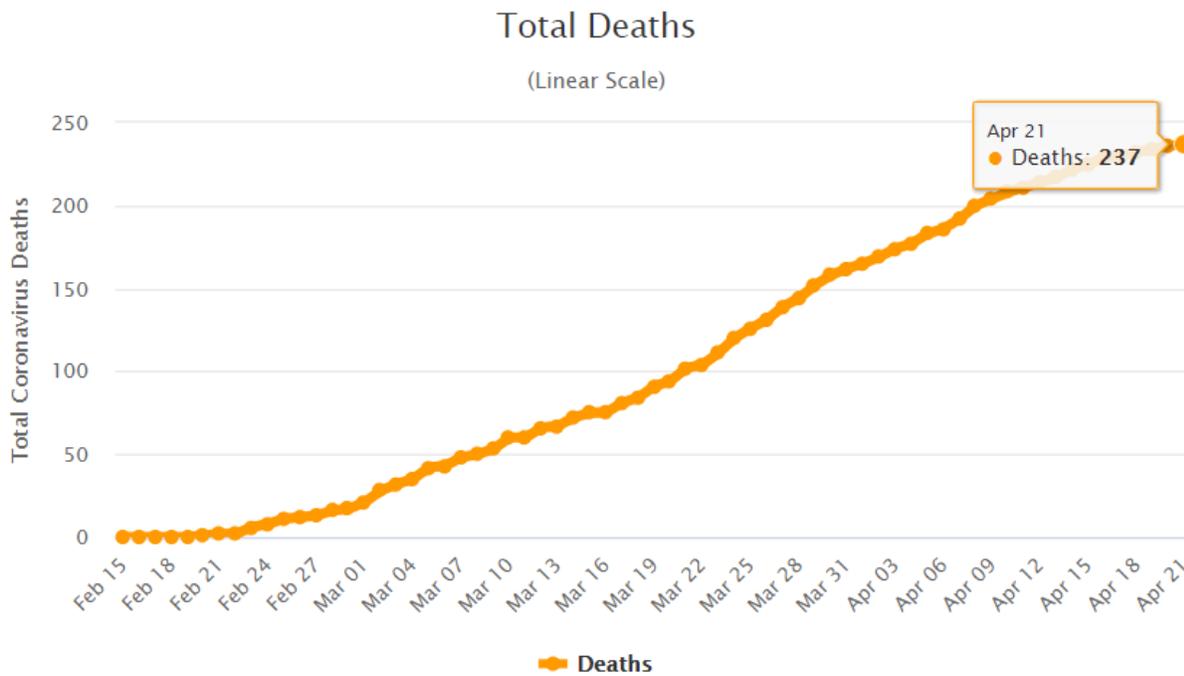
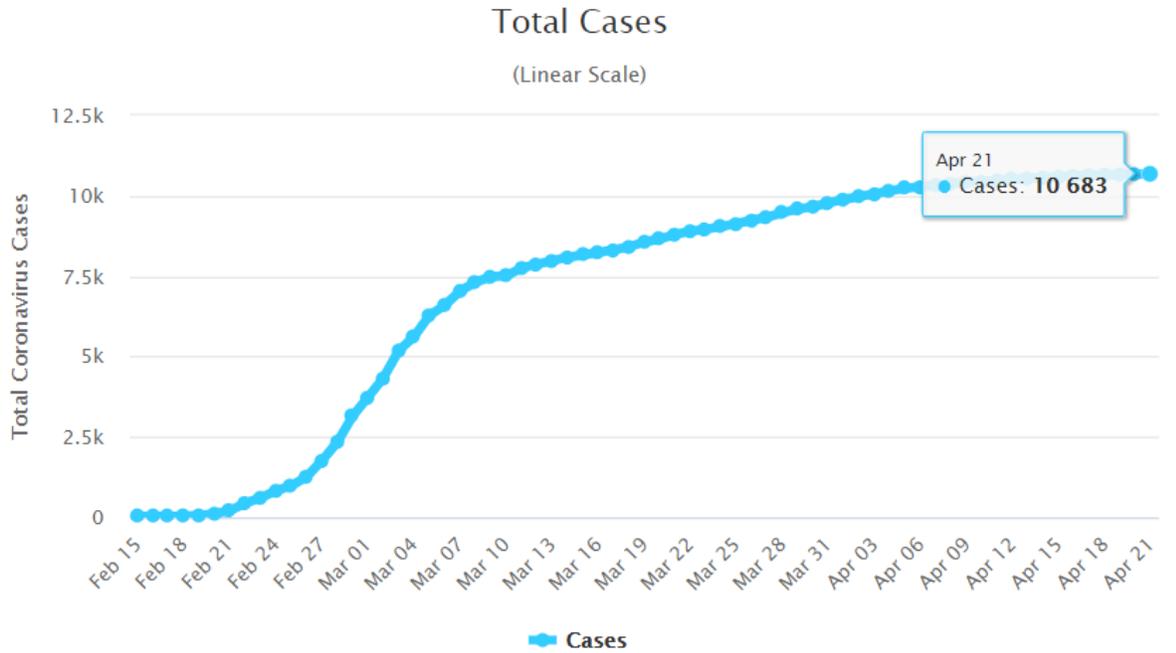
As of 17 April, of the 7,829 cases that have been discharged from isolation, 163 (2.1% of 7,829) have tested positive again after being discharged from isolation. On average, it took 13.5 days (min 1 day; max 35 days) between discharge from isolation and retesting positive. Despite that some of restrictions concerning visiting churches and some sport events are eased, but social distancing measures are prolonged till 5th of MAY.

The Korean Center for Disease Control and Prevention (KCDC) reports that put a lot of efforts in order to make some scientific researches concerning investigation of the virus, as follows:

- the virus was more likely to reactivate rather than re-infect patients.
- South Korean scientists have stated that the virus can produce vinegar latent in human cells without being detected, and can be activated again.
- constantly monitor for gene mutation of the virus that causes COVID-19. So far no significant such mutations have been observed.
- prepared a protocol for the so-called Group Testing. It mixes the biological material of a group of people and undergoes a single test. With a positive result, individual testing of people is done. This test is suitable for testing a large group of people who do not show symptoms. Save time and money.
- Experiments on the methods of transmission of the virus have revealed that there is no way to transmit it other than by droplet.
- Willingness to develop the vaccine in collaboration with other regional and global organizations.
- announced its plans to participate in domestic clinical trials of COVID-19 DNA vaccine candidate in cooperation with other organizations including the International Vaccine Institute. - Clinical trials (phases I and II) will be conducted in Korea using Inovio's COVID-19 vaccine candidate (INO-4800), which is under clinical trial in the US since 6 April.

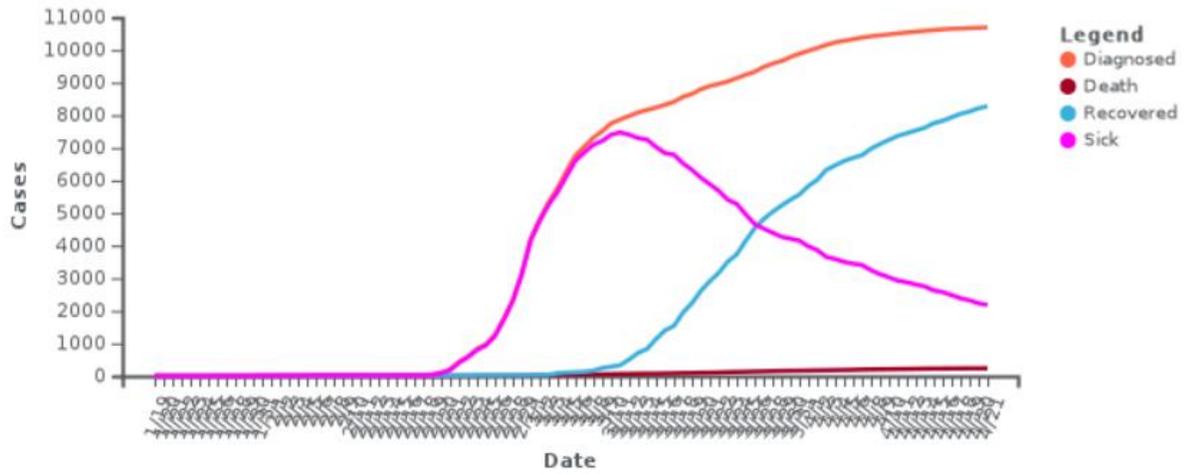
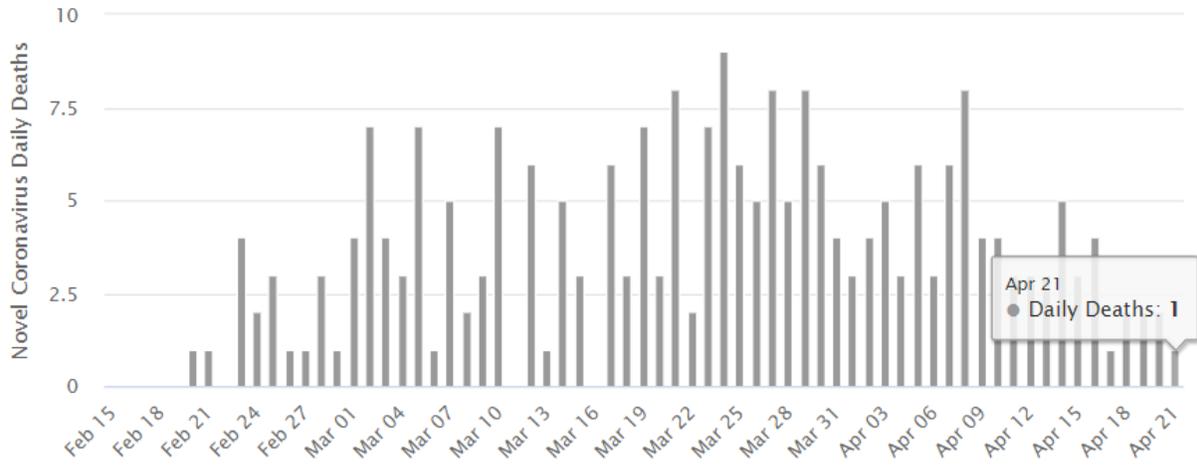
According to a survey people are concerned about going back to the normal life which will involve massive close contacts after termination of enhanced social distancing measures, due to the shock and lessons learnt from last February and March. A survey of 1,000 people highlighted that 65.6% of the response said 'yes' to a question of; "The risk of infection will increase to my family and I if we go back to our everyday routine such as going to work or school after termination of enhanced social distancing measures" ('No' was 10.4%). - On the other hand, 72.1% said 'yes' to a question asking their willingness to accept the 'new normal life' which is embracing social distancing in daily lives. - When they were asked about areas to improve in order to create an environment that incorporates routine life and social distancing, 32.9% answered; "cultivating social norm and culture that promotes social distancing as part of

our everyday routine” was important. In addition, 24.9% also stated the systematic provision which allows people to “stay at home when they are sick“ was important.

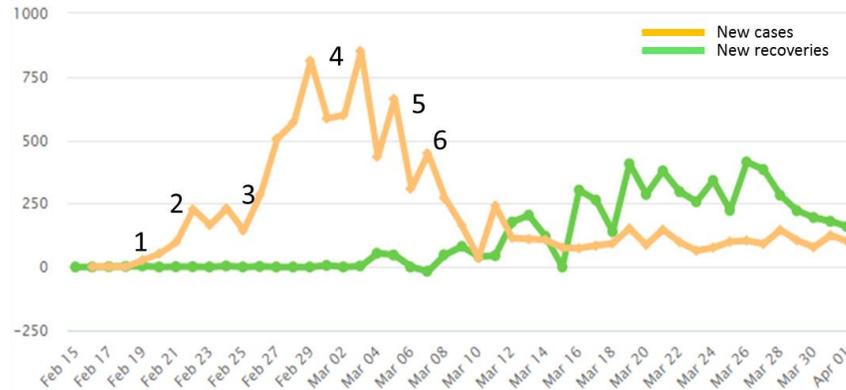


Daily Deaths

Deaths per Day
Data as of 0:00 GMT+0



1. 18.FEB COVID-19 infected person attended a church. Outbreak of the epidemic. Universities are closing doors.
2. Kindergartens, primary schools and high schools close the doors.
3. 26.FEB Mass testing begins - between 10,000 and 15,000 people daily. Mandatory use of thermal cameras at the entrances of buildings.
4. 95 countries restrict the entry of people with South Korean passports.
5. All infected people are isolated in special buildings. Information from their phones and credit cards serves to identify related persons.
6. The use of special software that monitors the quarantined and informs people about dangerous places.



Actions of large business.

Continued efforts by the authorities to curb the spread of the disease in South Korea have made the country an example of successfully managing the spread of the pandemic. Mass testing and the use of innovative mobile applications are one of the reasons for the successful fight against the infection, but on the other hand, the high awareness of the people, their discipline and belief in state measures contribute to the success.

Economically speaking, the country is one of the world leaders in electronics (Samsung and LG) and automobiles (Hyundai and KIA). During the pandemic, the management of the company remains flexible in its approach and provides the necessary conditions for continuous work, in compliance with state guidelines for disinfection, isolation, restriction of business trips, encouragement to work from home. However, Samsung and LG closed their production in countries outside South Korea, and this was in compliance with the restrictions imposed by the respective countries (Russia, China, Brazil, India, USA, etc.) where the factories are located. Automotive production was largely influenced by China's source of raw materials, which cut off supplies.

After Samsung reported infected workers, management announced that it would temporarily relocate smartphone production from South Korea to Vietnam. Over the last decade, the tech giant moved much of its smartphone production to Vietnam, where it makes more than 50% of its phones, and so far has had virtually no production disruptions. At the same time, following a confirmed case of an infected employee, LG has temporarily shut down production at one of its workplace disinfection plants.

Despite difficult times and financial constraints, Samsung made a \$ 29 million donations to the Government. Despite money this includes face masks and breathing aids. The company has donated some tablets to educational institutions to provide to children for closed

schools. The company has provided its training center to medical authorities to be used as a care center. Samsung's engineers worked on refining the process of developing and manufacturing masks in South Korea. As a consequence, such a South Korean company doubles its daily output.

Samsung has created teams of people (Samsung COVID-19 task force) that keep track of current pandemic information and provide it to employees, as well as tips for preventing and limiting infection. Samsung also provided a warranty extension for their products, with an expired warranty during the emergency and the company's services were unavailable.

An official update on the government's anti-virus activities is posted on the official Hyundai website. A new way of testing for coronavirus is presented. These are mobile teams equipped and deployed at designated locations on major roads. The idea is that anyone who wants can go with their own car without getting out of it to be sampled and within a few hours to be informed of the result. This avoids the inconvenience of going to the lab, wasting time and causing stress, while avoiding many people in one place.

Hyundai executives say they are opening two rehabilitation centers for COVID-19 patients in South Korea. And in the hardest hit areas of the country, together with the National disaster management association, they provide protective care and resources. Free sanitation for cars, public places, and buses are provided.

A special financial program has been prepared whereby clients of the company can receive interest-free loans, compensation for payment upon dismissal, as well as exemption from payment of non-installments when buying a car for leasing.

The measures imposed in the country are in line with the recommendations of the World Health Organization concerning social distance and hygiene requirements:

- In Seoul (9,7 million population) public spaces were closed on 21 FEB, when the infected people were just 150 across the country.
- Cancelled all major sports events very soon after discovering the first major eruption of the disease in country.
- Banning large gathering.
- Involvement of the army in support of state efforts in control and disinfection activities.
- Mandatory disinfection after the end of working hours in places with higher attendance.
- Mandatory wearing of face masks, with access to public transport and entry into business buildings denied with no mask on.
- Thermal cameras are installed at key locations and entrances of business buildings to monitor the temperature of people.

- Kindergartens, schools and universities are closed.

The measures, coupled with mass testing, high self-awareness and human responsibility, and yet not a total ban on street traffic and city blocking, make South Korea one of the best in the fight against the virus.

The South Korean government is preparing a report on how the spread of COVID-19 will affect unemployment in the country. The report will be published after 14th of April. At this point, it is clear that the number of newly registered unemployed is 150,000. That is 25,000 more than the same period last year.

For comparison in Bulgaria the newly registered unemployed for this period is 61 600. The table below presents a comparative table for newly registered unemployed in Bulgaria and South Korea:

	Bulgaria	South Korea
Population	6,948,445	51,269,185
Working age population	4,481,747	37,323,966
% of the population	64,5%	72,8%
Newly registered unemployed from the onset of the pandemic (till 10.APR)	61,600	150,000
% of the working age population	1,37%	0,4%

SOME CONCLUSSIONS:

It is difficult to expect that comparable measures with those in South Korea can be implemented in Bulgaria. With equal proportions in terms of early detection and prevention, 15,000 tests per day in South Korea are equivalent to 2,000 tests per day in Bulgaria to meet their early detection standard.

The smaller number of people tested means that the infected are detected much later - when they have already infected others. For a month and a half in BG people were not tested if they had no symptoms and the idea was that "the test would be negative". Given that more than 2/3 of all tested positive are symptom-free, starting mass testing is critical to limiting the infection.

South Korea, as a wealthy country, has been greatly assisted by private business in its efforts to tackle the contagion. Large manufacturing concerns, encouraged by their desire to take care of their customers, provide both personal care for people as well as large sums of money, materials and buildings, which are also helpful to local authorities.

Despite optimistic results in reducing the number of infected and low mortality rates (2.1%), the authorities are aware that the virus will circulate for a long time. This provides an incentive to develop and apply even rigid rules for the detection and isolation of both patients and related persons, as well as the care of those who are already ill.

In spite of the high discipline of the society, it seems that there are people who underestimate the danger and violate the rules for quarantine. It also shows the strong will of the authorities to prevent massive contagion by introducing more severe penalties for quarantine violators as of 05.04.

South Korea's experience from previous similar crises enables the country to implement effective measures that are subsequently applied by other countries, such as good practices. As a leader in the fight against the virus, and the international assistance it provides to other countries, South Korea is well placed to establish itself as a politically and economically strong global player.

Re-infecting people who have already contracted the disease is a trend that would put the international community at great difficulty in controlling the spread of the disease.

South Korea shows a very active fight against the spread of the crown in the whole world. Indicative of their progress is not only providing effective support to other countries, but also conducting various virus-related studies.

In the last 2 weeks (10.04. – 22.04.), 50% of the positive people tested came from abroad. The large number of "imported cases" require stricter restrictions on access for people from abroad. Measures taken in this direction are in addition to successful action to limit the incidence of cases in the country.

1 EURO= 1336.08 KRW (22.04.2020)



Comprehensive Economic Policy Response to the COVID-19 Pandemic

Stimulate the Real Economy	Avoid Financial Market Volatility	Additional Measures
KRW 32 trillion	KRW 100 trillion	KRW 20 trillion
<ul style="list-style-type: none"> 1st measures (KRW 4 trillion) 2nd measures (KRW 16 trillion) 3rd measures (KRW 11.7 trillion supplementary budget) 	<ul style="list-style-type: none"> Financing Support for Businesses KRW 58 trillion Market stabilization funds KRW 42 trillion 	<ul style="list-style-type: none"> Emergency relief efforts KRW 9.1 trillion (provisional) Social security contribution support 0.9 trillion won Export financing support 6.0 trillion won Venture and startup financing 1.9 trillion won SMEs support 2.2 trillion won

➔ **A total of KRW 150 trillion*** worth of supports have been unveiled through the 4 rounds of Emergency Economic Council Meetings

KRW 150 trillion = (KRW 32 trillion (March 19) + KRW 100 trillion (March 24) + KRW 20 trillion (March 30)) + KRW 5 trillion¹ (April 8) – KRW 8 trillion²

1. 5 trillion won = gift certificates (KRW 3.5 trillion) + BOK's Gov't bond purchases (KRW 1.5 trillion) + job retention support (KRW 0.4 trillion)
2. KRW 8 trillion of the KRW 12 trillion worth of small business loans as it overlaps with other measures

※ Extra Support Measures

- 1 Social security contribution and tax payment deferrals (KRW 27.1 trillion)**
 - Social security contributions and electricity bills (KRW 8.7 trillion)
 - VATs and corporate taxes (KRW 6 trillion)
 - Income taxes (KRW 12.4 trillion)
- 2 Loan and guarantee extension (KRW 241.3 trillion)**
 - Commercial bank loan extension (KRW 200 trillion)
 - Exim Bank loan extension (KRW 11.3 trillion)
 - Korea Trade Insurance Corporation's guarantee extension (KRW 30 trillion)
- 3 US \$60 billion (KRW 77.1 trillion) from Korea-US swap line**
- 4 Frontloaded investments and prepayment (KRW 3.3 trillion)**



Extra Measures equivalent to a total of KRW 349 trillion

Supports for Those affected

Supports for Small & SME Enterprises



- Measures to encourage rent cuts
- VAT cuts for businesses KRW 0.7 trillion
 earning 80 million won or less a year
- SME R&D support KRW 2.2 trillion
- Wage support
 Increase small business wage support (by KRW 0.5 trillion) and job retention support (by KRW 0.5 trillion)
- Support for business reopening KRW 0.3 trillion
 Those visited by the COVID-19 infected (KRW 3 million each), those closing businesses (KRW 2 million each)

Industry-specific supports



- Airlines** (airplane icon): Emergency financing for low cost airlines, landing fee cuts
- Tourism** (tourist icon): Loan repayment deferrals and loan extensions, new unsecured loans
- Shipping lines** (ship icon): Emergency financing, cuts in port charges, including facilities rental charges
- Performing Arts** (stage icon): Production support and admission fee support
- Dining out** (fork and knife icon): Expanded loans for farm product exporters

Financial Support



Measures to Provide Liquidity to Businesses

- Low interest rate loans for small enterprises** KRW 12 trillion
 (for high credit scores) low interest rate loans from commercial banks (KRW 3.5 trillion)
 (for middle credit scores) super low interest rate loans from Industrial Bank of Korea (KRW 5.8 trillion)
 (for low credit scores) Low interest rate loans from state-owned Small Merchant Development Institute (KRW 2.7 trillion)
- Special guarantees for SMEs and small enterprises** KRW 5.5 trillion
- Guarantees and insurance for exporters** KRW 6.0 trillion
- Loans for and investments in ventures and startups** KRW 1.9 trillion
- Full guarantees for emergency small enterprise loans** KRW 3.0 trillion
- Purchase of small enterprises' overdue debt** KRW 2.0 trillion
- Loans for SMEs and medium-sized leading enterprises** KRW 21.2 trillion

Financial Support Package

- Bond market stabilization fund** KRW 10 trillion + KRW 10 trillion
 A joint fund raised by 84 financial institutions to buy corporate bonds and commercial paper issued by blue-chip companies
- Stock market stabilization fund** KRW 10.7 trillion
 A joint fund raised by 5 financial holding companies and 18 leading financial companies to invest in index funds.
- Quick bond takeover program** KRW 2.2 trillion
 Korea Development Bank will take over corporate bonds for sale to KODIT which will then issue P-CBOs.
- Corporate bond refinancing** KRW 1.9 trillion
 Korea Development Bank will directly purchase investment grade conversion issue of corporate bonds.
- Short-term money markets stabilization** KRW 7.0 trillion
 Stock finance loans (KRW 2.5 trillion), Repo market financing by BOK (KRW 2.5 trillion), CP purchases by state-owned banks (KRW 2.0 trillion)



COVID-19 Relief Payments

- Emergency relief payments to households in the bottom 70% income bracket KRW 9.1 trillion, provisional
- Cuts in and payment deferrals on social security contributions KRW 8.4 trillion
- Vouchers to help low-income households KRW 1.0 trillion
- Temporarily expand emergency welfare aid KRW 0.2 trillion
- Daycare vouchers to parents with children younger than 7 years KRW 1.1 trillion

Stimulus Measures to Boost Consumption

- 70% individual consumption tax cut for all passenger cars
- Double the income tax deduction rate for credit or debit card use
- Local governments to expand their gift certificates KRW 3 trillion → KRW 6 trillion
- 10% payment refund for purchases of energy-efficiency home appliances KRW 150 billion
- Central government to expand their gift certificates issuance KRW 2.5 trillion → KRW 3 trillion
- Leisure and tourism coupons, as well as maternal health care coupons

Annex 5 Italy

Coronavirus in Italy – situation:

Italy, a member state of the European Union and a popular tourist destination, joined the list of coronavirus-affected countries on 30 January when two COVID-19 positive cases were reported in Chinese tourists.

At the beginning of February, Italy had only a few identified Covid-19 cases. By February 23, Italian officials reported 76 confirmed cases to the World Health Organization. On 25 February, that number grew to 229. The case and death toll rose exponentially from there while people with the virus who had come from Italy were identified in countries as far and wide as Nigeria, Switzerland, and Brazil.

On March 13, Italy had the highest number of reported Covid-19 cases and deaths outside China: more than 15,000. And that was the reason why the focus of the Covid-19 pandemic shifted to Europe.

By 24 March, almost 7,000 people in the province of Bergamo had been tested positive for COVID-19, and more than 1,000 people had died from the virus – making Bergamo the most hard-hit province in all of Italy during the pandemic.

On 31 March, the president of the Italian National Institute of Health, Silvio Brusaferrò, announced that the pandemic had reached its peak in the country.

Three weeks into the lockdown, its effects began to show. Italy reported declines in the number of new cases and of new deaths per day. The country also saw a steady decrease in the occupancy of intensive care units.

On 5 April, Italy had the lowest number of new daily deaths in two and a half weeks, and one day later the lowest number of new daily cases in three weeks.

As of 21 April 2020, Italy is one of the world's centers of active coronavirus cases with 107 709 active cases. The total of confirmed cases is 183 957, with 24 648 deaths, and 51 600 recoveries or dismissals. By 21 April, Italy had conducted about 1 450 000 tests for the virus. Due to the limited number of tests performed, the real number of infected people in Italy, as in other countries, is estimated to be higher than the official count. On 19 March, Italy became the country with the highest number of confirmed coronavirus deaths in the world, but on 11 April, it was overtaken by the United States. On 20 April 2020, Italy saw the first fall in the number of active cases.

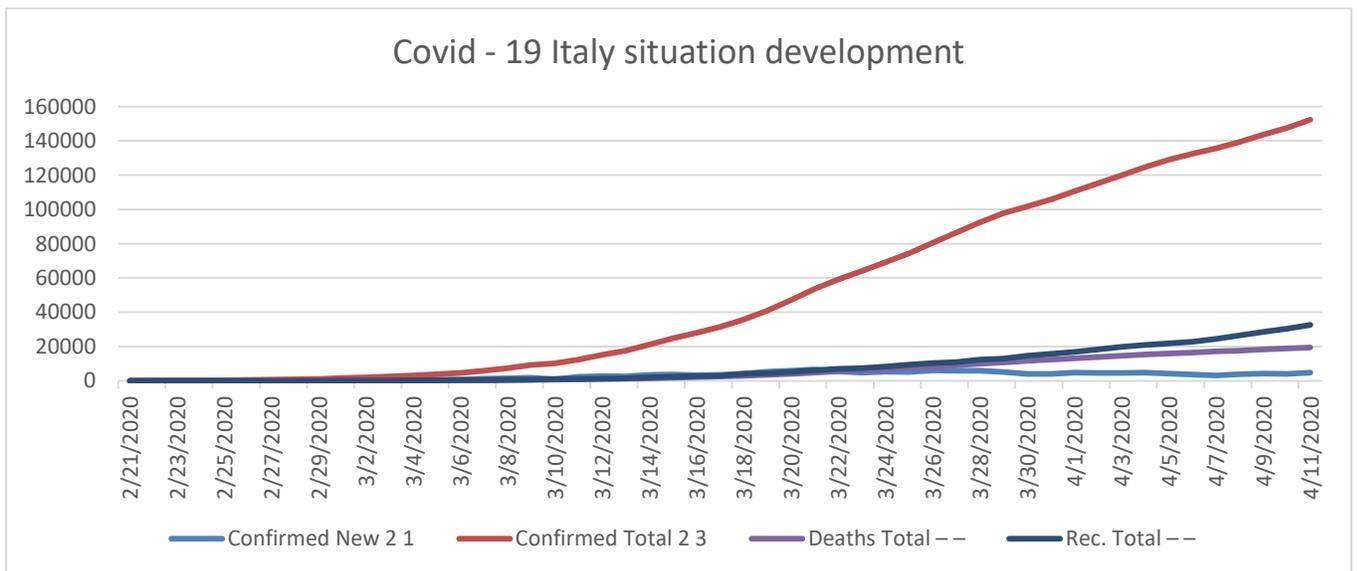
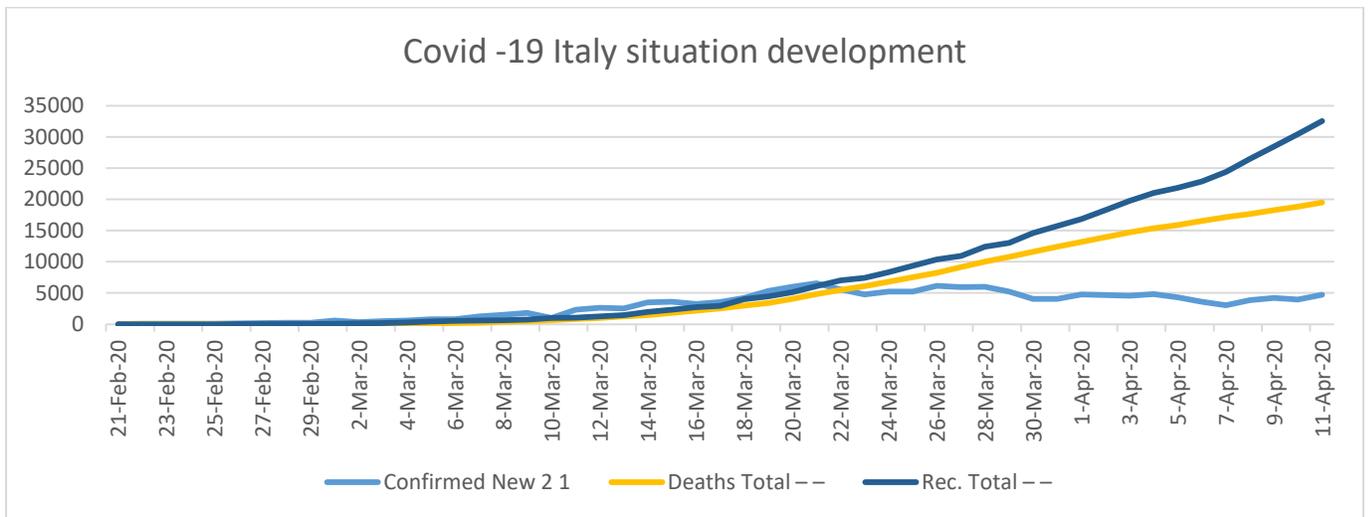
1. Table.

Population Age	% For all ages	% 0-9 y	% 10-19	% 20-29	% 30-39	% 40-49	% 50-59	% 60-69	% 70-79	% 80+	% n/d
Total: 60,36 MИH.	100	0.6%	0.8%	4.1%	6.9%	12.8%	19.8%	17.4%	18.5%	18.8%	0.2%

Total	183,957	589	766	3,830	6,523	12,084	18,678	16,395	17,464	17,759	224
Deaths	100%	0.0	0.0	0.0	0.2	0.9	3.7	11.6	34.5	49.1	0.0
	24,648	0	0	2	20	89	369	1,162	3,456	4,923	5
Lethality	24.6%	0.0%	0.0%	0.1%	0.3%	0.7%	2.0%	7.1%	19.8%	27.7%	2.2%

2.

3. Graphics – total, deaths, recovery, new cases



4. Trends and assessment

Hidden behind the official Covid-19 numbers is a much broader health crisis, rapidly accumulating across the country. Even greater than the official coronavirus toll may be the collateral damage wrought by an overstretched health system: the pregnant women and babies, cancer and HIV patients, and children in need of vaccines who are now less likely to get the health care they need. Health systems are overwhelmed.

Italy's situation today could be any country's situation tomorrow. Lombardy — one of the wealthiest regions in Europe — shows how an outbreak, almost overnight, can spiral into a full-fledged crisis when officials do not prepare and react too slowly. And that surge, reflected the US and other countries in Europe.

Measures by dates (including economic measures) and strategies.

By 25th of February, the rapid rise in coronavirus cases — both within the country and among travelers — was so concerning, a joint WHO and European Center for Disease Prevention and Control mission went to Italy to figure out what was going on. Authorities, meanwhile, scrambled to impose severe measures to try to stop the virus. In the country's north, sporting, religious, and cultural events were canceled along with university classes. Anyone who tried to enter or leave the areas in Lombardy where the outbreak was occurring faced fines. The severity of the response rivaled only that of China.

On 1 March, the Council of Ministers approved a decree on the containment of the outbreak. In the decree, the Italian national territory was divided into three areas:

A red zone (composed of the municipalities of Bertinico, Casalpuusterlengo, Castelgerundo, Castiglione D'Adda, Codogno, Fombio, Maleo, San Fiorano, Somaglia and Terranova dei Passerini in Lombardy, and the municipality of Vò in Veneto), where the whole population is in quarantine.

A yellow zone (composed of the regions of Lombardy, Veneto and Emilia-Romagna), where social and sport events are suspended and schools, theatres, clubs and cinemas are closed.

The rest of the national territory, where safety and prevention measures are advertised in public places and special sanitizations are performed on means of public transport.

On 4 March, the Italian government imposed the shutdown of all schools and universities nationwide for two weeks as the country reached 100 deaths from the outbreak. The same day, the government ruled that all sporting events in Italy would be played behind closed doors until 3 April.

In the night between 7 and 8 March, the government approved a decree to lock down Lombardy and 14 other provinces in Veneto, Emilia-Romagna, Piedmont and Marche, involving more than 16 million people. The decree "absolutely avoided any movement into and out of the areas" and, like the previous one, it provided sanctions of up to three months in prison for those who violated the lockdown. It was possible to move into and out of the areas only for emergencies or "proven working needs", which must be authorized by the prefect. The decree also established

the closure of all gyms, swimming pools, spas and wellness centers. Shopping centers had to be closed on weekends, while other commercial activities could remain open if a distance of one meter between customers could be guaranteed. The decree imposed the closure of museums, cultural centers and ski resorts in the lockdown areas and the closure of cinemas, theatres, pubs, dance schools, game rooms, betting rooms and bingo halls, discos and similar places in the entire country. Civil and religious ceremonies, including funeral ceremonies, were suspended. All organized events were also suspended, as well as events in public or private places, including those of a cultural, recreational, sporting and religious nature, even if held in closed places. This measure was described as the largest lockdown in the history of Europe, as well as the most aggressive response taken in any region beyond China, and paralyzed the wealthiest parts of the country as Italy attempted to constrain the rapid spread of the disease.

On 9 March, the government announced that all sporting events in Italy would be cancelled until at least 3 April, but the ban does not include Italian clubs or national teams participating in international competitions. In the evening, Conte announced in a press conference that all measures previously applied only in the so-called "red zones" had been extended to the whole country, putting approximately 60 million people in lockdown. Conte later proceeded to officially sign the new executive decree.

In an effort to slow the spread of infection, the Italian government on 9 March announced an extraordinary measure — one that has not been tried in modern times at the country level: The entire peninsula was put under quarantine orders until at least April 3. Some 60 million Italians were asked to stay home. The response escalated even further. The government effectively stopped movement across the country, asking people to leave home only for essential work and necessities, like food. All public gatherings and meeting places — theaters, gyms, ski resorts, clubs, schools, sporting events, even weddings and funerals — were also shut down.

On 11 March, Prime Minister Giuseppe Conte added new coronavirus restrictions, ordering most businesses — except grocery stores and pharmacies — closed.

The major reason for the extreme response: Cases in Italy escalated fast and the coronavirus overwhelmed the country's health system, particularly in the north. More than 80 percent of the hospital beds in Lombardy, the hardest-hit province, were occupied by coronavirus patients, according to Bloomberg. Intensive care units were overloaded while elective surgeries have been canceled in the process to free up beds.

On 19 March, the Army was deployed to the city of Bergamo, the worst hit Italian city by the coronavirus, as the local authorities can no longer process the number of dead residents. The city's mayor Giorgio Gori said the true number of dead could be much higher than reported. Army trucks transported bodies to crematoriums in several other cities, as cemeteries in the city were full. On the following day, the Army was called in to assist the police forces in enforcing the lockdown.

On 20 March, the Ministry of Health ordered tighter regulations on free movement. The new measures banned open-air sports and running, except individually and in close proximity of one's residence. Parks, playgrounds and public green were closed down. Furthermore, movement

across the country was further restricted, by banning "any movement towards a residence different from the main one", including holiday homes, during weekends and holidays.

On 21 March, Conte announced further restrictions within the nationwide lockdown, by halting all non-essential production, industries and businesses in Italy, following the rise in the number of new cases and deaths in the previous days.

On 24 March, in a live-streamed press conference, Conte announced a new decree approved by the Council of Ministers. The decree imposed higher fines for the violation of the restrictive measures, and a regulation of the relationship between government and Parliament during the emergency. It included also the possibility of reducing or suspending public and private transport, and gave the regional governments power to impose additional restrictive regulations in their regions for a maximum of seven days before being confirmed by national decree.

On 1 April, the government extended the period of lockdown until 13 April, with health minister Speranza saying that the restrictive measures had begun to yield the first positive results.

On 6 April, the government announced a new economic stimulus plan, consisting of €200 billion of state-guaranteed loans to companies and additional €200 billion of guarantees to support exports.

On 7 April, after more than a month of suspension, the Italian Basketball Federation officially ended the 2019–20 LBA season, without assigning the title.

On 8 April, a government's decree closed all Italian ports until 31 July, stating that they do not ensure the necessary requirements for the classification and definition of "safe place", established by the Hamburg Rules on maritime search and rescue."

On 10 April, Conte announced the prolongation of the lockdown until 3 May, as well as the reopening of some businesses like bookstores and forestry.

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On 15 April a circular was sent to the prefects, signed by the Head of Cabinet Matteo Piantedosi, which provides indications on the application of the decree of the Prime Minister (DPCM) of 10 April 2020 which ordered the application throughout the national territory, to make from April 14 and until May 3, 2020, of urgent measures to contain the infection, both general and aimed at safely carrying out industrial and commercial production activities.

The DPCM, in confirming the current suspension of retail commercial activities, excluding the sale of food and basic necessities, includes, in the list of permitted activities, the trade of paper, cardboard and stationery items, retail sale of books and retail sale of clothing for children and babies.

The provision reiterates the obligation to ensure, in addition to the interpersonal distance of one meter, that the entrances take place in a deferred manner and that it is prevented from staying inside the premises more than the time necessary to purchase goods.

The DPCM also confirms the suspension of all industrial and commercial production activities, with the exception of those indicated, and expands the range of activities already allowed, expressly including those functional to the continuity of the supply chains of the activities.

On 20 April a decree law was published in the Official Journal, which introduces urgent provisions on election consultations for the year 2020, in consideration of the health emergency from Covid-19. In addition, with that decree the elections in Italy were postponed for September 2020.

On 20 April the National Fire Brigade is mobilized throughout the territory to bring assistance and support, within the national civil protection system, to municipalities and populations in the management of the health emergency linked to the Coronavirus epidemic.

Assumptions.

It is not clear why Italy's Covid-19 outbreak spiraled so quickly relative to other European countries, but there are several competing theories.

One theory is that an aggressive testing campaign centered in wealthy Lombardy has inflated the problem at a time when other countries have lagged in detecting cases. Relatedly, the government started looking for the virus too late. The virus had been spreading in Italy for 10 days before health officials realized. Italy was forced into reaction mode — something other countries could avoid.

Another theory is the intense spread of the virus in the hospital system, before doctors realized there was a problem, may have amplified the outbreak. Bolstering this explanation: The WHO-ECDC joint mission report suggests Italy should work on its infection prevention and control measures in hospitals.

There is also speculation about whether Italy's burden is particularly severe because of the country's aging population. Covid-19 is known to hit older adults particularly hard. That, along with the fast rise in confirmed cases, has tested the limits of the health system.

Conclusions.

While Italy's economy is already in a nosedive, the extent of the damage stemming from the country's overwhelmed health system is really big.

So what should other countries do now to prevent this kind of collateral damage?

First, health officials need to find ways to flatten the epidemic curve of the outbreak. And this starts with social distancing measures, like canceling mass public gatherings, encouraging employees to work from home, and even shutting schools and universities, if necessary.

In theory, Italy is in a better position than many other countries to react to the current outbreak. However, an aggressive approach needs to be taken with patients who are critically ill

with SARS-CoV-2, often including ventilator support. The measures of the government to pass legislation that will enable the health service to hire 20 000 more doctors and nurses and to provide 5000 more ventilators to Italian hospitals, are a step in the right direction, but the model shows that they need to be implemented urgently, in a matter of days. Otherwise, a substantial number of unnecessary deaths will become inevitable.

Second, intensive care specialists are already considering denying life-saving care to the sickest and giving priority to those patients most likely to survive when deciding who to provide ventilation to. They might not recognize that the reality is that intensive care wards are overflowing with patients and that COVID-19 is not a benign disease. Italian doctors and nurses are modern heroes in an unexpected war against a difficult enemy. In the near future, they will have no choice. They will have to follow the same rules that health-care workers are left with in conflict and disaster zones.

The main recommendation from the presented data could help political leaders and health authorities to move as quickly as they can to ensure that there are enough resources, including personnel, hospital beds, and intensive care facilities, for what is going to happen in the next few days and weeks. Finally, this analysis tends to suggest that measures to reduce transmission should certainly be implemented, as Italian government did on March 9, by inhibiting people's movement and social activities, unless strictly required. Rather than revising the Schengen visa-free zone, the most effective way to contain this viral outbreak in European countries is probably to avoid close contact at the individual level and social meetings in each country

Annex 6 Portugal
March 2020

The news comes after Portugal reported its first two cases of the deadly virus on March 1, 2020.

16 March

Portugal have activated internal protocols for safety and a list of the 30 announced measures:

1. Exceptional human resources regime, covering:

- suspension of overtime limits;
- simplifying the hiring of workers;
- worker mobility;
- hiring retired doctors without being subject to age limits.

2. Prevention regime for professionals in the health sector directly involved in the diagnosis and specialized laboratory response.

3. Exceptional regime for the purchase of services by organs, agencies, services and entities of the Ministry of Health.

4. Exceptional regime for the composition of medical boards for assessing people with disabilities.

Education:

5. Suspension of all classroom activities (teaching and non-teaching) in person, starting on March 16 and for a period of two weeks. Revaluation on 9 April.

Social services:

6. Homes: Suspension of visits to homes across the national territory.

Establishments:

7. Restaurants and bars: Maximum capacity reduction by 1/3.

8. Nightclubs and the like: Closing.

9. Shopping centres, supermarkets, gyms and public services: Frequency limitations to ensure the possibility of maintaining social distance.

Workers:

10. Allocation of justified absences for workers who have to stay at home to accompany their children up to 12 years of age, due to the suspension of classroom activities (and cannot use telework).

- Exceptional financial support for employees referred to above, in the amount of 66 percent of the basic remuneration (33 percent paid by the employer, 33 percent paid by Social Security).

- Exceptional financial support for self-employed workers mentioned above, in the amount of 1/3 of the average remuneration.

11. Extraordinary support to reduce the economic activity of self-employed workers and defer payment of contributions.

12. Creation of extraordinary support for vocational training, in the amount of 50 percent of the worker's remuneration up to the limit of the national minimum wage, plus the cost of training, for the situations of workers not employed in productive activities for considerable periods.

13. Guarantee of social protection for trainees and trainers in the course of training actions, as well as for beneficiaries engaged in active employment policies who are prevented from attending training actions.

14. Situation of 14-day prophylactic isolation equated with illness for the purposes of social protection measures. The subsidy amount corresponds to 100 percent of the remuneration and without being subject to a waiting period.

15. Sickness allowance is not subject to a waiting period (3 and 10 days).

Companies:

16. Credit line to support companies' treasury of 200 million Euros.

17. Credit line for micro companies in the tourism sector worth 60 million Euros.

18. Simplified 'lay off': Extraordinary support for the maintenance of employment contracts in a company in a business crisis situation, in the amount of 2/3 of the remuneration, ensuring Social Security the payment of 70 percent of this amount, the remainder being supported by employer. Training scholarship from the Employment and Vocational Training Institute. Promotion, in the contributory scope, of an exceptional and temporary regime of exemption from the payment of social security contributions during the lay-off period by employers.

19. Measures to accelerate payments to companies by the public administration.

20. PT 2020 (financial aid from EU in terms of the Portugal 2020 Partnership Agreement):

- Payment of incentives within 30 days;
- Extension of the repayment term for credits granted within the scope of the National Strategic Reference Framework or PT 2020;

- Eligibility of expenses incurred with cancelled international events;

21. Extraordinary financial incentive to ensure the normalization phase of the activity (up to a minimum wage per worker).

22. Strengthening the response capacity of IAPMEI - Agency for Competitiveness and Innovation and Tourism in Portugal in assisting the impact caused by Covid-19.

23. Extension of deadlines for payment of taxes and other declaratory obligations.

Civil protection:

24. Ministry of Home Affairs and Ministry of Health will declare alertness across the country, putting civil protection means and security forces and services on standby.

25. Application of an exceptional service exemption regime for firefighters called to reinforce aid in Covid-19.

26. Creation of a national reserve of personal protective equipment for medical emergencies intended for fire brigades.

Ports:

27. Ban on disembarking passengers from cruise ships.

Justice:

28. Exceptional regime for suspension of periods, just impediment, justification of absences and postponement of due diligence.

Public administration:

29. Exceptional regime for public procurement, expenditure authorization and administrative authorization to respond to the SARS-CoV-2 epidemic.

30. Responsibility of expired documents presented to public authorities.

Additionally Portugal set:

- Reintroduce land border controls with Spain, establishing exclusively nine crossing points (a statement of Ministry of Internal Administration). They will be established to limit the movement across and secure it exclusively to goods cargo and workers who have professional reasons for travelling to Spain, the only neighboring country to Portugal;

- Air traffic between Portugal and Spain was suspended on March 16, 2020 (Monday).

23 March 2020 The European Commission stated on Sunday, March 22, it approved 3 billion euros of Portuguese guarantee schemes for small and medium sized companies affected by coronavirus epidemic.

Portugal notified to the Commission under the Temporary Framework four guarantee schemes for SMEs and midcaps affected by the Coronavirus outbreak, active in four different sectors: (i) tourism; (ii) restaurants (and other similar activities); (iii) extractive and Manufacturing industry; and (iv) travel agency activities, touristic animation, event organisation (and similar activities). The four schemes have a total budget of €3 billion.

The schemes aim at limiting the risks associated with issuing operating loans to those companies that are severely affected by the economic impact of the Coronavirus outbreak. The objective of the measures is to ensure that these companies have sufficient liquidity to safeguard jobs and continue their activities faced with the difficult situation caused by the Coronavirus outbreak.

10 April

Economic activity in Portugal saw a “sharp reduction” in March, with economic climate and consumer confidence indicators reaching lows since December 2014 and February 2016, respectively, according to the March Economic Synthesis of the National Statistics Institute (INE), “the economic climate indicator registered the greatest reduction in the series from February to March, reaching the minimum value since December 2014” and the consumer confidence indicator “registered a significant reduction compared to the previous month, the largest since September 2012 and reaching the minimum value since February 2016”.

This evolution was mainly due to expectations regarding the evolution of the country's economic situation, which registered the minimum value since December 2013 following the crisis generated by the covid-19 pandemic.

Portugal's government tightened restrictions on movement to stop the spread of the coronavirus during the normally busy Easter holiday period, closing all airports to commercial flights and banning domestic travel from April 9-13.

13-17 April 2020

Portugal has been praised for its response to the pandemic, and the country has witnessed a fraction of cases and fatalities of its neighbouring country Spain.

The reason for this difference is not known for sure, but some doctors have suggested it is down to the country's early movement restrictions, which were put in place after the country had witnessed only two deaths. Portugal also became the first EU country to open a drive-through Covid-19 testing centre.

It was recently announced that Portugal would extend its lockdown until May 1.

Migrants and asylum seekers are particularly vulnerable to Covid-19

Many roadblocks prevent asylum seekers and other vulnerable groups from accessing the help they need, which puts them at particular risk of Covid-19.

Multiple factors, including financial costs, fear of deportation, language barriers, and fear of abuse or discrimination all act as barriers when it comes to getting help. Nations need to remove as many of these barriers as possible to make it possible for everyone to get the help they need.

Improving access to care will drastically curb the spread of the virus, ultimately leading to better overall public health outcomes.

Portugal's response towards migrants is in stark contrast with other countries

Unfortunately, many countries are using the crisis as leverage to further marginalise those who most desperately need support.

Throughout history, crises have been catalysts for change. So far, the corona crisis has revealed the lack of national preparedness across most of the world, and perhaps even more importantly, the lack of solidarity between nations.

However, this could prove to be a global turning point. The crisis has led many countries around the world to take drastic measures that were previously considered unthinkable. In particular, Portugal's pragmatic policy has revealed how it is possible to minimise the spread of the virus while respecting the dignity of those most in need of help.

It is a small start, but an example of how important it is that countries extend their critical services to all residents - regardless of where they were born. Now, more than ever, the health of each nation depends on everyone who is living in it - not just those with a government-issued ID card.

Access to the country's most popular beaches will be restricted through July and August to prevent 'large groups of people' coming together and increasing the risk of further coronavirus infections. With over a million people due to return to work in May, prime minister António Costa has been outlining some of the 'rules' likely to be imposed as a way of combating a resurgence in the number of Covid-19 cases.

20-24 April

Portugal registers a 54 percent occupancy rate in intensive care, the Secretary of State for Health announced on 20 April, stating that 66 ventilators that arrived in Portugal on Sunday, 19 April, will be "immediately" distributed throughout the country.

Portugal will carry out clinical trials on plasma of patients recovered from Covid-19, and this study should begin in May, announced today the Secretary of State for Health.

“There is a strong desire on the part of several institutions to do so in terms of clinical trials at an early stage,” said António Lacerda Sales at the daily press conference held at the Directorate-General for Health (DGS) to disseminate the epidemiological bulletin of the covid-19, when asked about the use of plasma from recovered patients.

The Secretary of State affirmed that “DGS, the National Institute of Health Doutor Ricardo Jorge (INSA) and Infarmed (National Authority for Medicines and Health Products) “are incorporated in this will, which are currently analyzing a set of criteria and factors such as informed consent and “technology for neutralizing antibodies”.

"There is a whole technology that has to be evaluated in advance", he stressed, noting that a group will be defined so that it can evaluate and validate the beginning of these clinical trials, which can start in May and with "moderate and severe" patients.

“These clinical trials will start with moderate and severe and not very serious patients as has often been passed on to the public. This will be a little bit of the strategy we will use. We wanted to see if, by the end of the month, we could have all this uniformity perfectly contemplated to start these clinical trials”, he said.

Economy

Portugal has recently announced that it will grant temporary residency rights to all immigrants and asylum seekers who applied for residency in the country before the country’s state of emergency for Covid-19 was announced on 18 March 2020. To gain access, asylum seekers must provide evidence of an ongoing request to apply for residency status.

Anyone with these rights will be given access to the country’s national health service, bank accounts, and work and rental contracts until 1 July 2020 at least.

It is not known exactly how many people will be affected by this policy, but recent government statistics suggest that in 2019, a record number of 580,000 immigrants resided in Portugal, and 135,000 were granted residency in that year alone.

So far, Portugal has been praised for its swift Covid-19 response

Unemployment in Portugal rose almost 9% in March from the previous month, official data showed, as lockdown measures to combat the spread of the coronavirus pandemic brought key economic sectors to a halt.

In the southern Algarve region, usually packed with tourists but now deserted due to the outbreak, the number of people registered as unemployed soared 41% in March compared to the

same period last year, according to new data released by the Institute for Employment and Vocational Training on April 20, 2020.

Portugal has reported 20,863 coronavirus cases, with 735 deaths - a much smaller toll than in neighbouring Spain where more than 20,000 have now died of COVID-19.

Around 71% worked in the services sector, including in restaurants and retail stores, which have been largely shut since Portugal declared a state of emergency on March 18, since renewed until May 2.

According to the new data, 28,000 people in Portugal registered as unemployed in March, bringing the total of those registered without jobs to around 343,000. Year-on-year, unemployment rose 3% in March, the data showed.

The rate had been falling for several years as Portugal slowly recovered from a severe debt crisis. In 2008, during the economic recession, around 391,000 people were registered as unemployed.

The unemployment rate, currently at 6.5%, is expected to more than double to 13.9% this year due to the impact of the novel coronavirus, according to the International Monetary Fund.

Annex 6 Spain

The comparison (March 15 to March 17) shows a raise of Spain's number of COVID-19 infections even after the government imposed a near-total nationwide lockdown, banning people from leaving home except to go to work, get medical care or buy food.

On March 15 (Sunday) reported about 2000 new coronavirus cases and more than 100 deaths over the last 24 hours, the latest spike in Europe's second-most affected country after Italy.

On March 17 (Tuesday) Spain reports 11279 COVID-19 Cases with deaths – 497 while recovered are 1028 individuals.

Same day (March 17, 2020) Spain set up police checks at its land borders with France and Portugal and turned back foreigners attempting to enter. These strict measures are to prevent the spread of the coronavirus in Europe's second hardest-hit country.

MEASURES:

Spain is **the second-worst affected European country** after Italy, fourth in the world after China, Italy and Iran. Among the high-profile figures to test positive were the prime minister's wife, two Cabinet ministers and five players on top-flight soccer club Valencia.

On March 14, 2020 (Saturday) Spain government ordered its 47 million citizens to stay indoors except for necessary outings such as buying food and medicine. Social gatherings are banned as the country enters a state of emergency:

- Bars, restaurants and shops selling non-essential items are shut for 15 days;
- Universities, schools and kindergartens are shut, children are kept at home;
- Church processions have been cancelled.
- Public places from city streets to beaches across Spain are under surveillance.
- Drones are used for monitoring the deserted public areas;
- A strengthened presence of Guardia Civil (Spain's civil protection units) on streets. Guardia Civil is engage for distributing social care, food services, protection materials and hygiene activities.
- Police officers are wearing latex gloves and facemasks, ensuring people complied with the emergency measures.
- Police could issue on-the-spot fines of hundreds of euros for those who fail to follow the rules.
- 1000 militaries have been deployed across the country's main roads for controlling the movement of cargo convoys

- Other militaries - army CBRN specialists are engaged to spray disinfectant in train stations.
- All major newspapers carried a wrapper emblazoned with a government-promoted slogan "Together we'll stop this virus".

IMPACT:

- Around 4400 inbound flights to Spain have been cancelled for the second half of March (Spanish Airlines Association report, dated March 15, 2020, Sunday).
- More than half of jobs in Spain are dependent on small or medium-sized companies. State of emergency's measures already has impacted the development of world's highest unemployment rates for a week.
- Spain depends on tourism – cafes, bars, restaurants, historical places, amusement halls and venues and shops. The present situation is going to economically damage many businesses for years ahead.

12 March, 2020

On March 12, the Spanish Prime Minister announced a €200 billion (\$231 billion) package, around 20 percent of the Spanish GDP, to help companies and protect workers and vulnerable groups affected by the coronavirus crisis. That's €117 billion to be mobilized by the state, with the difference expected to be covered by the private sector. As Spain continues to navigate this difficult crisis, policymakers should follow some simple principles when designing tax relief measures:

- Tax relief should be broad-based.
- Tax relief should be in keeping with good long-term policy. Distorting markets today will undermine the long-term recovery.
- Using refundable tax credits today should be designed to bring forward future credits or deductions.
- Policymakers should also use this opportunity to fix distortive tax policies that could impede recovery efforts.

Among other actions, here is a list of the most important economic measures implemented so far by the Spanish government.

Tax Deferrals

According to the Royal Decree Law of March 12, small and medium-sized businesses (SMEs) with a trading volume of €6 million or less may defer the payment of tax amounts due not

exceeding €30,000 for up to six months, with no interest penalties to be applied during the first three months.

Liquidity Provision

On March 18, the Royal Decree Law 8/2020 implemented several economic measures. The most important is the provision of liquidity for businesses and the self-employed through loans secured by the central government or backed by CESCE (Spanish export credit agency).

Even though, initially, €100 billion was announced, on March 24th, the Council of Ministers approved the release of €20 billion. The government spokesperson pointed out that half of this amount will go to SMEs and the self-employed; that is, €10 billion. Large companies will be able to request financing with a 70 percent government guarantee for new operations and a 60 percent guarantee for the renewal of existing contracts. Each bank will set the interest rate for the new guaranteed loans according to the solvency and risk of each company.

Employment and Unemployment Benefits

The decree makes it easier for people to be temporarily suspended from work, rather than laid off, and to retain all of their benefits. Any workers affected by a temporary collective layoff procedure (ERTE) will receive unemployment benefits, including those that would not normally be eligible. In cases of temporary contract suspensions or reduced working hours an exemption has been granted for 100 percent of employer social security contributions for companies with less than 50 employees, and 75 percent for the rest. The condition to access these benefits is for the employers to maintain the positions for six months once the activity is resumed.

The self-employed that cease their activity or see their revenues fall by at least 75 percent will be able to access the self-employed unemployment benefit for the period that the state of emergency is in place, even when the minimum period required has not been met.

Moratoriums

While the state of emergency is in place a moratorium will be implemented on home mortgages for vulnerable borrowers, and debt claims are non-enforceable.

A similar moratorium was set for utility bills, guaranteeing the provision of essential services, such as telecommunications, water, electricity, and gas for vulnerable groups.

Other Measures

The regime for the liberalization of foreign (non-EU) direct investment in Spain's strategic industries is suspended until further administrative notice.

Postponement and Interruption of Deadlines

The following changes to time periods are relevant to tax policy:

- Terms of administrative and court procedures have been suspended and deadlines interrupted.

- The statute of limitation and expiration periods for tax purposes have been suspended during the time that the state of emergency is in effect.
- The time limit for debt payments as a result of tax assessments has been extended, including payments which are already in their enforcement period or due under deferral or split payment resolutions.
- The time period to reply to requests, seizure orders, and to submit statements in different tax proceedings has also been extended, but this does not affect the time limit for submitting statements in economic-administrative proceedings.

Nevertheless the Royal Decree 465/2020 of March 17 clarifies that the suspension of the statutory periods envisaged for administrative procedures does not apply to tax-related deadlines; that the deadlines for submitting tax forms are not affected by these changes; and taxpayers and companies must continue to submit their tax forms and pay any tax due in accordance with the applicable deadlines.

Budgetary Impact

While the Spanish government's initial focus should be on maintaining liquidity, in the long run Spain needs to focus on fiscal consolidation once the pandemic subsides.

The Bank of Spain estimates that the economic measures approved so far, including the support for health care, with 0.3 percent of GDP, adds up to 1.4 percent of the Spanish GDP, around €17.43 billion. The report clarifies that of this total amount, 0.5% of GDP (€6.22 billion) represents a direct increase in spending, while the rest is intended to provide guarantees and credit lines to companies.

City Councils and Autonomous Regions

In addition to the above measures, certain regions and city councils have approved measures to the terms and deadlines of the regional and local taxes they coordinate.

For example the Madrid City Council approved a 25 percent reduction in Real Estate and Business Activity Tax for assets and businesses in commercial, leisure, or hospitality, if employees are retained. Payment of other local taxes can be deferred.

Also, during the emergency period, the Madrid region approved to delay the payment of inheritance, stamp duty, and gambling tax.

Looking Forward

Providing tax relief to the people and companies that are most affected, until the emergency abates, is welcome. Taxes that require regular payments will impact the liquidity of businesses and households. Therefore, Spain should consider fiscal relief as a way of minimizing the economic impact from the health crisis.

The OECD issued recommendations regarding possible emergency tax policy responses to the Covid-19 pandemic. Some of these measures could be considered by the Spanish

policymakers. These include delaying payroll taxes and social security contributions. These measures could help businesses retain workers. In Spain today, the Council of Ministers agreed to ban layoffs due to COVID-19. Tax relief is necessary to support businesses that no longer have the option to lay workers off.

Spain is under the threat of a serious health crisis and an economic crisis to follow. The policy response needs to be broad and in keeping with long-term objectives. It is paramount that the short-term harm caused by this outbreak does not turn into a long-term economic downturn.

6 April

Spain has more than 130,000 registered cases now and 12,000 recorded deaths. The death toll is lower than Italy in absolute terms, but slightly higher if one takes into account Spain's smaller population. What's worse is prime minister Pedro Sanchez, much like his counterparts in France and the U.K., ignored the health crisis unfolding in Italy and dithered before imposing the kind of draconian lockdown measures that could have saved thousands of lives.

The most reckless decision was allowing a demonstration to take place in Madrid on international women's day (March 8). More than 120,000 people took to the streets even though Spain already had over 500 confirmed cases. The government only enforced a national lockdown in mid-March, which has since been tightened to include all non-essential economic activities and extended to April 26. These measures have started to show their effects, as growth of registered cases and deaths begins to slow, but they cannot help those who have already been infected.

The Spanish government should have been especially cautious given the fragility of its healthcare system. Fernando Simon, the head of the health ministry's Coordination Center for Health Alerts and Emergencies, said at the start of the crisis that Spain had roughly 4,400 intensive care beds, for a population of nearly 47 million. Compare that to Germany, which has a population of nearly 84 million but started the crisis with 28,000 critical care beds. The Spanish government is rushing to open up new hospitals, but doctors are already facing supply shortage problems, as they did in Italy, and are having to make devastating decisions over how to prioritize their scarce resources.

The rest of the political class has not helped. Spain is a federalist country, where autonomous regions hold power over a range of policy areas including healthcare. Prime Minister Sanchez eventually claimed emergency powers for his government, but only after a string of regional politicians had resisted. The opposing right-wing Popular Party behaved opportunistically. It attacked Sanchez after his decision to close down all non-essential activities, seemingly changing course from earlier calls for a tougher lockdown — only to change tack and support the stricter measures. Meanwhile, Pablo Iglesias, the leader of the left-wing Podemos party, which runs the country in a fragile minority coalition with the Socialists, has sought to exploit the emergency to push his agenda of sweeping nationalizations.

Much like Italy, Spain faces an enormous economic crisis on top of its healthcare emergency. The country had emerged strongly from the sovereign debt crisis, outperforming much

of the rest of the euro zone for years. But Madrid failed to sufficiently shrink its public debt, which stands at more than 95% of gross domestic product. The European Central Bank has launched an emergency 750 billion euro (\$812 billion) asset-purchase scheme that is helping Madrid keep a lid on its borrowing costs. However, the crisis will inevitably add to the country's debt, which will become harder to sustain in the future.

Spain is now calling on the rest of the euro zone to show solidarity, through the issuance of joint and several liabilities ("Euro bonds"). There is a strong case for mutualizing at least some debts of the crisis, but it is very unlikely that this will happen any time soon. For now, Spain will have to rely largely on the ECB and on itself. After a tragically shaky start, Sanchez must show his resolve.

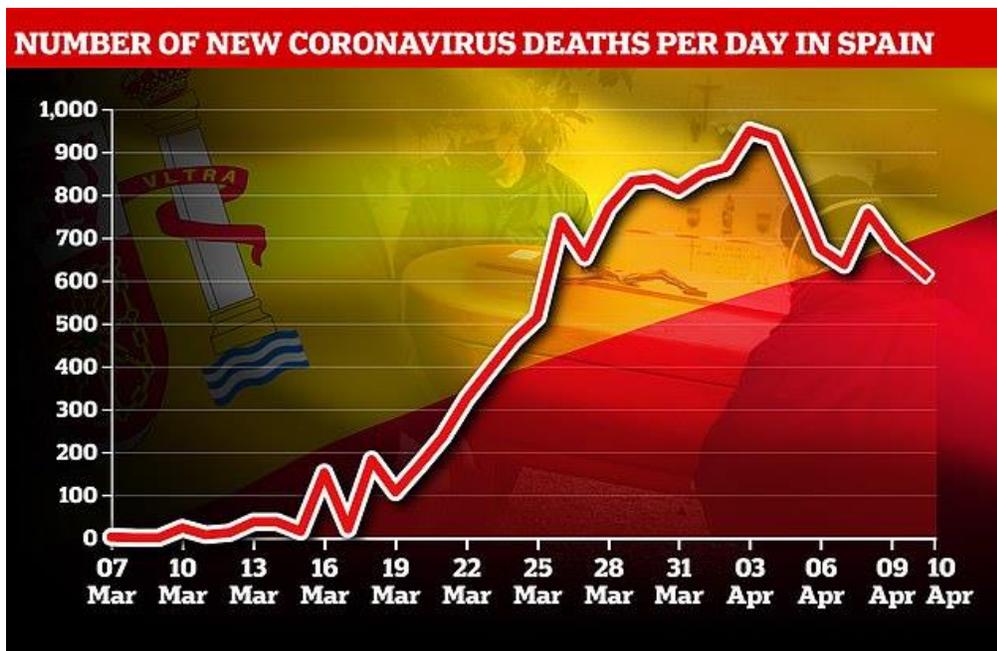
10 APRIL

Spain's daily death toll from coronavirus fell to its lowest for more than two weeks today while the number of new infections also dropped.

The 605 new fatalities - the lowest figure since March 24 - bring the death toll in Spain from 15,238 to 15,843.

Cases increased by 4,576, far fewer than yesterday's 5,756, and the 3.0 per cent jump is the smallest since the crisis began.

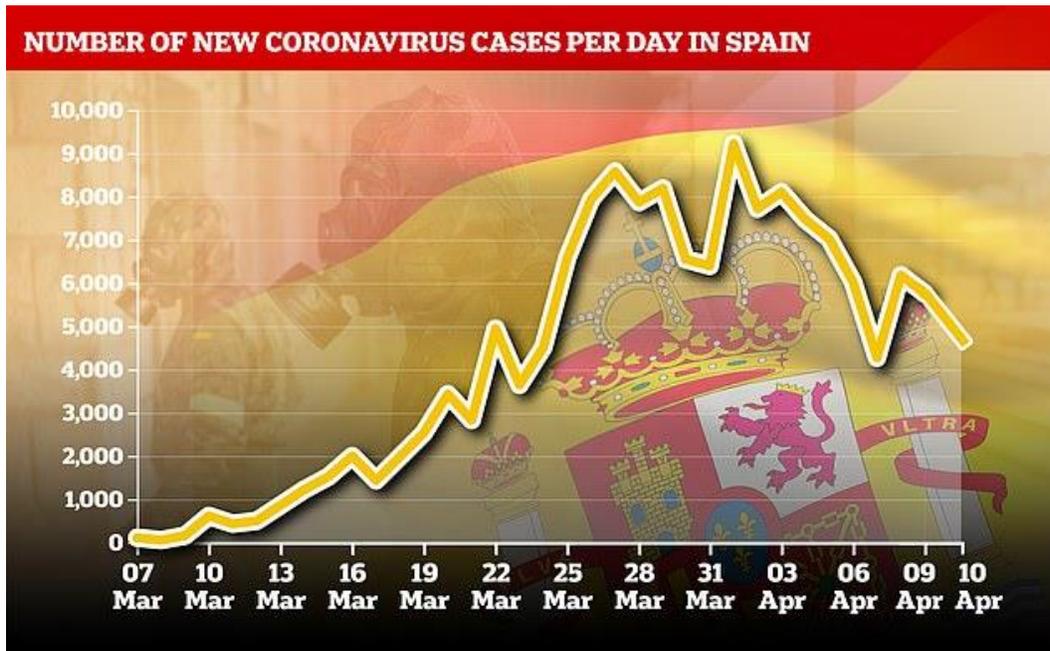
It brings the total number of infections from 152,446 to 157,022, the second-highest tally in the world after the United States.



+5

•

This graph shows the daily death toll in Spain, which fell to 605 today - the lowest since March 24 - after reaching a high of 950 as recently as April 2



+5

This chart shows the daily number of cases. April 10's figure of 4,576 was the lowest since April 6, Monday and a sharp drop from yesterday's 5,756

Spain reached a peak of 950 deaths on April 2, which was the biggest daily jump that any country had recorded at that point.

However, the figure has fallen on six of the eight days since, dropping to 605 today - the fewest since 514 deaths were recorded on March 24.

At that point, cases were still surging by a regular 15-20 per cent per day, but that rate of growth has also been falling.

10 April

3.0 per cent increase is the smallest on record, surpassing the previous low of 3.3 per cent which was set on Monday, April 6th. Spain's figures also show that more than 55,000 people have recovered from the respiratory disease. Of the 4,576 new cases, 906 were in the region around Madrid while 781 were in Catalonia, the two worst-affected parts of Spain. The Madrid region accounts for more than a third of Spain's total deaths, or 5,972 out of 15,843. Meanwhile, the Canary Islands and Balearic Islands have reported more than 1,500 cases between them, with just below 100 deaths each. Health chiefs believe the pandemic has peaked, but have urged the population to keep observing lockdown rules which have been in force since March 14.

The restrictions are currently due to expire on April 25, but the government is expected to announce another two-week extension.

The lifting of lockdown measures would be gradual and dependent on health data, Premier Pedro Sanchez said. The PM is proposing a 'great pact for the economic and social reconstruction of Spain' once the standstill is over. But he warned of a dire aftermath for an economy which the main business lobby thinks could slump up to nine per cent this year.

The government's proposal is inspired by the 1977 'Pacts of Moncloa' which reformed the economy after the end of the Franco dictatorship.

The confinement measures have led to the cancellation of all Easter processions in a Catholic country of nearly 47million people. Police said yesterday that nine people had been arrested after filming themselves on a fake procession at Merida in the southwest.

APRIL 13

Europe took its first tentative steps towards a return to normality on Monday, April 13, 2020 as some countries re-opened businesses.

On Monday, April 13, Madrid lifted the curbs on non-essential industries. Spain is starting to return to work as non-essential workers such as factory and construction personnel were allowed to resume their jobs after a two-week ban. Police were handing out millions of masks at Spanish metro stations on April 13, as some people returned to work, although the wider coronavirus lockdown remains in force. The people returning include metalworkers, builders, cleaners, factory and shipyard workers and people involved in sanitation and security. One construction union said the resumption in the materials, wood and furniture industries would lead to at least 1.7million people returning to work, although Monday was a public holiday in some regions of Spain. The two-week 'hibernation' of non-essential business was imposed on March 30.

There was further encouragement for Spain as the number of new cases fell to 3,477, the fewest since March 20. The daily death toll also dropped back to 517 after jumping sharply to 619 on April 13.

Several other European countries, such as Austria, Denmark and the Czech Republic are also set to loosen their lockdowns. World Health Organisation chief, Tedros Adhanom Ghebreyesus, said restrictions must be lifted gradually as the virus 'decelerates' slowly.

Other sectors stirred too, although Spain's main business lobby CEOE warned that many small and medium-sized companies do not have access to the equipment needed to guarantee the safety of their staff.

At Inditex's 10 logistics centres, from which the fashion giant sends garments to its stores worldwide, activity was less than half its normal level. Just three of Inditex's 13 Spanish factories are back at work, mostly making scrubs for hospitals.

Many businesses remain closed and people stuck at home as Spain battles one of the worst outbreaks of the novel coronavirus. The pandemic is expected to cause a severe global recession.

Industrial conglomerate Ferrovial, 16,000 of whose employees kept cleaning and maintaining hospitals and ambulances during the broader shutdown, will reopen its construction business on Tuesday.

It has adjusted shift rotas and provided specific clothing, a spokesman said, "but ultimately it is the worker's responsibility to maintain distance".

Oil and gas firm Repsol's core business also kept running during the lockdown, but it paused construction of renewable energy plants.

Technicians returning to a wind farm in the northeastern region of Aragon were given masks that must be worn at any time there is another person present, a spokesman said.

The Lerma plant was one of six reopened on April 13 and activity will resume at another six on Tuesday, a company spokeswoman said.

Germany's Volkswagen has said it will partially reopen its plant in Spain's Navarra region on April 20 and ramp up shifts if the supply chain is working. It will supply masks and gloves to 4,800 workers producing the Polo and T-Cross models.

But assembly lines at VW-owned SEAT still stand silent.

Restarting was not right "from the point of view of the health and safety of employees and suppliers as well as dealers, which remain closed", a SEAT spokesman said. (Additional reporting by Clara-Laeila Laudette; Editing by Andrei Khalip and Catherine Evans).

April 14, 2020

European politicians, CEOs, lawmakers and activists called on Tuesday for green investment to restart growth after the coronavirus pandemic, saying fighting climate change and promoting biodiversity would rebuild stronger economies. Europe is headed for a steep recession triggered by the global outbreak as it has gone into a virtual lockdown from mid-March, shutting down most travel, businesses and educational institutions to curb the spread of the novel coronavirus. As some EU countries move to ease the restrictions starting this week, the bloc is divided on how to finance economic recovery, with the ailing south advocating issuing joint debt against the opposition of the fiscally conservative north. But some asset managers are also urging governments to design economic rescue packages to accelerate the transition to a low-carbon future.

April 15, 2020

The Spanish government is currently working at at least three different speeds to combat the coronavirus crisis. One is the here and now, and which involves practically the entire executive, with the four key ministries – Health, Interior, Transport and Defense – in charge, taking decisions every day to try to control the health emergency and palliate the effects it is having on the economy.

The other, the long term, which includes economic and social reconstruction, is being worked on by the Finance Ministry. Their remit includes getting the 2021 budget passed by Congress, something that will require the support of other parties given that the Socialist Party- Unidas Podemos coalition government does not have a working majority. And a third group, working away from the spotlight, is focused on the medium term, and how the deescalation of confinement measures will be carried out.

This group is being coordinated by Teresa Ribera, one of Spain's deputy prime ministers and also the minister for environmental transition. Health Minister Salvador Illa is participating in the group, given his constant contact with scientific experts and the regional health chiefs.

The task force is meeting on a very discrete basis, with some ministers who are outside of the central core of those managing the crisis, such as Foreign Minister Arancha González Laya, who is in permanent contact with her counterparts in the other countries affected by the coronavirus pandemic, and who provides information about the measures being taken. It also includes José Luis Escrivá, the social security minister and a renowned economist, who is providing a technical vision.

As well as politicians, the group includes a wide range of technical experts of all kinds, not just epidemiologists and economists. This committee will be making proposals to Prime Minister Pedro Sánchez as to the measures that should be taken when the deescalation of the confinement begins. Sources from the executive explain that this will be a particularly complex phase, and extreme care is being taken.

They are working on the assumption that it is essential to begin thinking about these measures so that they can be adopted from April 26, which is when the current state of alarm is due to expire. Before that date, there is the possibility that children could be allowed to leave their homes. Currently in Spain, the confinement measures are almost total, with citizens only allowed to leave their homes under very strict circumstances, such as to buy food or to get to their jobs if they cannot work from home.

The task force is basing its decisions on all kinds of documents from both Spanish and international experts. Ribera is working discreetly, and is unwilling at this point to reveal who these experts are nor the approaches that they are preparing, and has also expanded the group with new incorporations.

According to Interior Minister Fernando Grande-Marlaska, speaking on Tuesday, another 17 people will be joining this group, as appointed by each of Spain's regional governments. The 17 regional premiers have been insisting that they want to participate in the decision-making ahead of the deescalation, and as such Sánchez has offered each region the chance to incorporate the technical expert of their choosing into the task force.

One of the debates that the regions are insisting on is the chance to deescalate in different ways according to each region, given that not all of them are in the same situation. The Canary Islands, for example, is one of the areas of Spain that has the situation most under control, given its insular nature.

Sources from the executive insist that the decision has not yet been taken, but the government does not appear keen to take different measures in different areas, given that it believes that this could generate more problems than it will solve.

Meanwhile The IMF warned that Spain would likely see contractions in GDP of 8 percent during 2020 and that unemployment would again soar above 20 percent.

The figures predict an even more difficult period than during the last crisis which saw Spain's economy contract by 4 percent at its worst in 2009.

The report warned that Spain's unemployment rate could climb to 20.8 percent in the wake of the coronavirus lockdown.

Spain's number of jobless has been steadily dropping from its peak at 27.2 percent in the first quarter of 2013 to 14.7 percent by end of 2019.

24 April

Spain has recorded its biggest daily leap in coronavirus cases for nearly three weeks as another 6,740 people were added to the tally today. The thousands of positive tests bring the Spanish total from 213,024 to 219,764 in the biggest increase since 7,026 were recorded on April 4. The jump is partly explained by the growing use of antibody tests, which have added nearly 17,000 people to the total since they were introduced. There was also better news for Spain today as the daily death toll fell to 367, the lowest since March 21, taking the total from 22,157 to 22,524.

Spain said today that 16,774 people had tested positive via the antibody test method, an increase of 3,944 from yesterday's total of 12,830.

Only 2,976 of the 6,740 new cases were confirmed using a traditional PCR test, official figures showed.

The Madrid region accounted for 1,097 of those while the second worst-hit region of Catalonia was responsible for another 652.

Antibody tests show whether a patient's immune system has developed defences against coronavirus, meaning they have been infected in the past.

However, governments in several countries have warned that antibody tests are not yet reliable enough to roll out on a large scale.

Spanish health officials believe the epidemic peaked on April 2 when 950 people died over 24 hours, nearly three weeks after the government imposed a lockdown.

The March 14 lockdown has been twice extended and parliament late on Wednesday approved a fresh extension until May 9,

However, conditions will be slightly eased from April 26 (Sunday) to allow children to spend some time outside.

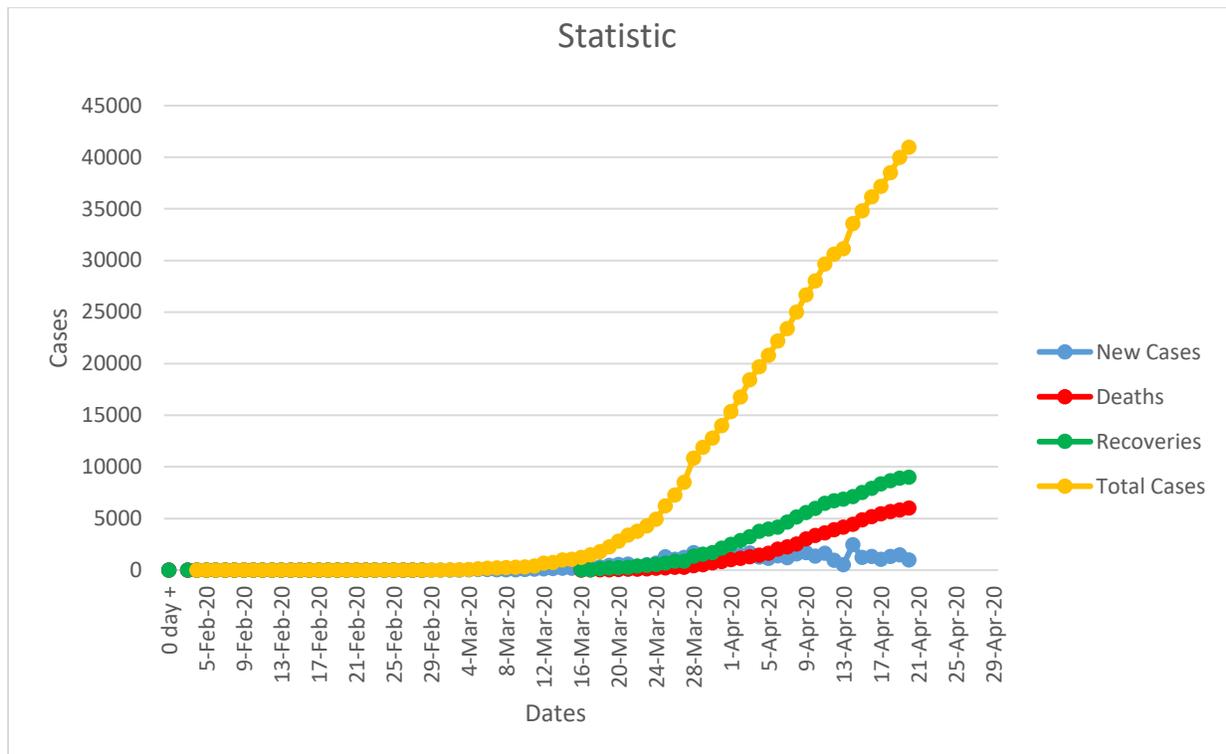
Annex 8 Belgium

1. Situation in the country from the beginning till 22 April.

a) Text – when, how, prepared (unprepared), strategies

The [coronavirus pandemic](#) was first confirmed to have spread to [Belgium](#) on 4 February 2020, when a group of nine Belgians were repatriated from [China](#) to [Brussels](#). On 4 February, it was announced one of the repatriated has tested positive for the novel coronavirus, the first case in Belgium.

b) Graphic – total, deaths, recovery, new cases



c) Measures by date

On 29 January, Belgium issued a travel notice advising against non-essential flights to China, Hong Kong excluded, with some travel companies cancelling all flights to China.

On 10 March, the government advised to cancel any indoor scheduled events to be attended by more than 1000 people for the month of March. Schools remain open but are advised to cancel trips abroad and multi-day excursions in general. Companies are advised to have their personnel work from home as much as possible and allow flexible working times to allow a better spread of public transport use throughout the day.

On 12 March, the Belgian government moved into the federal phase of crisis management, and ordered:

- 1) If people have fever and/or respiratory problems such as coughing and breathing difficulties, they should stay home and call their doctor and report their symptoms;
- 2) Universities and higher education institutions are advised to organize distance learning as soon as possible;
- 3) Schools, discos, cafes, restaurants, sporting or cultural gatherings or closed.
- 4) Fire, police and safety schools will continue to provide basic training. It is recommended that lessons are given remotely. If this is not possible, lessons may continue in the schools when hygiene measures and social distancing are respected and no new mix groups are created between the different classes;
- 5) Bank counters are open during the week;
- 6) Cafes must close and restaurants must close their hall. Company restaurants also close. Restaurants that deliver at home, take out or offer a catering service can open their kitchen. If they offer this service, they should be careful to avoid queues;
- 7) Non-essential shops must close. Hairdressers can remain open, but can only have one customer at a time;
- 8) All shops that mainly offer food products (including for animals) and pharmacies, drugstores and bandagers can remain open during the week and weekends;
- 9) Theaters, operas, cinemas and cultural centers are closed to the public until April 3 inclusive. Drawing and music academies are closed until April 3 inclusive;
- 10) Public transport continues to operate but should only be used for essential travel. Taxis and alternative taxi services can continue to operate but must limit the number of passengers and adopt improved hygiene measures;
- 11) New cruises organized by boats or ships sailing under the Belgian flag are forbidden;
- 12) Non-essential foreign travel will be banned until 5 April. For those still using public transport, the public transport companies, must ensure that their passengers (and staff) can maintain social distancing while using their services.

On 17 March, the National Security Council decided to take additional measures, based on the evolution of the spread of [COVID-19](#) in Belgium and on recommendations of experts. Stricter social distancing measures were imposed until 5 April, with non-essential travel prohibited, non-essential shops to close, gatherings banned, and penalties to force companies and individuals to abide by the rules.

On 20 March, Belgium closed its borders to all non-essential travel.

On 27 March, the National Security Council and the governments decided to extend the measures taken so far until at least 19 April.

On 15 April, Belgium National Security Council took several decisions, which were based on the opinions of scientific experts:

- 1) The current lockdown measures were extended until 3 May inclusive;
 - 2) DIY stores and garden centers were allowed to reopen, under the same conditions as food stores. In other words, social distancing rules should be followed;
 - 3) Residents of residential facilities – for example, nursing homes, care homes and facilities for the disabled – can be visited by a designated relative or close friend, provided this person has shown no symptoms of the disease for two weeks;
 - 4) Sports and cultural activities such as festivals will be prohibited until 31 August.
- d) Economic Measures:

On 19 March, the Belgian government took the following measures:

- 1) A package of measures totaling € 8-10 billion (2% of GDP) has been announced to offset the devastating impact of the epidemic on the economy;
- 2) The measures are aimed primarily at household purchasing power. The government expects one million workers to be temporarily unemployed (i.e. 40% of employees in the private sector!). In addition to the planned allowance (70% of salary capped at €2,750 gross), an allowance of €150 per month per worker is planned;
- 3) For self-employed workers (more than 800,000 people), drawing allowances will be made easier and social security contributions for the first two quarters of the year have been deferred until 15 December;
- 4) Companies will also benefit from deferrals of taxes and social security contributions. Measures to defer credit payments are expected to be decided with the banking sector, and potential state guarantees for bridge loans are likely.

On 6 April, the Belgian government took the following measures:

- 1) The introduction of a temporary moratorium on company bankruptcies. During this difficult period, any company that is struggling to pay off its debts as a result of covid-19, is protected from pre-judgment attachment and executive attachment, bankruptcy and court-ordered dissolution;
- 2) Tax exemption for voluntary overtime (220 hours) in the so-called critical sectors (Annex to Ministerial Decree of 23.03.2020) until 30 June 2020;
- 3) Possibility for the temporarily unemployed to work temporarily in a flexible way and without loss of income in the horticultural and forestry sector;
- 4) An easing of flexible working hours and temporary work in order to facilitate making permanent employees of other companies available to employers in "critical" industries.

Mechanisms to protect workers against social dumping, such as the principle of equal pay for equal work continue to apply;

5) Neutralization of working hours of students in the second half of 2020, so that they do not count towards the calculation of the quota (475 hours per year). Students can therefore reinforce the labor force in critical industries, such as retail or food;

6) Freezing the digressive nature of unemployment benefits during the crisis period;

7) Confirmation of a bridging right for people who are “typical” self-employed as their secondary occupation in the case of self-employed persons, paying the maximum contribution;

8) State guarantee for certain credits earmarked for combating the economic repercussions of the coronavirus will be provided. The purpose of this Decision is to provide new credits of up to 50 billion for non-financial corporations, including the self-employed.

Following the containment measures of the [federal government](#), many Belgian businesses had to shut down temporarily or have reduced staff numbers at work, resulting in 1.25 million people on temporary unemployment. Belgian companies suffer from the corona crisis. Just as most [airlines](#) in the world the national [flag carrier Brussels Airlines](#) suspended all its commercial flights as of 21 March, originally until 19 April then until May 15th.

The bank and agency see a period of nine months of gradual recovery as measures to stem the flow of the coronavirus are steadily eased. They also assume that the crisis will not leave permanent economic damage such as wide-scale solvency problems leading to company bankruptcies. The bank and planning agency’s report estimates a 4% decline of gross domestic product in the first quarter and a 15% drop in the second before a steady improvement in the second half of the year. By the end of 2021, GDP would be on a growth trajectory 2 percentage points lower than that envisaged before the crisis. The measures taken to protect consumers’ disposable income, such as a temporary unemployment scheme and a mortgage payment pause, were the basis for a rapid recovery of consumption from the third quarter of this year.

e) Additional facts, researches, prognoses

1. Testing

In the end of March, Belgium has planned to start about 10 000 screening tests daily, which will allow an early stage diagnose, although 3,500/4,500 tests were carried out daily in the beginning of April. Currently, the country has 40 956 confirmed cases of COVID-19 in 11 million people, testing only patients admitted to hospitals with severe symptoms. This new tactic is based on the idea of expanding the medical points that will test patients. All medical universities and laboratories in the country (Namur, Leuven and Mons) will be involved in the fight.

2. Belgium-approach

Belgium announced that it has its own antigen test that it has certified for use. Allegedly it produces result in only 15 minutes even its reliability is lower as could detect 6 out of 10 carriers, but would be used to separate infected people from healthy ones. Rapid tests of 30,000 should be

available in the beginning of April 2020. In addition, an antibody test was developed in collaboration with a Chinese company to determine if a person that already pass the disease has antibodies made. It is blood and the result is also ready in 15 minutes. The reliability of this test is 98%. Mass screening volumes through it will be available after the peak of the crisis, which is expected in the coming weeks. The Belgian authorities believe that such approach will allow to remove more quickly the restrictive measures imposed on 17 March 2020 as isolating only those who are actually infected and quarantining people who have had close contact with them. Although the test is only 70% effective, the Belgian health authorities have authorized its sale.

The quick test was developed by Coris BioConcept and a number of universities and partners. A number of hospitals in Belgium are already planning to use it. Mass screening volumes through it will be available after the peak of the crisis, which is expected in the coming weeks. The Belgian authorities believe that the mass testing will allow the restrictive measures imposed on 17 March 2020 to be removed more quickly, isolating only those who are actually ill and quarantining people who have had close contact with them.

Research to find a [vaccine against COVID-19](#), medication for the lung disease or [new test methods](#) are concentrated now in Belgium.

a) **Assumptions – nothing to include.**

g) Conclusion

In Belgium, a plateau of the morbidity curve is observed. The number of patients being treated at Belgian hospitals is decreasing, mainly due to the large number of people who were discharged from hospitals. As of 22 April 2020, there have been 40 956 confirmed cases reported by the Belgian authorities, with a total of 5 998 deaths.

Resources:

1. <https://www.belgium.be/en/news/2020/coronavirus>
2. <https://www.worldometers.info/coronavirus/>
3. <https://www.euractiv.com/section/coronavirus/news/belgium-extends-covid-19-lockdown-until-3-may-but-relaxes-some-measures/>
4. <https://www.info-coronavirus.be/en/what-is-the-government-doing-about-it/>
5. https://www.belgium.be/en/news/2020/coronavirus_launch_second_part_federal_plan_social_and_economic_protection

[https://www.belgium.be/en/news/2020/additional socio economic and health measures fight against covid 19additional socio](https://www.belgium.be/en/news/2020/additional_socio_economic_and_health_measures_fight_against_covid_19additional_socio).

Annex 9 Germany

- On 22 January 2020, the German government considered the spread of COVID-19 as a "very low health risk" for Germans and the virus in general as "far less dangerous" than SARS.
 - In total, **120,479** COVID-19 cases and **2,673** deaths due to COVID-19 have been electronically reported. The first confirmed case reported on 28 January 2020 while the first death on 05 March 2020.
 - All 16 federal states are affected. The incidence (cases per 100,000) of COVID-19 is highest in Bavaria (247), Baden-Wuerttemberg (218) and Hamburg (203).
 - Most cases (**69 %**) are between 15 and 59 years old; **49 %** male and **51%** female.
 - Among notified cases, 947 are children under 5 years of age, 2,362 children aged 5 to 14 years, 82,461 persons aged 15 to 59 years, 20,925 persons aged 60 to 79 years and 11,165 persons aged 80 years and older. The age of 204 notified cases is unknown. The median age of cases is **50 years**
 - The most common symptoms are cough (51%), fever (42%) and rhinorrhoea (22%). Pneumonia reported for 2% of the cases. Hospitalisation was reported for 15% of COVID-19 cases with information on hospitalisation available.
 - Approximately **60,300** persons are estimated to have recovered from their COVID-19 infection
 - Total of **4,895** patients are in Critical/Serious Condition
 - The **2,673** COVID-19 related deaths concerned **60%** men and **40%** women. The median age was **82 years** and the range 26 to 105 years. Of all deaths, **86%** were in persons 70 years or older, but only **16%** of all cases were in this age group.
 - Germany has a common National Pandemic Plan, which describes the responsibilities and measures of the health care system actors in case of a huge epidemic. Epidemic control is executed both by the federal authorities such as Robert Koch Institute and by the German states. The German states have their own epidemic plans. In early March, the national plan was extended for the handling of the ongoing coronavirus pandemic.
 - Four major targets are included in this plan:
 - Reduce morbidity and mortality, Ensure treatment of infected persons, Upkeep of essential public services and Short and accurate information for decision-makers, media and public.
- The plan encompasses three stages which might eventually overlap:
- Containment. In this stage health authorities are focusing on identifying contact persons who are put in personal quarantine and are monitored and tested. Personal quarantine is overseen by the local health agencies. By doing so, authorities are trying to keep infection chains short, leading to curtailed clusters.
 - Protection. In this stage the strategy will change to using direct measures to protect vulnerable persons from becoming infected.
 - Mitigation. This stage will eventually try to avoid spikes of intensive treatment in order to maintain medical services.

a. Tables

Population Age	%For all ages	% 0-5 y	%5-14	%15-59	%60-79	%>=80

Total: 120,479	49 % male					
	51% female	0.80%	2,04%	69,96%	17.75%	9.49%

Table 1: Percentage of COVID-19-cases notified as Confirmed cases (12/04/2020, 12:00 AM)

Population Age	% For all ages	% 0-60	%60-69	%70-79	%80-89	%>=90
Total Deaths: 2,673	60% male 40 % female	4.79 %	8.92 %	24.02 %	45.68 %	16.59 %

Table 2: Numbers of COVID-19-cases notified as having died (12/04/2020, 12:00 AM)

b. Graphics – total, deaths, recovery, new cases

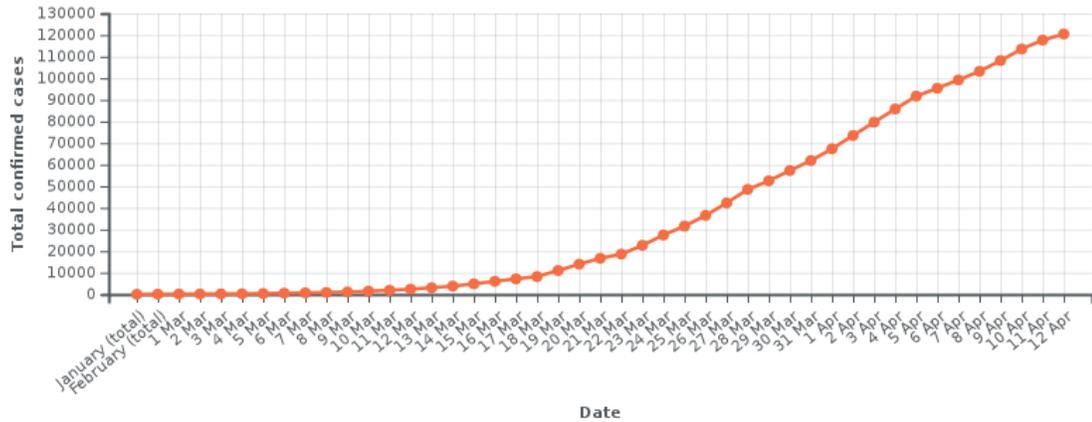


Figure 1: COVID-19 confirmed cases in Germany (12/04/2020 12:00 AM)

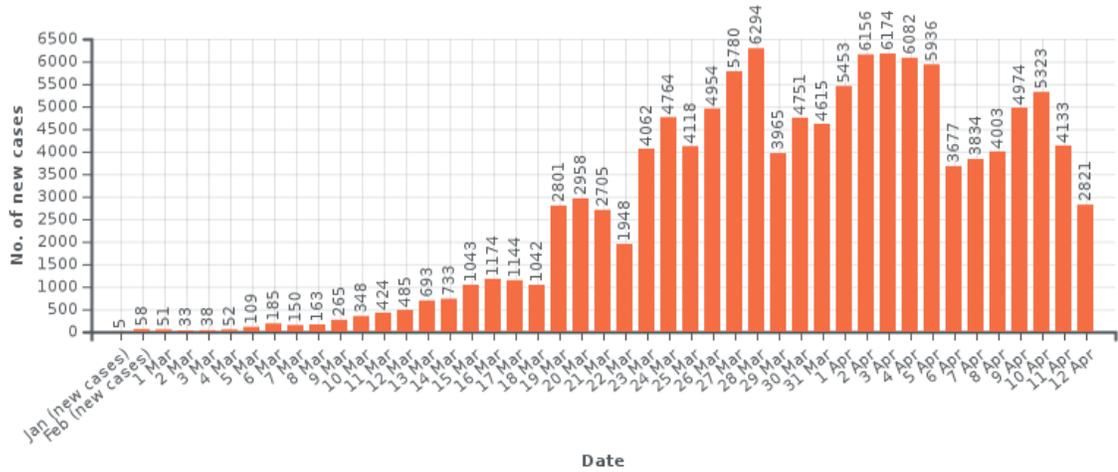


Figure 2: New cases per Day (12/04/2020 12:00 AM)

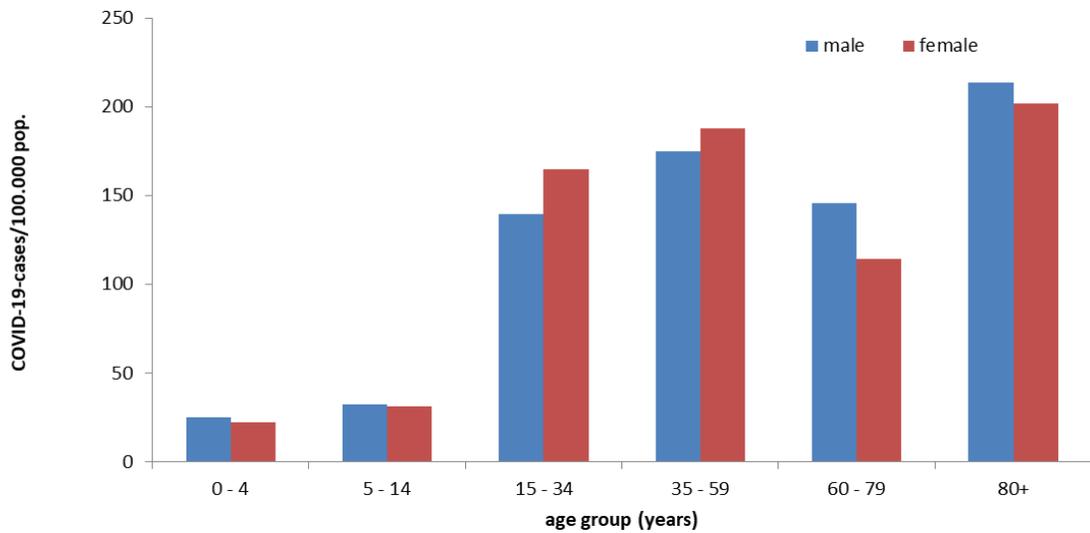


Figure 3: Electronically reported COVID-19-cases/100,000 population in Germany by age group and sex for cases (12/04/2020 12:00 AM)

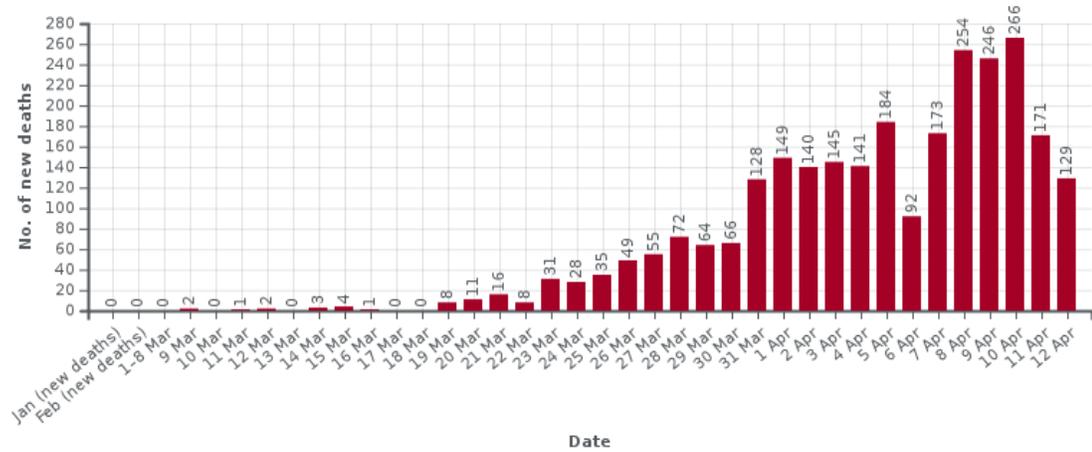


Figure 4: New deaths per Day (12/04/2020 12:00 AM)

c. Trends and assessment text explanation

According to the Institute for Health Metrics and Evaluation (IHME- Last updated 10, April 2020, <https://covid19.healthdata.org/germany>) projections:

- The deaths per day will **reach the peak** on **12 April 2020**.
- The **total deaths** by 04 August 2020, will be **7,080** (today 2,673)
- **Estimation of the reproduction number R_0** . The reproduction number, R_0 is the mean number of persons infected by a case. It can only be estimated and not directly extracted from the notification system. The current estimate is **$R_0 = 1.3$** (95% confidence interval: 1.0-1.6) and is based on current electronically notified cases.

- **Assessment:** At the global and the national level, the situation is very dynamic and must be taken seriously. Severe and fatal courses occur in some cases. The number of cases, hospitalisations and fatalities in Germany continues to increase. The risk to the health of the German population is currently assessed overall as high and as very high for risk groups. The probability of serious disease progression increases with increasing age and underlying illnesses. The risk of disease varies from region to region. The burden on the health care system depends on the geographical and age distribution of cases, health care capacity and initiation of containment measures (isolation, quarantine, social distancing etc.), and may be very high in some geographical regions.

d. Measures by date (government and military), special attention on stay at home, educational facilities, non-essential services closed, emergency, distancing, using of mask and gloves, quarantines, closing of borders

- Closure of nurseries schools, educational institutions, It started on **16 March** in the states of Bavaria, Berlin, Saarland and Lower Saxony and gradually extended across the all country

- Closure of swimming pools, libraries, restaurants, malls, shops, hairdressers, etc, Supermarkets, chemist's shops, banks, pet shops, and all business that sell essential basic needs are allowed extended opening times including on Sundays, while non-essential shops closed . Prohibit asylum seekers from entering. Prohibition on travelling in coaches, attending religious meetings, visiting playgrounds or engaging in tourism

- **As of 20 March**, Germany closed its borders to five neighboring countries were closed (France, Switzerland, Austria, Denmark and Luxembourg). The government brought back thousands of German travelers stranded in non-EU countries with charter flights. All arriving travelers in Germany are to remain in quarantine for 14 day. Travel ban for EU- and non-EU citizens.

- Starting on **23 March**, the government announced a national curfew. Individuals are only allowed to leave their homes for certain activities e.g. commuting to work, engaging in sports or purchasing groceries and not in groups of more than two people if they do not share the same household.

- To address the severe shortage of hand disinfectants, the government issued a general decree allowed pharmacies and pharmaceutical companies to produce and sell products based on isopropyl alcohol for this purpose.

- **On 7 April**, the Robert Koch Institute, in partnership with healthtech startup Thryve, launched the app *Corona-Datenspende* (*Corona Data Donation*) for voluntary use by the

German public. This app, designed to be used with a range of smartwatches and fitness trackers (which is still to be expanded after technical difficulties are overcome), intends to help monitor the spread of COVID-19 and analyse the effectiveness of measures taken against the pandemic.

e. Economic measures and how to back on normal situations with explanation not just a facts

- Germany is particularly vulnerable to the virus due to its large manufacturing sector, dependence on trade with China and Italy and shock-absorbing capacity of non-financial corporates

- On **23 March**, the government decided on a financial aid package totaling around 750 billion Euros taking on new debt for the first time since 2013, to mitigate the damage of the coronavirus pandemic on the economy

- The German Bundestag approved suspended the constitutionally enshrined debt brake to approve the supplementary government budget of 156 billion euros

f. Additional facts, researches, prognoses (here you can put all additional interesting data for the country)

As of **12 April 2020**, Germany has the fifth most coronavirus confirmed cases worldwide but a **fatality rate** just **2.2 %**. That gives Germany one of the lowest fatality rates in the world. For instance, the relative rates in Italy, Spain and USA and are **12.72 %**, **10.22 %** and **3.93 %**, respectively. The average fatality rate worldwide is **6.19 %**.

g. Conclusions

- Germany has a high number of intensive care beds (**19,701**), meaning its hospitals have so far not been overwhelmed with COVID-19 patients in the same way some hospitals in Italy (5,000 intensive care beds) and UK (4,000 intensive care beds).

- As of 12 April 2020, **19,701** intensive care beds were registered, of which 11,376 (**58%**) are occupied and **8,325 (42%)** beds are currently available.

- The public health insurance companies assured to cover all expenses related to the crisis with no limitation.

- In Germany there is a wide network of independent laboratories which began covid tests in January, when the covid cases were very little. The whole laboratories' network has a capacity to execute up to 12,000 tests daily. Because Germany rolled testing out so quickly as the epidemic was growing, it meant they were selectively more likely to identify milder cases. Apparently, the more cases you ascertain, the death rate is going to go down.

- The elderly in Germany often do not live in larger families, which reduces infections.

- Car manufacturers donated million protective masks to hospitals, doctors and health authorities.

- **All, the aforementioned reasons could explain why German experience lower fatality rate compared with other countries.**

The statistics show that Germany reached the peak of the spread and now the situation will calm down.

Annex 10 The Netherlands

1. Situation in the country from the beginning till 22 April.

b) Text – when, how, prepared (unprepared), strategies

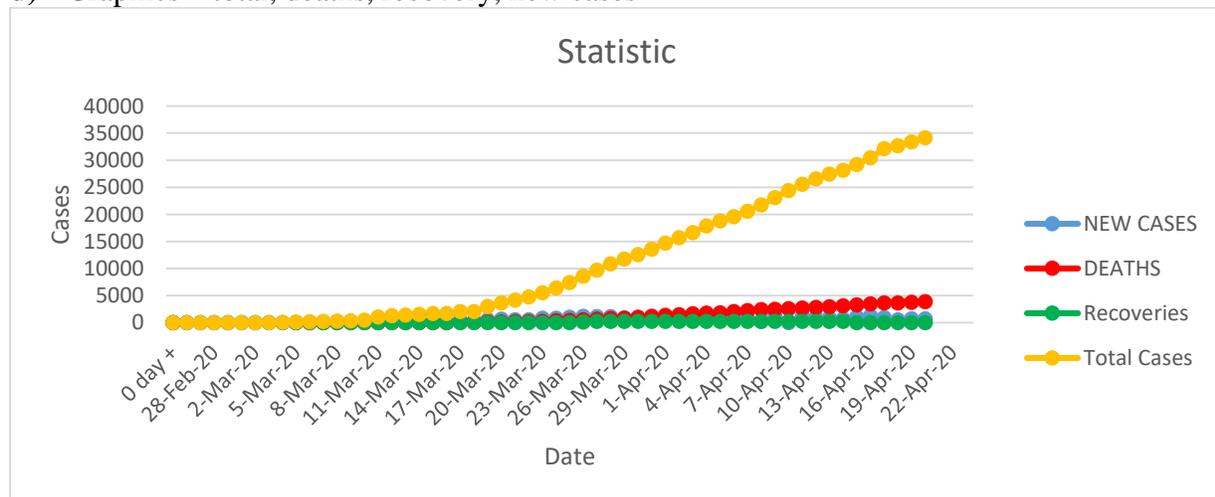
The coronavirus pandemic was confirmed to have spread to the Netherlands on 27 February 2020, when its first COVID-19 case was confirmed in Tilburg. It involved a 56-year-old Dutchman who had arrived in the Netherlands from Lombardia, Italy. The first death occurred on 6 March, when an 86-year-old patient died in Rotterdam.

The original position of the Netherlands (together with the UK) supports the Herd Immunization strategy, which envisages at least 60 per cent of citizens being infected with a coronavirus and thus acquiring immunization for the whole community. Gradually, and especially after the sharp increase in the country's population, the government abruptly changed its policy on COVID-19. The country has undertaken a strategy to scale up testing for both symptomatic patients and contact and at-risk populations (from 1,000 tests at the beginning of the crisis to 171 400 tests till 22 April).

c) Table

Population Age	% For all ages	% 0-9 y	%10-19	%20-29	%30-39	%40-49	%50-59	%60-69	%70-79	%80+
Total Cases	34 134	0.2%	0.9%	8.4%	8.6%	11.1%	19.3%	12.6%	15.3%	23.4%
Deaths	3 916	0%	0 %	0,1%	0,2%	0.4%	2.4%	8.7%	29.4%	58.7%

d) Graphics – total, deaths, recovery, new cases



e) Measures by date:

- The Dutch foreign ministry advised citizens not to travel to areas affected by the COVID-19 outbreak **on 26 February**.

- First province of Netherland where the measures were taken was North Brabant. The Dutch prime minister asked citizens to stop shaking hands and to work from home if possible. Stricter measures were introduced in the province of North Brabant on 10 March, where the number of case were more than one-third of the whole country. Larger events were banned, including professional football, a number of dance festivals, carnival parades and concerts.

- The government announced new measures for citizens of the Netherlands that will be in effect through the end of the month **on 12 March**:

- 1) For everyone in the Netherlands: stay at home if they have a cold, a cough, a sore throat or a fever. Avoid contact with others (social distancing);

- 2) Gatherings of more than 100 people are to be cancelled throughout the Netherlands. This includes the closure of public places such as museums, concert venues, theatres, sports clubs and the cancellation of sports matches and other events;

- 3) People throughout the Netherlands are encouraged to work from home or stagger their working times if possible;

- 4) For vulnerable people (the elderly and those with weakened immune systems): avoiding large gatherings and public transport. People in general are urged to limit visits to vulnerable persons;

- 5) For healthcare workers and staff in other crucial sectors: They should stay at home only if they have symptoms including a fever;

- 6) Universities and institutions of higher professional education are requested to offer online lectures instead of large-scale lectures;

- 7) Primary schools, secondary schools, secondary vocational schools and childcare centers will remain open as usual. There have been only few infections there and these environments are less international. Children and young people are not high-risk groups. Closing schools would have a major impact on society without contributing significantly to reducing the spread of coronavirus. Children who have symptoms of a cold should stay at home;

- The government announced new measures for citizens of the Netherlands that will be in effect through the end of the month **on 15 March**:

- 1) Everyone in the Netherlands is asked to keep a distance of 1.5 meters from each other where possible;

- 2) Schools and nurseries close from Monday March 16 to Monday April 6;

- 3) Children of parents in care, the police, public transport and the fire brigade, for example, are provided with childcare in the school and the nursery, so that their parents can continue to work. This care is at no extra cost;

- 4) Sports and fitness clubs, saunas and coffee shops close from Sunday 15 March 6 p.m. to Monday 6 April;

- 5) All food and beverage outlets will be closed from Sunday March 15 6:00 PM to Monday April 6. Only delivery and pick up is still possible. But crowds should be avoided, people shouldn't get close to others and take their consumption home (not eating on the spot);

- 6) All events (concerts, sports) and all meetings with more than 100 people are now forbidden and the National Institute for Public Health and the Environment RIVM is encouraging people to work from home. The restriction also applies to museums;

7) All Dutch universities will suspend physical teaching until 1 April, but online teaching will continue.

- **On 13 March**, the government cancelled all flights from China, Iran, Italy, and South Korea, the countries with the highest number of coronavirus cases, for two weeks.

- **On 31 March**, on a press conference it was announced that all measures initiated from 15 March will be extended until 28 April.

- **In late March**, the government announced strict social distancing rules as cases surged over 5,000. All events and gatherings of three people or more (that are not from the same household) are banned until 1 June. Furthermore, in public space a distance of at least 1.5 meters between people not from the same household must be observed, and stores and other venues are to enforce this distancing among their visitors.

- **On 21st of April** Netherlands government pointed out that thanks to the measures put in place to tackle coronavirus, Netherlands is moving slowly in the right direction. Although the situation is still precarious, there is now some scope to relax measures. The scope that Netherlands government has now is to ease the pressure people are under. The government has extended most measures until 19 May inclusive. Netherlands government announced the following measures:

Schools and childcare centers

1) Primary schools, including special primary schools, and childcare centers for children aged 0 to 4 (including childminders) will reopen on 11 May. Children who normally go to out-of-school care can do so on the days they attend school.

The size of classes at primary schools will be halved. Pupils will go to school approximately 50% of the time. They will spend the other 50% of their school hours doing distance learning;

2) The practical details will be worked out by the schools in the weeks ahead. Different schools may opt for different measures. Schools will inform parents about the arrangements at their children's school;

3) Pupils of primary schools for special education may attend school every day.

4) Parents are asked to take their children to school or childcare on foot or by bike wherever possible. This will prevent public transport becoming crowded;

5) Secondary schools can begin making preparations for pupils to gradually return to school from Tuesday 2 June.

Sports

1) From 29 April children and teenagers will have more scope for participating in organized sports activities and play outdoors. Official matches will not be allowed.

2) Children aged 12 and under will be allowed to play sports together outdoors under supervision.

3) Young people aged 13 to 18 will be allowed to play sports together outdoors under supervision, but must stay 1.5 meters apart.

4) Municipalities will make agreements on this with local sports clubs and community sports coaches. Different municipalities may opt for different approaches.

5) Top-level athletes will be allowed to resume training sessions at dedicated training facilities if they maintain a distance of 1.5 meters from others.

Older people living independently

From 29 April people aged over 70 who live independently may be visited occasionally by the same one or two people.

Events and culture

The ban on events that require a permit has therefore been extended to 1 September 2020.

f) Economic Measures:

- 1) An entrepreneur who expects a loss of turnover (at least 20%) can apply for a salary contribution for a period of three months (maximum 90% of the wage bill, depending on the loss of turnover). This allows companies to continue to pay their staff;
- 2) Extra support for independent entrepreneur. Self-employed persons can receive additional income support for subsistence for a period of three months through an accelerated procedure;
- 3) Broadening of the Guarantee for Entrepreneurial Financing: Businesses that experience problems in obtaining bank loans and bank guarantees can use the Guarantee Business Financing scheme (GO). The government proposes to increase the GO's guarantee ceiling from 400 million to 1.5 billion euros;
- 4) Temporary guarantee for agricultural and horticultural companies. For agricultural and horticultural companies, there will be a temporary guarantee for working capital under the Guarantee for SME Agricultural Credits (BL) scheme;
- 5) Consultation on tourist tax (central government / municipalities) and culture sector;
- 6) Compensation scheme for affected sectors. The government's health measures have enormous consequences for income in a number of sectors in particular. Such as the (mandatory) closure of food and beverage outlets and cancellations in the travel industry;
- 7) Businesses and organizations should ensure a 1.5-metre distance for employees;
- 8) The social and economic effects of this crisis are substantial. Thanks to its strong financial position, the government is able to offer some support to businesses, self-employed people and hard-hit sectors. But it is unavoidable that many people will be affected to some extent. Fortunately we are seeing that people, businesses and organizations throughout society are rising to the challenge and helping others.

Economic expectations: If these measures are available within three months, the Dutch economy is expected to contract by 1.2 percent in 2020. If these measures are needed for a year, the economy will decline by 10 percent. In all cases it is expected that the economy will slightly grow the following year.

g) **Additional facts, researches, prognoses**

1. Testing

By mid-March, the country could test about 1,000 samples per day, which is less than the capabilities of other European countries. This also explains a relatively large ratio of the number of deaths to the number of confirmed cases. As of 25 March, 2,500 samples have been tested daily and a total number of 38,000 tests performed. Because of the limited availability of testing capacity, certain groups were prioritized in testing, such as healthcare workers, elderly, and people with acute symptoms. By the end of March, the country was testing about 4,000 people per day, with the goal of expanding the testing capacity to about 17,500 daily tests in a couple of weeks. Once such a testing capacity has been reached the Dutch government wants to expand its testing capacity to 29,000 tests a day.

2. Research on antibodies against the novel coronavirus

The National Institute for Public Health and the Environment (RIVM) of Netherlands has launched a large-scale study to investigate how many people have antibodies for the novel coronavirus. Invitations to take part in the study will be sent to 6,000 people from all over the

country and from all age groups. In the coming months, RIVM will measure antibodies in the blood in several rounds of research. With the results, RIVM aims to learn more about the spread of the virus and about the development of herd immunity in all age groups. Everyone who has been in contact with the virus will generate antibodies. By measuring those antibodies in their blood, we will know how many people in the Dutch population have been in contact with the virus. RIVM expects to receive the results of the first round in May. The participants are people who previously took part in the PIENTER (is a long-term study among the Dutch population on protection against infectious diseases) study. In 2016/2017, RIVM carried out the third PIENTER study. Nearly 8,000 people between the ages of 0 and 90 years old took part in that study. RIVM stored the remaining blood samples from the people who took part in PIENTER and granted permission to store their samples. RIVM expects this research to give them important information about the spread of the virus and the development of herd immunity. The research will cover the period before, during and after the outbreak of the novel coronavirus.

h) Assumptions – nothing to include.

i) Conclusion

The Netherlands has taken actions against the spread of the Covid-19 pandemic later than other European countries. As the corona virus is a new phenomenon and it is too early to estimate the direct impact of the spread of the virus.

The measures which were taken by the Dutch Government are working, but it is still too early to consider that the crisis will be managed in near future.

Up to and including April 22, a total of 34 134 COVID-19 patients were reported by RIVM in the Netherlands. Half of all reported patients are 61 or older. To date, 9 897 of the reported patients have been hospitalized and 3 916 have died. Half of the admitted patients are 69 years or older, half of the deceased patients were 81 years or older.

Resources:

1. <https://www.rivm.nl/en>
2. <https://www.government.nl/latest>
3. <https://insights.abnamro.nl/en/2020/04/recession-deeper-still-but-worse-and-better-outcome-possible/>
4. <https://www.worldometers.info/coronavirus/>
5. <https://en.wikipedia.org/wiki/Netherlands>
6. https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_the_Netherlands
7. <https://www.government.nl/topics/coronavirus-covid-19/tackling-new-coronavirus-in-the-netherlands>
8. <https://business.gov.nl/the-coronavirus-faq-for-entrepreneurs/>
9. <https://www.nrc.nl/nieuws/2020/02/02/wat-we-tot-nu-toe-weten-over-het-coronavirus-a3989006>
10. <https://www.nd.nl/nieuws/economie/966187/minister-koolmees-broedt-op-verruiming-steunpakket>
11. <https://www.dutchnews.nl/news/2020/04/new-figures-show-hidden-impact-of-coronavirus-on-dutch-death-toll/>

12. <https://www.dutchnews.nl/news/2020/04/dutch-daily-death-toll-dips-below-100-government-talks-about-relaxing-rules/>
13. <https://www.sciencemag.org/news/2020/03/mathematics-life-and-death-how-disease-models-shape-national-shutdowns-and-other#>
14. <https://www.irishtimes.com/news/world/europe/how-dutch-false-sense-of-security-helped-coronavirus-spread-1.4199027>

Annex 11 France

The virus known as COVID-19 emerged in Wuhan, China last December, and has spread to at least 164 countries and territories. The World Health Organization declared the outbreak a pandemic.

1. *or a) How and when, level of preparedness:*

The coronavirus pandemic in France started on 24 January 2020 with the first COVID-19 case in Europe and France confirmed in Bordeaux. It involved a 48-year-old male French citizen who arrived in France from China on 22 January. He was hospitalised at Centre Hospitalier Universitaire de Bordeaux. Service d'Aide Médicale Urgente took charge and the patient was isolated in the hospital. The authorities tried to confirm whether he had infected people who were in contact with him. He was discharged from the hospital on 13 February.

Two more cases were confirmed by the end of the day (24 January) – a couple living in France who returned back from China on 18 January. A 31-year-old female and her 30-year-old male partner, both from Wuhan, tested positive for SARS-CoV-2 and were hospitalised at Bichat–Claude Bernard Hospital. They were discharged on 12 February.

An 80-year-old Chinese tourist from the Hubei Province was admitted to a hospital in Paris on 28 January and died on 14 February, marking the first death from COVID-19 in Europe and France. It was also the first death outside of Asia. On 29 January, his 50-year-old daughter tested positive as well and was admitted to the same hospital where her father was treated. It is not clear if she had the virus in China or contracted it from her father. Out of hospital at the start of the third week of February.

On 30 January, a doctor was confirmed positive for COVID-19 in Paris. He came into contact with a female Chinese tourist whose contamination was confirmed when she returned to China. Discharged on 14 February.

From 31 January to 9 February, nearly 550 people were repatriated from Wuhan on a series of evacuation flights arriving at Creil Air Base in Oise and Istres-Le Tubé Air Base in Istres.

On 8 February, the Minister of Health, Agnès Buzyn confirmed five new cases which originated from a group of British people who were on a holiday in Les Contamines-Montjoie, Haute-Savoie – 1 man, 1 female, 2 unknown and one 9-year-old child. They contracted the infection from a British national who was attending a conference at Grand Hyatt in Singapore a few days before. All of them were discharged by the end of the month.

Another British national tested positive for COVID-19. He stayed in the same chalet as the five other individual who contracted the infection at Les Contamines-Montjoie.

On 18 February, the new Minister of Health, Olivier Véran, announced that only four people remained infected in France. These four, all British nationals, underwent quarantine at the hospital, three from the first group of Les Contamines-Montjoie and a fourth case which was discovered later.

Six days later, the last remaining British national was discharged.

On 27 February, the Minister of Health Olivier Véran announced that France had 38 cases of COVID-19 on its soil, with 20 new cases detected including a cluster in the Oise caused by close contacts with patients and contamination in Egypt.

The annual gathering of the Christian Open Door Church between 17 and 24 February

in Mulhouse which was attended by about 2,500 people became a significant cluster in the spread of coronavirus in France. Alerted by a parishioner and by 18 family members who tested positive on 1 March, the pastor notified the health authorities. A man who lived alone in Nîmes – and who had driven back alone from Mulhouse and who otherwise had no close contacts – tested positive, and the flurry of reported cases locally on 2 March brought the existence of a Mulhouse cluster to light. On 3 March, seven participants in the evangelical rally – including five members of a local family and a general practitioner from Bernwiller – had tested positive for the virus. Starting on the evening of 3 March, the local helpline of the Emergency medical services recorded an unprecedented flood of distress calls, from people who had attended the gathering. According to an investigative report by Radio France, at least half of the attendees had contracted the virus; in an interview on France Info, the pastor of the church admitted that 2000 attendees may have been infected. It is said that no specific health advice existed in light of the threat at the time. Furthermore, as different attendees were welcomed each day, and due to the absence of any attendance register, epidemiological follow up subsequent to the discovery of attendees who tested positive was rendered impossible.

A Radio France investigation identified that one nurse who had attended the event was the origin of a subsequent cluster in Strasbourg at her workplace at the Strasbourg University Hospitals involving some 250 hospital colleagues. Five returnees from the Mulhouse rally were confirmed in French Guiana on 4 March. On 5 March, a retired couple from Lot-et-Garonne and another person from Deux-Sèvres who had attended the same Mulhouse gathering were declared positive for the disease. Five new cases from this cluster were registered in Corsica, and three in Normandy. By 6 March, with 81 cases had been detected in the previous 24 hours in Mulhouse, the departmental prefect declared that the means were no longer sufficient to systematically screen all suspected cases; only the most serious patients were to be hospitalised. The department of Haut Rhin, in which Mulhouse is situated, imposed strict limits on the gatherings; all schools were closed henceforth.

22 March first fatality due to COVID-19 among French medical personnel. The deceased doctor was an emergency specialist working at a hospital in Compiègne, north of Paris.

A 16-year-old girl residing in the Paris region who had no known co-morbidity became the youngest French victim of the disease. She had developed a mild cough but was subsequently admitted to hospital upon feeling short of breath. Her condition deteriorated and she died a week later, on 26 March.

Health officials remained emphatic that severe cases are very rare in young people. In a weekly briefing, Director of Health, Jérôme Salomon, said that the 15 to 44 year age group represented only 8% of serious Coronavirus cases admitted to hospital, and half of the cases exhibited pre-existing health conditions. Up to 24 March, only 5 cases out of 507 certified deaths were in the 15-44 age group, and all had pre-existing health issues

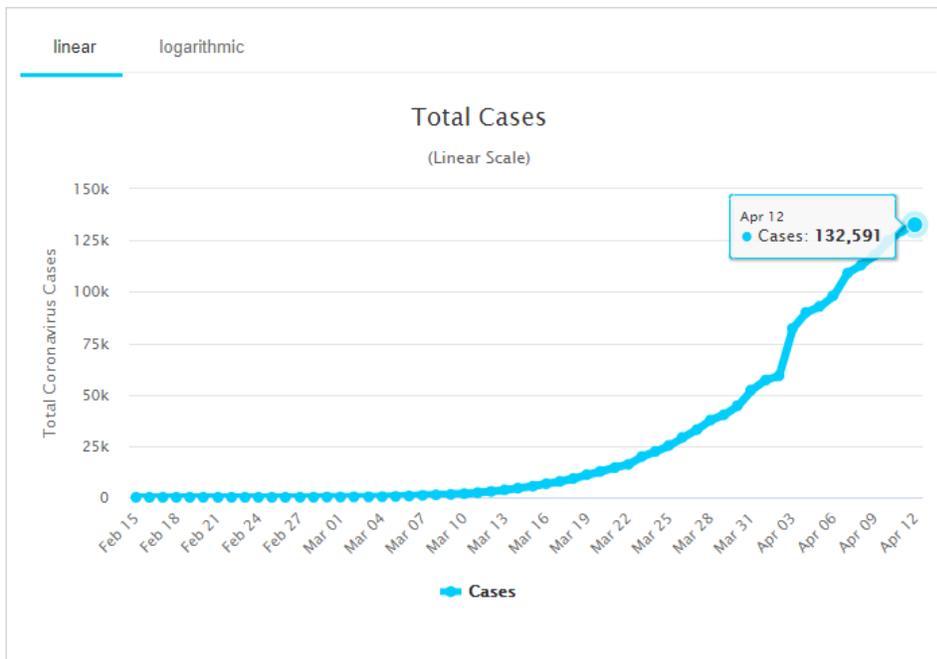
There are confirmed cases of COVID-19 in all regions of France so far.

France is ranked as № 4 among the countries of the number of confirmed cases of coronavirus disease. First in the ranking list are the United States followed by Spain and Italy (as of 13 April).

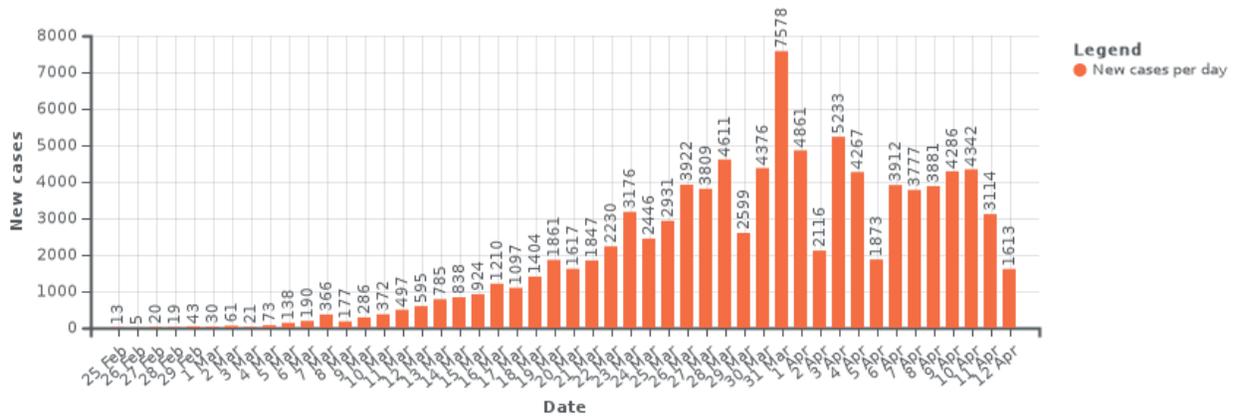
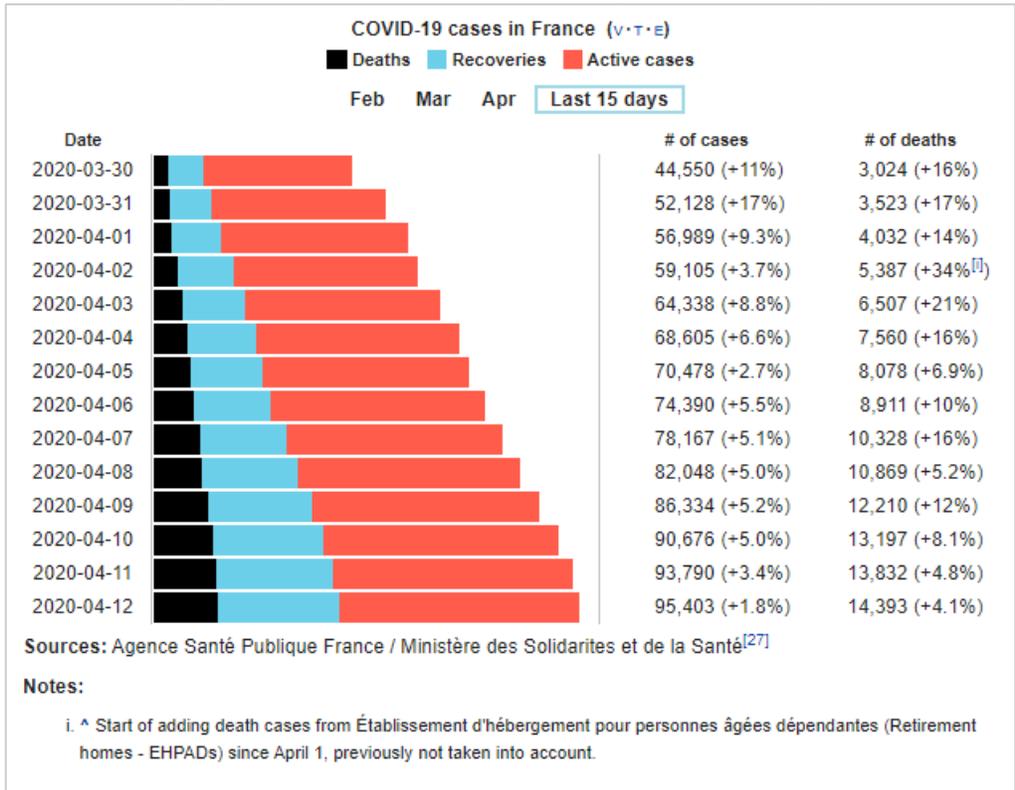
Level of preparedness of the government before and right after the first COVID-19 case in the country:

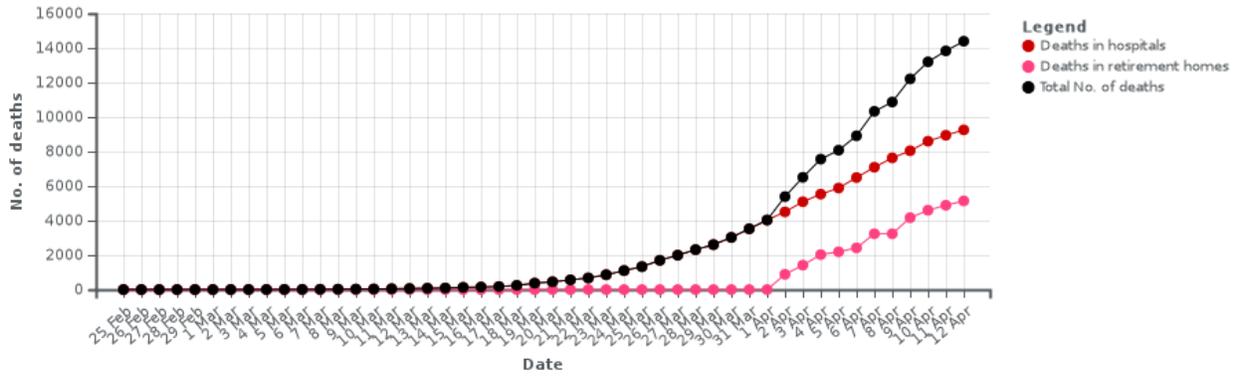
- January 2: Start of monitoring at the Operational Center for reception and regulation of health and social emergencies (CORRUSS)
- January 14: Sensitization of hospitals, medico-social and liberal health professionals, to the situation and health recommendations.
- January 22: Activation of CORRUSS in level 2 of enhanced mobilization.
- January 23: Implementation of a monitoring and response system for the concerns of French people in China by the Crisis and Support Center of the Ministry of Europe and Foreign Affairs, in coordination with the French Embassy in Beijing and all of the consulates general in China.
- January 24:
 - Confirmation of the first confirmed cases of COVID-19 coronavirus by Agnès Buzyn, Minister of Solidarity and Health.
 - Deployment of flyers and information posters in French, English and Mandarin at airports.
- January 25:
 - Establishment of a personalized and daily identification and follow-up procedure for contact cases was implemented via the ARS.
 - Establishment of a specific welcome for travelers from China, Hong-Kong and Macao in Paris Charles de Gaulle and Saint-Denis de la Réunion provided by staff of approved civil security associations in connection with the medical service of the airport, reinforced with medical and paramedical health professionals from the health reserve of the Ministry of Solidarity and Health.
- January 26: First Interministerial Meeting chaired by the Prime Minister
- January 27:
 - Activation of the Health Crisis Center
 - Development of a rapid diagnostic test by the Pasteur Institute to give a result in a few hours.

Total Coronavirus Cases in France

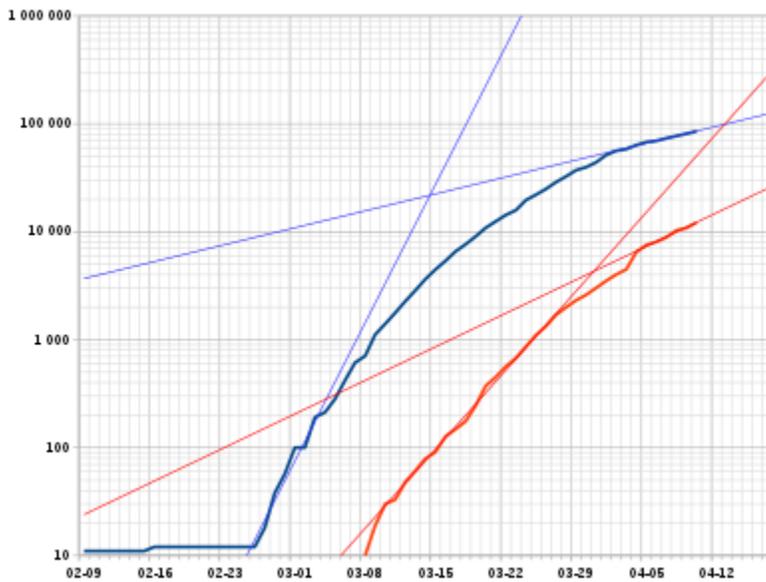


This graphic does not include the cases from the nursing homes.



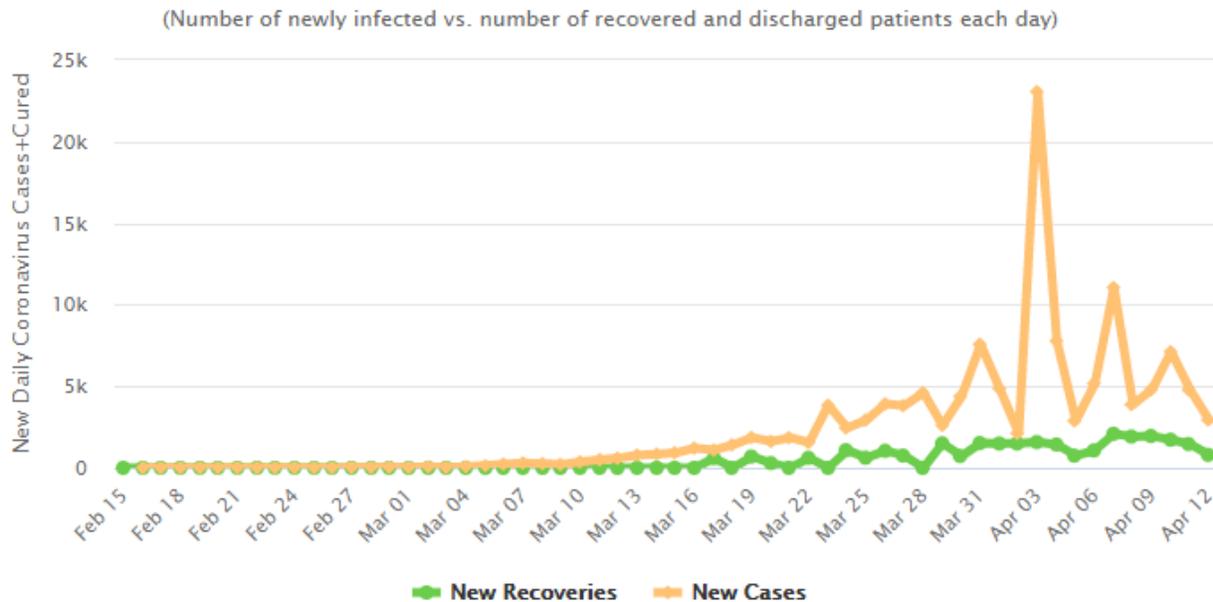


Number of cases (blue) and number of deaths (red) on a logarithmic scale.



Unfortunately, there are no graphics that we can use as a good illustration for the purpose of the report. An option is that one:

New Cases vs. New Recoveries



But you cannot see the exact numbers.

Until the end of February, there are just a few cases of COVID-19 in the country. The pandemic situation/spread of the virus afterwards was caused by the already mentioned execution of the annual gathering of the Christian Open Door Church between 17 and 24 February in Mulhouse attended by about 2,500. The peak of the pandemic is considered to have happened during the period between 2 April and 10 April when the death cases are at a very high level. The situation for 11-12 April is showing numbers by day half of those for the 2-10 April period. But it is still too early to make assumptions that this positive tendency will continue. At any case, the lower numbers for the last few days are a good catalyzer for the effect of the taken by the country measures. At the same time, the number of new cases per day is continuing to increase without showing signs of slowing down.

- **Health Recommendations**

Simple measures against coronavirus will help preserve your health and the health of those around you:

- Stay at home
- Wash your hands very often;
- Cover your mouth and nose with your sleeve or with a tissue when you cough or sneeze;
- Use single-use tissues, and then throw them away;
- Do not shake hands or greet people with kisses on the cheek.
- **Hotlines**
 - A toll-free hotline service (French only) can answer your questions about the Coronavirus COVID-19 non-stop, 24 hours a day, 7 days a week: 0 800 130 000 (from abroad:

+33 800 130 000, depending on your operator).

- Please note that the toll-free hotline service cannot give medical advice.

Taken measures by the government and a follow-up of the impact of the pandemic on the political, economic and social areas of life day by day:

- At the end of February and the beginning of March the COVID-19 cases in France are still small in number, but starting progressively to grow compared to the period of one month when the first case was detected – 28 February (57 cases), 29 February (100 cases), 1 March (130) – but already some cultural and sport events were precautiously cancelled.

Examples:

- On 28 February, the fashion designer agnès b. (not to be confused with Agnès Buzyn) cancelled fashion shows in Paris Fashion Week, which was scheduled to run until 3 March.

- 29 February – the Paris half marathon scheduled for Sunday 1 March with 44,000 participants was cancelled as one of a number of measures announced by health minister Olivier Véran.

- 13 March, the Ligue de Football Professionnel suspended Ligue 1 and Ligue 2 (the top two divisions of football in France) indefinitely due to health risks.

- On 14 March, many cultural institutions announced their closure. These are mainly Parisian institutions or institutions in the Paris region, such as Louvre, Centre Georges Pompidou, Eiffel Tower, Musée d'Orsay, or Château de Versailles, but also institutions in the provinces such as Château de Montsoreau - Museum of Contemporary Art, CAPC - Musée d'Art Contemporain de Bordeaux, MUCEM in Marseille.

- On 12 March, president of France Emmanuel Macron announced on public television that all schools and all universities would close from Monday 16 March until further notice. The next day, the prime minister Édouard Philippe banned gatherings of more than 100 people, not including public transportation. The following day, the prime minister ordered the closure of all nonessential public places, including restaurants, cafés, cinemas, and discothèques, effective at midnight.

- According to a new French decree established on 13 March, only caregivers and medical facilities are authorised to purchase protective FFP2 and higher grade masks. That has not stopped some from trying to make a profit, however.

- On 16 March President Emmanuel Macron said the country was effectively “at war”. France has been in lockdown since midday on Tuesday (17 March), with excursions from the home limited to buying food, visiting the doctor, walking the dog or going for a solitary jog. The measures came as the government mulled expanding the two-week home confinement imposed on all residents in a bid to brake the epidemic that has seen more than 9,000 infected with the virus in France, and 372 deaths – 20 per cent rise in deaths and reported cases in just 24 hours, with eastern France the worst-hit region.

- No gatherings are allowed, and workers can only go to the office if their employer does not provide an option for working from home. Only trips to supermarkets, pharmacies and places of work will be allowed. All “non-essential” public places were to close, including shops, restaurants and cafes.

- 100,000 police mobilized to enforce restrictions on movement.

- People who venture outside need to carry a certificate, which can be printed from

the government website, to declare the reason for their trip. Fixed checkpoints will be set up across the country and people will risk with a 135-euro (US\$145) fine if they cannot show certificate.

- Macron condemned people for not following the government's previous guidelines and said that anyone flouting the new regulations would be punished.

- Hospitals in the German state of Baden-Wuerttemberg have offered to treat some critically ill coronavirus patients from the neighbouring Alsace region in France, which is struggling to cope with a rising number of cases.

- 18 March – MSF (Médecins Sans Frontières) teams will support the French health authorities, and will focus on detecting and managing cases of coronavirus disease among vulnerable people. People including migrants and the homeless are at particular risk, and those teams will work to ensure people will have access to diagnosis and care.

- Since March France is following its own Action Plan in order to prevent and limit the circulation of the virus. This action plan amounts to 45 bn EUR and is divided into a set of concrete and immediate government measures for companies that would encounter proven difficulties linked to this health crisis in the deployment of their activity in France. The Ministry of Economy and Finance has furthermore created an economic continuity task force to manage the impact on the French economy, through a daily decision-making process. A draft law allowing the implementation of these measures has been presented during the Cabinet Council meeting of 18 March 2020. These support measures will be applied on a case-by-case basis according to the situation of each French company and de facto of each French subsidiary of an international company. They may be revised according to the evolution of the epidemic in the coming weeks. It is still hard to say what the effect of those measures is. The next few weeks will show whether the measures are enough.

- By 19 March:

- The French military has delivered five million masks to the health ministry for distribution, Health Minister Olivier Véran.

- Some 30 million masks have already been shipped to medical staff throughout the country, but Véran said this would only be sufficient for three days.

- 20 March:

- Cases of coronavirus infections are doubling every four days, according to the French health directorate.

- French President Emmanuel Macron has regretted that people are not taking the lockdown measures seriously enough – and a defence committee meeting on Friday may well tighten them further.

- 3,700 beds are available across France, 1,300 of them for adult intensive care.

- A military hospital is being put in place in Mulhouse region, in east of France, one of the epicentres of the virus in France. Once operational in a few days, it will be able to treat serious cases.

- The director general of the French public health agency, Geneviève Chêne, warned that it would take “between two and four weeks” to see any effect on the spread of the virus of the confinement measures announced Monday (16 March) that came into force on Tuesday (17 March), to force the population to limit its time outside.

- Authorities in coastal regions, along the Mediterranean, in Corsica and along the Atlantic, have closed the beaches. In the Yvelines, Val-de-Marne and Val-d'Oise – departments neighbouring Paris – parks, gardens, forests and waterfronts have been closed to the public.

- By 21 March more than 50,000 tests have been performed according to the head of

the Healthy Agency, Jerome Salomon. The shared statistic by him shows that more than 87% from the deaths caused by COVID-19 in France were older than 70 years old.

- 21 March – France is calling up helicopters and drones to boost the government's attempts to keep people in their homes, police officials. One helicopter was used hovering above major Paris parks to ensure that confinement rules were respected. The government has deployed 100,000 police to monitor people's movements. No curfew has been imposed.

- 22 March – French parliament has passed an emergency bill that gives the government special powers during the coronavirus crisis. The legislation allows the government to restrict freedom of movement and requisition goods and services over a period of two months.

The National Assembly in a select committee passed the bill early Sunday, hours after France reported 112 more Covid-19 deaths, taking the overall to 562, with 14,459 confirmed cases.

The state of health emergency allows the government to take special measures in support of French companies hardest hit by the virus outbreak.

The bill also allows the Prime Minister, on the advice of the Minister of Health, to immediately implement a set of restrictive measures that apply throughout the country.

Under the measures, the government can impose stricter limitations on movement and potentially ban meetings and business.

The government will also have the power to requisition any goods or services, include taxis to transport hospital staff, to combat the Covid-19 pandemic.

The National Assembly's amended version of the bill, passed by the Senate on Friday, stipulates that any such special powers enacted during the state of health emergency are to cease as soon as they are no longer necessary.

French nationals who fall foul of the lockdown restrictions may also face harsher penalties. The minimum fine for violating the confinement rules remains at 135 euros. Repeat offenders, if the offence occurs within 15 days, will be slapped with a 1,500-euro penalty.

In the case of "four violations within 30 days", the offence will be "punishable by a fine of 3,700 euros and up to six months in prison".

The new legislation also delays the second round of French local elections until June at the latest.

- On 22 March according to the announcement of the Health Minister Olivier Veran:
 - 250 million protective face masks will become available in response of their insufficiency at that time.

- Following WHO guidelines, the government was also seeking to multiply the coronavirus test kits available in order to increase testing once the restrictions on movement are lifted.

- Businesses are suffering from the restrictions. Many have been told to close with only key businesses like supermarkets and pharmacies allowed to keep their doors open.

- The exchange of coins is deliberately avoided by both customers and merchants.

- 22 March – Separately French supermarket retailer Auchan announced a €1,000 (US\$1,070) bonus to 65,000 of its employees for their work during the crisis, amid concerns over staffing in some critical areas of the economy and public services. The government may roll out a tax-free coronavirus "attendance bonus" to citizens who are unable to work remotely and continue in their jobs.

- 22 March – Switzerland announced that three hospitals near the Alsace region have agreed to take in any French-based patients after Alsace officials made a request for

assistance. Patients from Grand Est were also taken into hospitals in Baden-Württemberg, Rhineland-Palatinate, Saarland and Hesse in Germany.

- 25 March – The French government has called on employees who are on temporary lay-offs to make themselves available to help farmers with seasonal harvests. Since the seasonal workers from Morocco, Tunisia and Spain are not able to travel to France, the estimated number of additionally needed workers is 200,000 for the period of 3 months. Though such ‘agricultural patriotism’ does not go well with the tightening of containment measures, the harvests of the coming months cannot wait. Asparagus, strawberries and cherries will have to be harvested in large quantities in the coming weeks.

- 27-28 March – Prime Minister Edouard Philippe announced that France has extended lockdown measures that will stay in force until 15 April nationwide. This confinement period may be extended if the health situation requires it. In application of the state of health emergency, travel is prohibited except in the following cases and only on condition that they are provided with a certificate for:

- Travel between the home and the place of exercise of the professional activity, when they are essential for the exercise of activities which cannot be organized in the form of telework or professional trips which cannot be deferred.

- Travel to make purchases of supplies necessary for professional activity and purchases of basic necessities, including free acquisitions (distribution of foodstuffs, etc.) and travel related to the receipt of social benefits and the withdrawal of cash, in establishments whose activities remain authorized.

- Consultations and care that cannot be provided remotely and that cannot be deferred; care of patients with long-term conditions.

- Travel for compelling family reasons, for assistance to vulnerable people or childcare.

- Brief trips, within the limit of one hour daily and within a maximum radius of one kilometer around the home, linked either to the individual physical activity of the people, to the exclusion of any collective sporting practice and any proximity to other people, either walking with the only people in the same home, or the needs of pets.

- Judicial or administrative summons.

- Participation in missions of general interest at the request of the administrative authority.

- 30 March:

- Hospitals reported two dozen cases – and three deaths – of individuals who were suspected of self-medication with Plaquénil – branded name for Chloroquine – drug safety agency (ANSM) warned against potentially fatal side effects, notably cardiac arrhythmia and heart attack. The agency cautioned against use outside of hospitals, clinical trials, and stepped up surveillance.

- A cargo plane from China landed at Charles de Gaulle Airport late Sunday carrying 100 tons of medical equipment to help France combat the deadly novel coronavirus. Included were 5.5 million masks which are sorely needed by medical workers throughout the republic. Some 2.5 million of the masks were ordered in China by LVMH, the world’s biggest luxury goods group, and offered to the French government.

- Starting Monday (30 March) for the next two weeks, a flight will land at Paris-Vatry Airport every day carrying medical supplies. Each plane will carry 10 million masks among the 100 tons of medical equipment.

- France has ordered more than a billion masks from China.

- Some 19,354 patients are hospitalized nationwide, with 4,632 of those in intensive care, up 359 from Saturday (28 March), 60 of which are under the age of 30.
- National testing will also be rapidly increased in the coming week, from 5,000 to 12,000 tests per day, and will go up from there during April to an estimated 20,000 per day.
- Despite the severity of the virus, most people experience mild symptoms and recover in due time.
 - 31 March – 25% of food markets will be able to reopen this week, the federation of markets in France and the French Agriculture Ministry have announced. They will have to follow strict rules and take precautionary measures. Most of the markets will have less than ten stalls, they will have to respect a minimum distance between each other and hand sanitizer should be available at the entrance of the markets. Markets had been closed last week, March 24, to stop the spread of the infection, as many people were notably seen at the market in Paris. They are allowed to open again under the decision of prefectures. Most of them are situated in small towns or cities such as Grenoble, Rennes or Lille. Other markets remain closed in ten departments, where no exemption has been given by the prefecture, notably in Hauts-de-Seine, Seine-Saint-Denis, Haut-Rhin, Bas-Rhin, Haute-Marne, Hautes-Alpes, Var, Guyane, Haute-Corse and in the city of Paris.
 - 1 April:
 - France's daily COVID-19 death toll has doubled in just a week. The country's authorities revealed 499 new fatalities from the disease in just 24 hours on Tuesday, up from 240 seven days ago.
 - Another 458 people were admitted to intensive care units for treatment, taking the total to more than 5,000. It includes 68 people under the age of 30.
 - The country has more than 52,000 confirmed cases of the virus and is moving patients from the worst-hit areas in the east and in the capital Paris to other hospitals across the country.
 - The director of the national health agency, Jérôme Salômmon, said on Monday they expected the quarantine measures to begin having an effect soon, but hospitals in the east and centre of the country are heavily saturated. He has launched a call for doctors in the region with experience in intensive care units to join the ranks of those on the frontline.
 - Up to 1 April over 100 COVID-19 patients from Alsace had been transferred for treatment to Germany, Luxembourg and Switzerland.
 - There are now more than 800,000 confirmed cases of COVID-19 globally.
 - 1 April – Police measures taken for the past two weeks:
 - Police and gendarmerie in France have the power to challenge people outside the home during this period of Covid-19 confinement.
 - More than 359,000 fines have been issued in total for breach of confinement rules in France in the past two weeks, minister for the interior Christophe Castaner has said. More than 5.8 million checks have been recorded since 17 March.
 - Police can check that you are complying with the confinement rules, such as only shopping for essential items, and can legitimately ask you to show them your shopping to check this, for example.
 - 2 April – France reported 509 more deaths on Wednesday (1 April), taking the total figure to 4,032. However this does not take account of deaths outside hospitals – those in care homes. Figures are expected to be revised from Thursday (2 April).
 - 4 April:
 - IMPORTANT: On April 3 the French Government reported 17,827 additional

cases and 532 additional deaths from nursing homes that had not been reported previously. On April 2, it had reported 884 additional deaths.

- 6 April – The French finance minister said that France will likely see its worst post-war economic downturn this year, far surpassing the minus 2.2 percent slump seen in 2009 after the global financial crisis.

- 7 April:

- According to the latest data from France, overall mortality at the national level remains within the normal range after a mild influenza season. However, in some regions, particularly in the north-east of France, overall mortality in the over-65 age group has already risen sharply in connection with Covid19.

- France has become the fourth country to register more than 10,000 deaths due to coronavirus.

- On Tuesday (7 April), as France entered its fourth week of lockdown, Paris toughened the confinement rules, announcing a ban on individual outdoor sports between the hours of 10:00 am and 07:00 pm starting Wednesday (8 April). The move came just after Health Minister Olivier Veran announced Monday a record daily coronavirus death toll of 833 people in 24 hours.

- France is to begin clinical trials involving transfusions of blood plasma from coronavirus survivors into patients who have severe symptoms in a bid to treat the illness. Plasma, the fluid in blood teeming with antibodies post-illness, has already proven effective in small studies to treat infectious diseases including Ebola and SARS. The French trials are to start on Tuesday (7 April), according to a joint statement from the Paris hospital authority AP-HP, the national medical research institute INSERM, and the national blood service EFS. The trials will involve 60 patients in Paris hospitals, half of whom will receive the plasma from the persons who have recovered. It said the first results could be known two to three weeks after the trials. The US Food and Drug Administration has already authorised physicians to experiment with the strategy to fight the coronavirus. Tests are also being done in China.

- 7 April – France provides guidance against violence and aggression in the frame of the pandemic. In the crisis situation related to COVID -19, working in contact with the public exposes workers to increased rates of violence and aggression. Measures need to be put in place to prevent these occupational risks. The guidance provides advice to employers and workers and covers professions in sectors that are especially exposed: health care, elderly care, call centres, food retail shops, delivery services and security professionals.

- 8 April:

- President Macron announced the lockdown will be extended.

- France is officially working on a ‘Stop Covid’ contact-tracing app. France’s health minister Olivier Véran and digital minister Cédric O have officially announced that the French government is working on a smartphone app to slow the spread of COVID-19. The government is putting a stamp of approval on the Pan-European Privacy-Preserving Proximity Tracing (PEPP-PT) project but remains cautious about what to expect from an app.

- French economy enters recession with 6% drop in first quarter of this year, its worst since 1945.

- 9 April – France is strengthening the emergency plan to support the economy: from 45 billion euros, it rose to 100 billion euros.

- 10 April – Since the lockdown went into force, French domestic violence cases have risen by over 30 percent. The sharp rise in the numbers has resulted in the government putting a number of measures in place to try to make it easier for domestic abuse victims to raise the alarm.

Temporary support centres have been set up outside supermarkets and pharmacists have been given guidelines to be able to advise domestic abuse victims who come to them for help. The government has also agreed to pay 20,000 overnight stays in hotels and shelters for victims who decide to leave their partners during the lockdown period.

- 11 April – France reported a lower daily toll for deaths from Covid-19 (635 cases compared to the double and above numbers for the previous days), declaring a “plateau” had been reached in the country’s coronavirus epidemic. The decline of the number of the cases is considered as a successful first step and the lockdown seems to prove its effectiveness. But the official statements also says that it is still too early to make predictions about the future.

- 13 April – announcement of the extension of the confinement of the population until 11 May by the President of the Republic. Emmanuel Macron also said that non-European borders would remain closed. The president said that by 11 May, France would be able to test anyone presenting COVID-19 symptoms. The lockdown has seen millions of people across France confined to their homes, only permitted to leave to buy essential goods, visit doctors or exercise. As a result of social distancing, contact between people in France have been reduced by 80%.

Key points from Macron's address regarding the partial lift of the restrictions from

11 May:

- nurseries, primary and high schools will gradually reopen, but higher education will start up again "not before the summer"
- Restaurants, cafés, hotels, cinemas and other leisure activities will remain closed and there will be no summer festivals "before mid-July"
- France will be able to test anyone showing symptoms of COVID-19
- everyone should be able to get hold of a mask for certain situations such as using public transport, or in the most exposed professions
- More "massive investment" promised in research and everything being done on treatments

- The decision to reopen schools from 11 May has been criticised by teachers unions.

- 15 April:

- The Health Ministry reported a record number of deaths caused by COVID-19 in France – 1,438 people. But he also reported that for the first time since the start of the epidemic, the number of people in hospital for COVID-19 had fallen by 513 or 1.6% to 31,779 in a sign that the infection rate is slowing and that confinement is working.

- France's Prime Minister Edouard Philippe on Wednesday said healthcare staff working in areas most impacted by the new coronavirus would receive a bonus of 1,500 euros (\$1,637) as well as higher pay than usual for their extra hours.

- The French government has hiked up the expected cost of its measures to support the economy through the coronavirus crisis to 110 billion euros, its finance minister said on Wednesday (15 April), with the country's GDP set to suffer its biggest drop in decades. He added that the package included 20 billion euros to help big companies and said that support would be offered to Air France KLM in the coming days.

- The International Cycling Union (UCI) The Tour de France, cycling's biggest race, has been postponed to 29 Aug-Sept 20 due to the novel coronavirus pandemic. The Tour was originally slated to start from Nice on 27 June and finish in Paris on 19 July.

- 16 April:

- A spokesman for the French navy said that around 20 French sailors remain in hospital following a large outbreak of the coronavirus in the French aircraft carrier Charles de

Gaule's naval group. The Charles de Gaulle set sail for the eastern Mediterranean on Jan. 21 to support French military operations against Islamist militants in Iraq and Syria, before deploying to the Atlantic and then the Baltic. There it participated in exercises with northern European navies in the Baltic Sea before returning to Toulon two weeks earlier than planned after crew members showed signs of Covid-19 symptoms. On Wednesday (15 April), the French armed forces ministry said 1,767 marines — nearly all from the Charles de Gaulle carrier itself — had been evaluated and at least 668 had tested positive for the virus.

- 17 April – France reported that a portion of the EHPAD and EMS nursing home cases – representing about 33% of the total EHPAD and EMS cases – were *confirmed* (rather than *probable*, as the other 67%) and as such are to be considered as already included in the total national case count. The French Government has now started reporting the breakdown between confirmed and probable EHPAD and EMS cases. The WorldOMeter web page have adjusted the historical data for France from April 4 based on this information: *On 3 April, the French Government had reported 17,827 additional cases and 532 additional deaths from nursing homes that had not been reported previously. On 2 April, it had reported 884 additional deaths.*

- 17 April:

- The minister for digital affairs Cedric O said that France's state-supported tracing app project "StopCovid" will not be ready when parliament debates it on 28-29 April. He added that the app may not even be ready by 11 May, when the government plans to gradually lift the country's nationwide lockdown.

- French President Emmanuel Macron has said the country will have capacity to test every person with symptoms by 11 May. Factories in France are retooling to meet demand for testing kits in record time.

- Anger is growing in French naval ranks over an outbreak of Covid-19 on the Charles de Gaulle aircraft carrier, with around 20 French sailors still in hospital. The navy has ordered two investigations to ascertain how the virus arrived onboard.

- One in three workers are left temporary unemployed due to the pandemic. Almost nine million workers in France are currently on a temporary unemployment scheme designed to avoid mass redundancies, the French finance minister told lawmakers on Friday (17 April) as companies struggle to stay afloat during the coronavirus pandemic. On Thursday (16 April), Labour Minister Muriel Penicaud said 732,000 firms had made use of the mechanism for 8.7 million workers. Meanwhile, requests for traditional unemployment benefits have also climbed, but the increase is now in the single digits. Penicaud has asked the country's biggest companies not to take advantage of the already costly scheme, which is mainly designed to help smaller firms stave off bankruptcy.

- 19 April:

- Paris' bus stops and metro entrances will be equipped with hand gel dispensers and commuters will likely be obliged to wear face masks to use public transport once coronavirus confinement measures are lifted, according to the city's mayor Anne Hidalgo. Free dispensers will be available at swimming pools, sports stadiums and nurseries, but also in the street.

- Hidalgo added that some streets in Paris could be closed to cars in the immediate aftermath of the lockdown exit. These would be turned into cycle highways in a bid to keep pollution down and not further exacerbate the outbreak of the virus, which causes respiratory problems in some of those affected.

- 20 April:

- France is the fourth country to record more than 20,000 deaths due to the pandemic.
- Hospitalisations continued a near week-long decline. It is stated that the virus curve had passed its peak.

- Starting on Monday (20 April), after more than a month in seclusion, France's 7,000 care homes for the elderly were told they could resume visits from family members, but under strict conditions to ensure the safety of their residents. With the elderly particularly vulnerable to Covid-19, all physical contact will remain strictly barred. This decision comes as a result after president Emmanuel Macron stated that families should be able to say goodbye to their loved ones as a fundamental human right.

- Nursing home deaths account for more than a third of France's total 19,000 coronavirus deaths – figures the government now documents meticulously after weeks of pressure. Just under half of the country's care homes have been affected, with more than 15,000 confirmed cases among patients and 8,900 among staff between 1 March and 14 April.

- 20 April:

- France's nearly two-month-long coronavirus lockdown (17 March – 11 May 2020) is expected to cost the country some €120 billion in lost revenue while "forced savings" are estimated to reach €55 billion, the state-funded French Economic Observatory said on Monday.

- The state-funded French Economic Observatory (OFCE) reported that "During the lockdown, the Gross Domestic Product (GDP) was cut by 32 percent, corresponding to five points of GDP for the whole of 2020." The observatory also said that "almost 60 percent of the drop in national income was absorbed by public administrations" and 35 percent by businesses. France's economic recovery depends on how much the French spend once lockdown is lifted – the reasonable predictions are that this is not expected to happen rapidly. The €120 billion gap in lost revenue will therefore not be off-set anytime soon.

- 22 April:

- The government announced that more than 10 million employees in France – one out of every two in the private sector – have been laid off during the coronavirus lockdown and are now benefiting from an extended indemnity programme to weather the crisis:

- 10.2 million employees whose salaries are being paid by the state.

- Around 820,000 employees, or more than six in ten, have applied for a social security programme that grants 84 percent of net pay for workers temporarily laid off because of a drop in business.

The head of the state investment bank BPIFrance said nearly 40 billion euros in government-backed, low-rate emergency loans had been extended to businesses amid the coronavirus crisis – an average of 140,000 euros to some 251,000 businesses. But business groups have warned that even with the loans and financial relief such as delayed payment of payroll taxes and other charges, thousands of small and midsize companies could be facing bankruptcy this year.

2. *or f) Economy measures:*

An economic continuity unit was activated on 3 March at the Ministry of the Economy. This unit will make it possible to obtain all the necessary information on the economic situation of the country in real time, to better manage the impact of this health crisis on the economy by taking daily decisions that might prove necessary.

For businesses, the Government has announced the following measures:

- The social maturity of payment terms and / or tax (URSSAF, taxes);

- In the most difficult situations, direct tax rebates can be decided within the framework of an individualized examination of the requests;
- The suspension of rents, water, gas and electricity bills for SMEs in difficulty;
- Aid of 1,500 euros for small businesses, the self-employed, and micro-enterprises most affected by the solidarity fund;
- The mobilization of the State to the tune of 300 billion euros for the establishment of bank loans guaranteed by the State;
- Support from the State and the Banque de France (credit mediation) to negotiate with its bank a rescheduling of bank credits;
- Maintaining employment in companies through the simplified and reinforced partial unemployment system;
- Support for the treatment of a conflict with customers or suppliers by the Business Mediator;
- Recognition by the State and local communities of the coronavirus as a case of force majeure for their public contracts. Consequently, for all state and local government contracts, the delay penalties will not be applied.

On 27 March, the Minister of the Economy and Finance announced that all the large companies which would have benefited from deferrals of social and tax charges, and which at the same time pay dividends to their shareholders will have to repay this cash advance of the State with penalties.

On April 3, the Minister of Public Accounts and Action announced an extension of the possibilities for postponing social security contributions and direct business taxes for the month of April.

In the same way, all the big companies which will pay dividends will not be able to profit from the guarantee of State of 300 billion euros on the loans of cash.

The Government also announced an emergency support plan dedicated to start-ups, of almost 4 billion euros. This specific plan aims to supplement the global support measures for companies already announced by Bruno Le Maire, Minister of Economy and Finance, Gérald Darmanin, Minister of Public Accounts and Action and Muriel Pénicaud, Minister of Labor. Its objective is to respond to the specific problems of start-ups. The latter are obviously also eligible for emergency measures offered to all businesses. Certain companies, belonging to the sectors essential for the citizens in this period, need reinforcement in manpower to assure their activities and the economic continuity of the country. To respond to this, the mobilemploi.gouv.fr platform has been accessible since Thursday, 2 April, to job seekers registered or not with Pôle emploi and to employees in partial activity.

It was created to facilitate exceptional mobilization for employment and allow workers who wish to apply in the following priority sectors: Medico-Social, Agriculture, Agrifood, Transport, Logistics, Home Help, Energy, Telecom.

Another solution for some companies may be “temporary provision”. With the agreement of the employee concerned and the two companies each time, unoccupied employees who so wish can work temporarily in a company faced with a shortage of staff. The employee then keeps his employment contract and 100% of his usual salary, paid by his original employer. The company

that receives them temporarily reimburses this salary to the original company.

To make it as easy as possible for companies and employees wishing to commit to this system, the Ministry of Labor offers simplified models of agreements for making available between companies and an amendment to the employee's employment contract. These model agreements are available on the Ministry of Labor website.

The emergency plan to support the economy rose to 110 billion euros, against 45 billion euros initially. This exceptional increase applies to all the measures put in place, such as the partial unemployment scheme and the solidarity fund.

3. *or g) – Nothing additional to include.*
4. *or h) Assumptions – nothing to include.*
5. *or i) Conclusions*

France is the first European country (and first one outside of Asia) to report a COVID-19 case. It showed a very high level of preparedness before 24 January as a starting day and took a whole range of measures and activities in order to stop the pandemic on a national level afterwards. The report proves that the measures are working, but it is still too early to consider that the crisis will be managed in near future – on a national and on a global level.

As of 23 April – France is facing very hard time. On one hand, the COVID-19 cases are getting lower in numbers which shows that the restrictions are working. On another hand, the planned slow process of the partial lifting of some restrictions is perceived ambiguously by the society. There are debates about whether the planned measures would be enough for the pandemic not to rise again. The economy is put under a lot of stress while planning how to get back to its previous state after 11 May while the lockdown period caused severe cuts in the employment of the people.

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38. <https://www.france24.com/en/20200415-covid-19-france-reports-1438-deaths-in-24-hours-a-sharp-increase-due-to-unreported-deaths-from-the-easter-weekend>

39. <https://www.france24.com/en/20200415-france-announces-%E2%82%AC1-500-bonus-for-health-workers-on-covid-19-front-line>

40. <https://www.france24.com/en/20200415-france-boosts-covid-19-economic-rescue-package-to-%E2%82%AC110-billion>

41. <https://www.france24.com/en/20200415-tour-de-france-to-start-on-august-29-due-to-covid-19-pandemic>

42. <https://www.france24.com/en/20200416-twenty-french-sailors-in-hospital-after-aircraft-carrier-s-covid-19-outbreak>

43. <https://www.france24.com/en/20200417-france-s-covid-19-tracing-app-won-t-be-ready-for-parliamentary-debate>

44. <https://www.france24.com/en/video/20200417-french-factories-race-to-produce-testing-kits-by-may-11>

45. <https://www.france24.com/en/video/20200417-anger-and-testing-after-covid-outbreak-onboard-french-aircraft-carrier>

46. <https://www.france24.com/en/20200417-pandemic-leaves-one-in-three-french-workers-on-temporary-unemployment>

47. <https://www.france24.com/en/20200419-paris-mayor-promises-public-hand-gel-dispensers-other-measures-when-lockdown-ends>

48. <https://www.france24.com/en/20200420-covid-19-deaths-in-france-surpass-20-000-as-hospitalisations-continue-to-fall>

49. <https://www.france24.com/en/20200420-devil-s-dilemma-france-lifts-ban-on-nursing-home-visits-as-some-warn-against-relaxing-rules>

50. <https://www.france24.com/en/20200420-france-s-lockdown-to-cost-%E2%82%AC120-billion-in-lost-revenue>

<https://www.france24.com/en/20200422-covid-19-half-of-france-s-private-sector-workers-on-temporary-unemployment-scheme>.

Annex 12 Finland

Finnish Institute for Health and Welfare (THL) has started collecting samples to map the presence of coronavirus in Finnish wastewater. Combined with antibody testing and individual coronavirus tests, wastewater research gives a better overall picture of the spread of the virus.

The Bank of Finland has estimated that coronavirus will decrease the country's GDP this year drastically. If restrictions and closures last for more than three months the predicted fall would be around 5%, while in the worst-case scenario it would be above 10%. Based on that predictive analysis Finnish government will debate over cancelling or confine summer holidays. Business stakeholders consider summer should not be the time to go on holiday but rather focus on restructuring the economy.

Finland's government extended and tightened border controls restricting travel to and from the country until May 13 in order to contain the spread of the novel coronavirus. "The government's aim is to further reduce movement in the inherent commute area across the borders with Sweden and Norway".

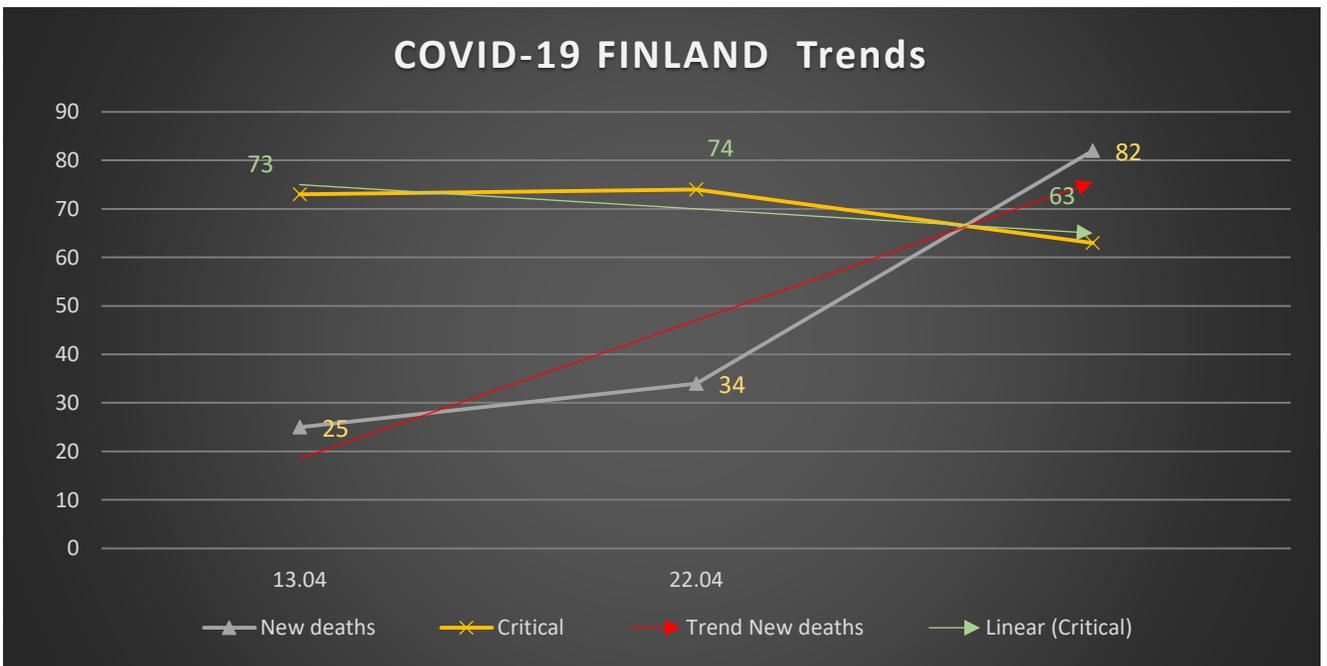
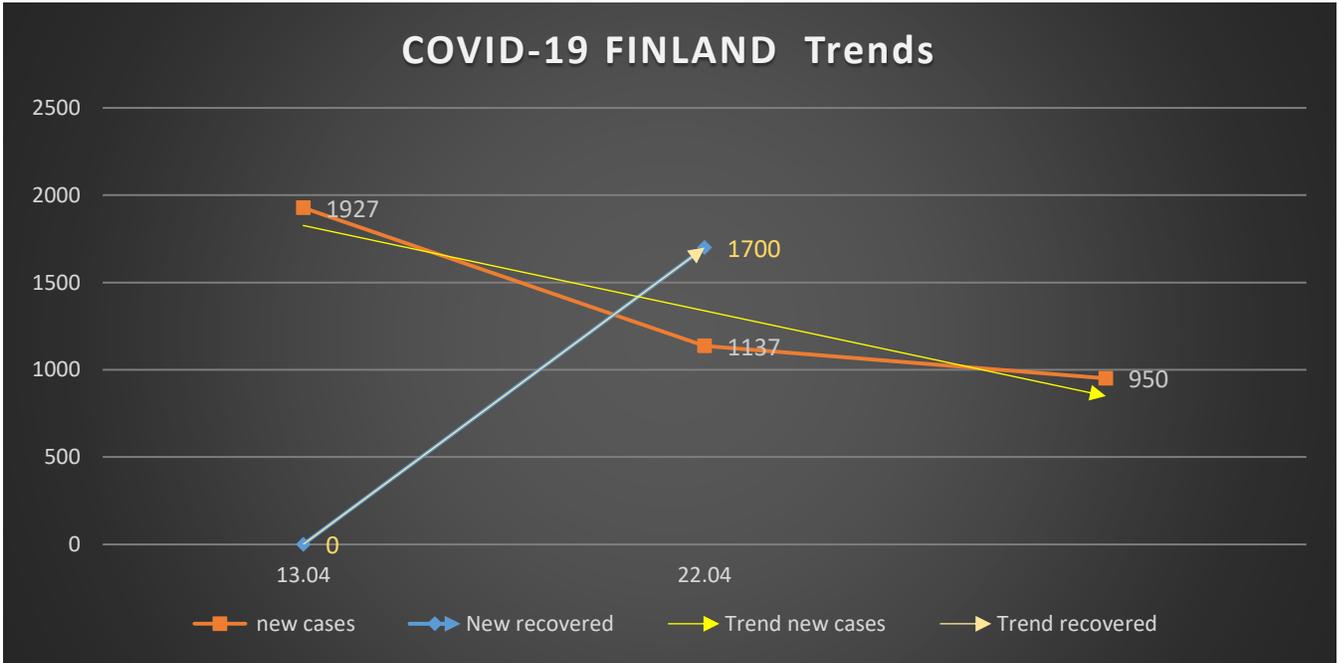
The Finnish government had already restricted travel across its northern borders to commuters but now only the most essential workers will be allowed to cross with proof of their importance from their employers. "The Finnish government also recommended that shipping companies stop all passenger ticket sales from Sweden, Estonia and Germany to Finland until the restrictions are lifted.

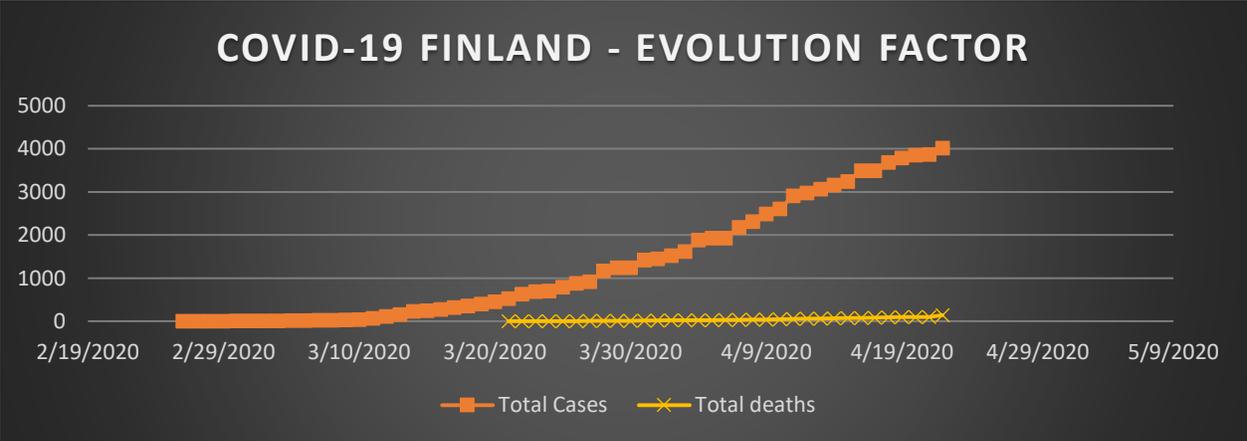
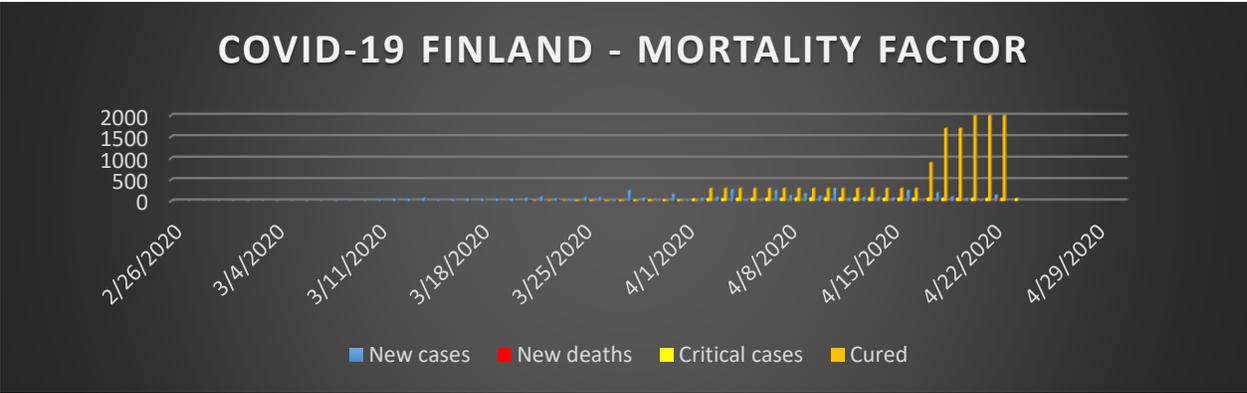
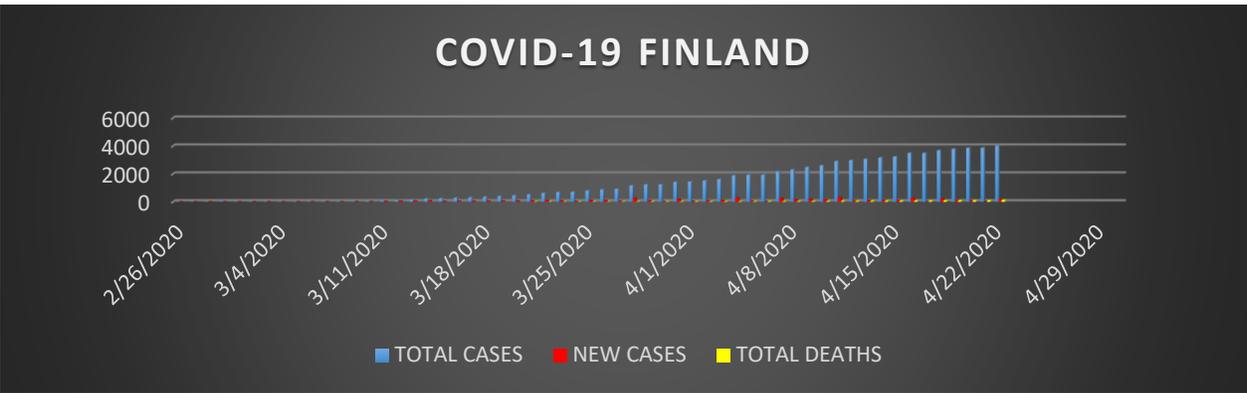
Assessment:

Based on the statistics, diagrams and researches (exposed below) it could be assumed Finland is on the right track to get through the crisis with minimum negative social, financial and political consequences. All the disease development trends go down and likely the spread of COVID 19 is under control. Even though there are debates and discussions over downsizing the restrictions Finnish government is still imposing further measures to confine the COVID 19 pandemic.

Period	Total cases	new cases	Total deaths	New deaths	Total Recovered	New recovered	Active Cases	Cases / 1M	Critical
6.04	1927		25		300		1602	348	73
13.04	3064	1137	59	34	300	0	2705	553	74
22.04	4014	950	141	82	2000	1700	1873	724	63

Trend 13- 22.04		-187		48		1700		-832		171		-11
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Imposed measures:

1. 13 March, according to [THL](#) instructs the public not to contact health care providers and stay at home for mild symptoms.
2. 15 March, The Helsinki and Uusimaa hospital district (HUS) decided people returning to Finland from trips abroad will not necessarily be tested for novel coronavirus.

3. The measures likely will be in place until 13 May:
 - All schools will be closed, not including early education.
 - Most government-run public facilities (theatres, libraries, museums etc.) will be shut down.
 - Critical personnel will be exempted from the Working Hours Act and Annual Holidays Act, both in the private and public sector.
 - At most 10 people can participate in a public meeting, and people over the age of 70 should avoid human contact if possible.
 - Outsiders are forbidden from entering healthcare facilities and hospitals, excluding relatives of critically ill people and children.
 - The capacity of social and healthcare will be increased in the private and public sector, while less critical activity will be decreased.
 - Preparations for the shutdown of borders will start, and citizens or permanent residents returning to Finland will be placed under a 2-week quarantine.
 - All shops, bars and restaurants have been closed, but supermarkets and pharmacies remain open.
4. 7 April, Finland extends border controls until May 13.
5. 15 April, movement restrictions between Uusimaa and the rest of the country were removed

Source:

1. <https://www.reuters.com/article/us-health-coronavirus-finland-border/finland-extends-border-controls-until-may-13-idUSKBN21P0UW>
2. <https://www.euractiv.com/section/politics/news/finnish-industry-suggests-cancelling-summer-holidays-to-restructure-economy/>
https://en.wikipedia.org/wiki/Ministry_of_Social_Affairs_and_Health.

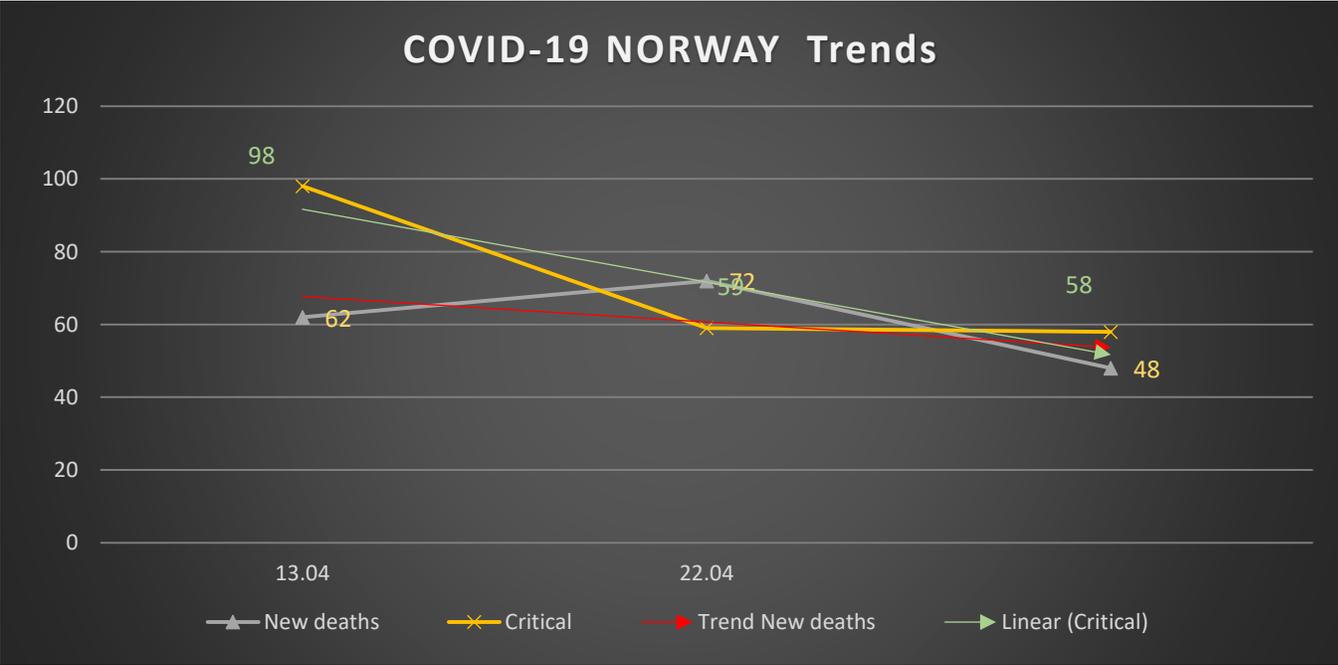
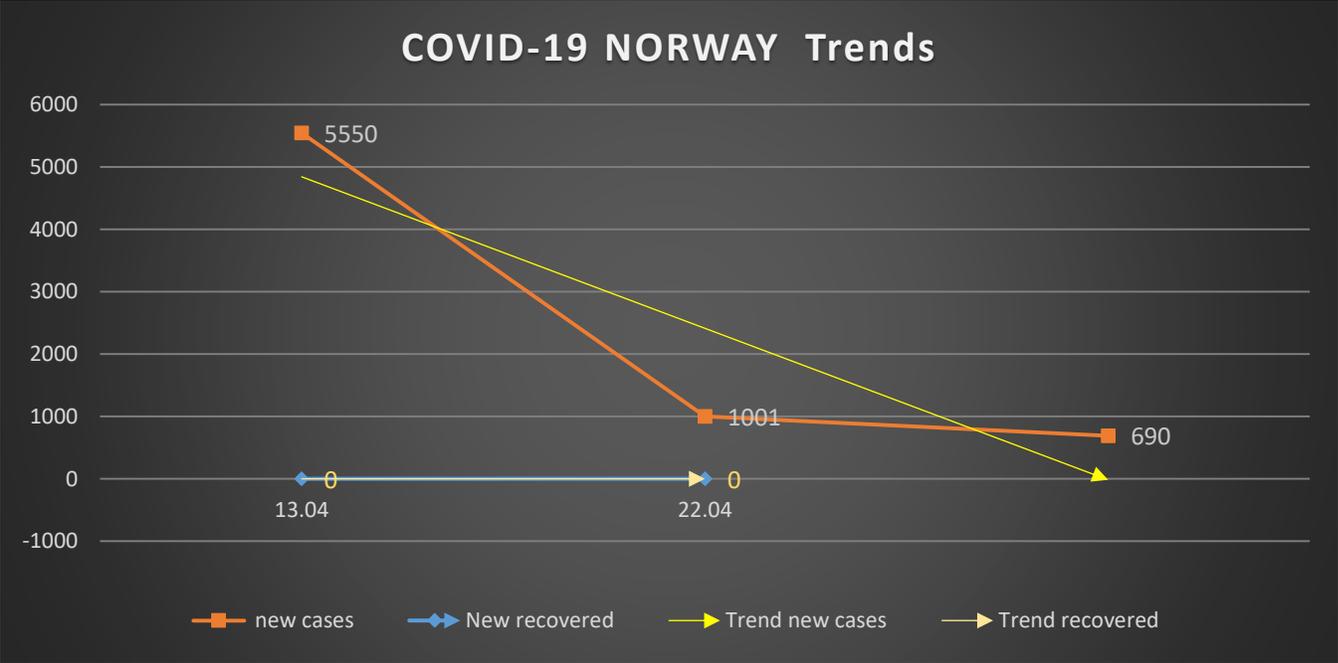
Annex 13 Norway

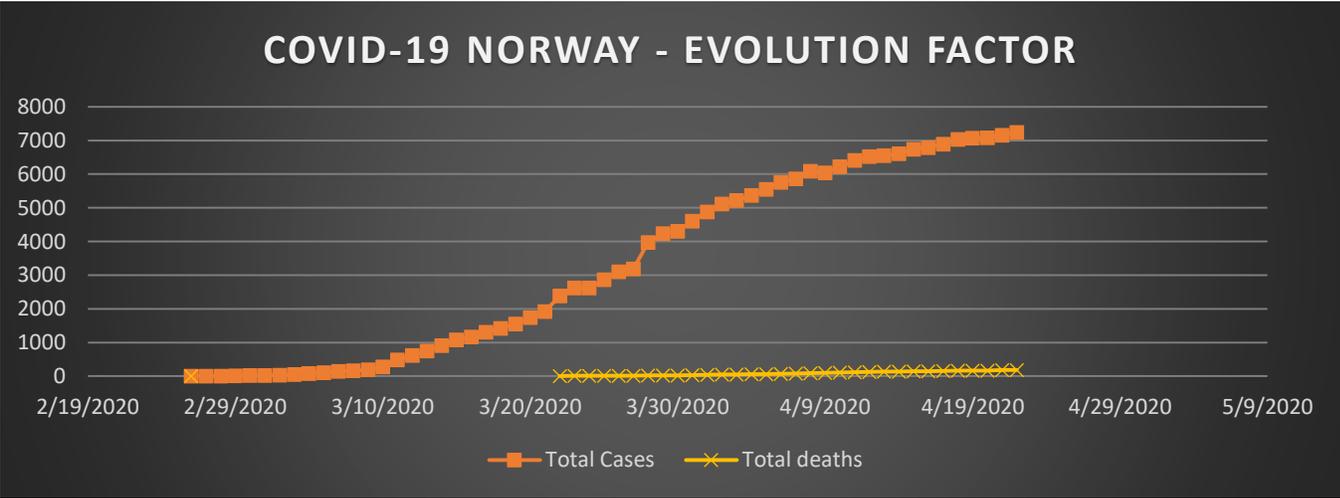
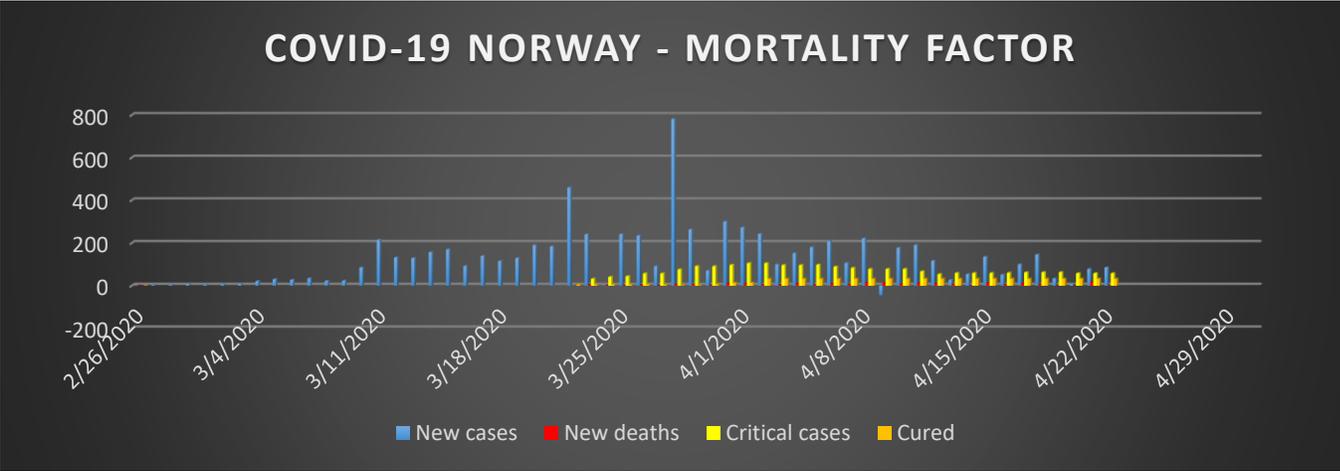
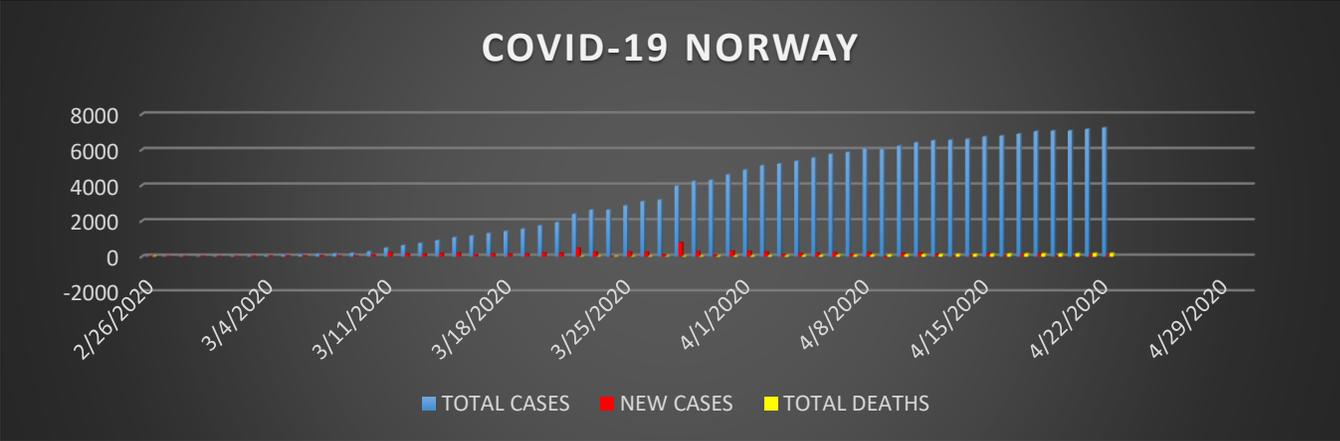
Life has begun to return to slowly normal in Norway as kindergartens and many businesses start to reopen. The government says they “have control” of the outbreak. For the past two weeks, the number of people hospitalized and on respirators has been trending downwards (see diagrams below). Because of this, Norway's Minister of Health and Care has announced they had the outbreak “under control.” Some of Norway's restrictive emergency measures are in process of being relaxed. This includes the reopening of kindergartens and schools for the youngest children. Businesses such as hair salons will be permitted to reopen, and the controversial ban on cabin stays has been lifted. The exact dates that specific measures are lifted varies, but life will be much more normal from April 27. At that time, most schools for young children and kindergartens will be open. However, other measures remain in place for much longer. Public gatherings including cultural and sporting events will be prevented until June 15. It's quite possible that the ban on public events will be extended once again. The quarantine and isolation regulations are law under the Control of Infectious Diseases Act. Anyone caught breaking quarantine faces a hefty fine and even jail time.

Assessment:

Based on the statistics, diagrams and researches (exposed below) it could be assumed Norway is on the right track to get through the crisis with minimum negative social, financial and political consequences. Reopening of social structures could be considered risky but will inevitably lower the social pressure and will further provide conditions for returning to normal daily routine.

Period	Total cases	new cases	Total deaths	New deaths	Total Recovered	New recovered	Active Cases	Cases / 1M	Critical
6.04	5550		62		32		5456	1024	98
13.04	6551	1001	134	72	32	0	6385	1208	59
22.04	7241	690	182	48	32	0	7027	1336	58
Trend 13-22.04		-311		-24		0	642	128	-1





Norway Government still imposes the following measures:

1. fitness centres, hair salons etc. are closed. Sports and cultural events and gatherings are banned and restrictions apply to restaurants. Details, as follows:
 - All educational institutions were closed and organized sports activities were to be discontinued.
 - A number of events and businesses were closed, including cultural events, sports events, gyms and swimming pools. All establishments in the hospitality industry such as bars, pubs and clubs other than those serving food were to close, and any establishment serving food would have to ensure that visitors could stay at least 1 meter apart.
 - Everyone who had returned from trips outside Sweden and Finland since 27 February were to quarantine, regardless of whether they showed symptoms or not.
 - Leisure travel was strongly discouraged. The Directorate discouraged travelling to work unless strictly necessary and encouraged avoiding public transport if possible, as well as avoiding crowded places.
 - People were requested not to visit others in institutions with vulnerable groups (the elderly, psychiatry, prison etc.) and generally encouraged to limiting close contact with others.
 - The public transport schedule was to run as normal, to ensure that people with critical social functions could get to and from work and be able to distance themselves from each other.

2. The ban to all borders on visits to Norway is still effective
3. Domestic travel continues without any restriction.
4. People suspected or confirmed to be infected must follow stricter home isolation rules. The government established fines for people violating home quarantine and home isolation rules or organizing events.
5. As of 21 April 2020, Norway has performed 145279 tests.

Sources:

1. <https://www.lifeinnorway.net/coronavirus-in-norway/>
2. https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Norway

Annex 14 Denmark

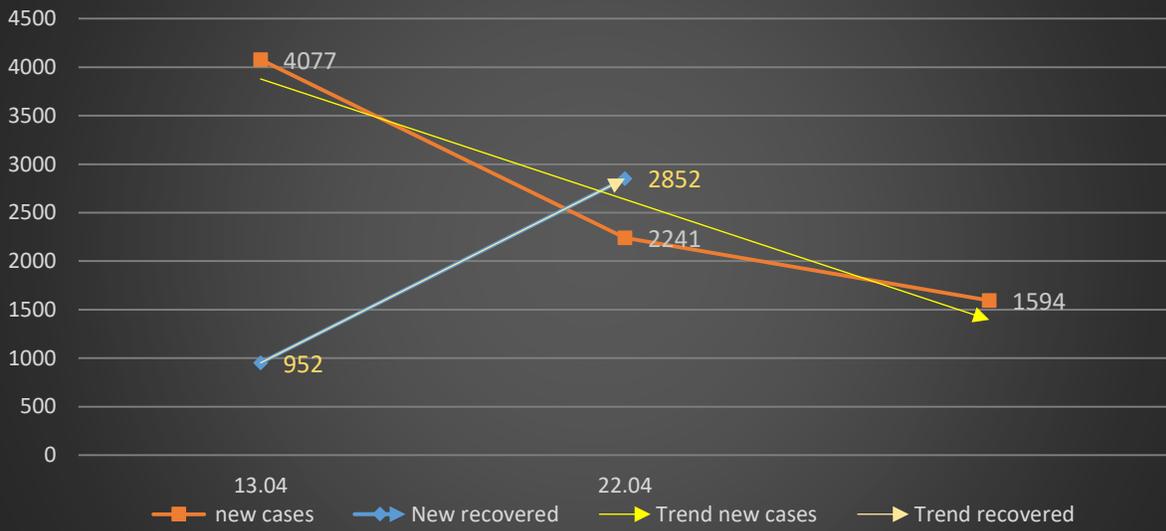
Denmark is about to make its first move to relax restrictions imposed to fight coronavirus. Children aged 11 and younger return to schools and nurseries, after a month of closures. It's among the first European countries aiming to put the lockdown into gradual reverse, just as it was one of the first to impose restrictions. The spread of coronavirus appears to be under control and the government wants to get the economy going again. The Denmark's moves will be slow and cautious. Crucially, total numbers of hospital admissions and patients in intensive care have fallen since the beginning of the month (see diagrams). However, the country needs to be ready for potential "flare-ups" of the virus.

Assessment:

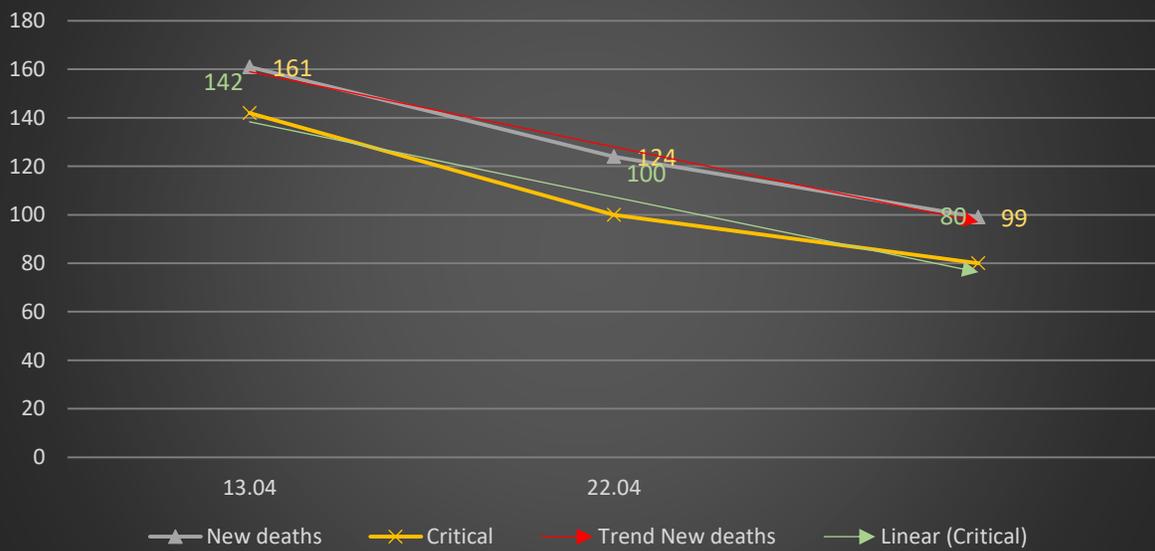
Based on the statistics, diagrams and researches (exposed below) it could be assumed Norway is on the right track to get through the crisis with minimum negative social, financial and political consequences. Reopening of social structures could be considered risky but will inevitably lower the social pressure and will further provide conditions for returning to normal daily routine. It is highly likely Denmark and Norway follow a similar exit strategy.

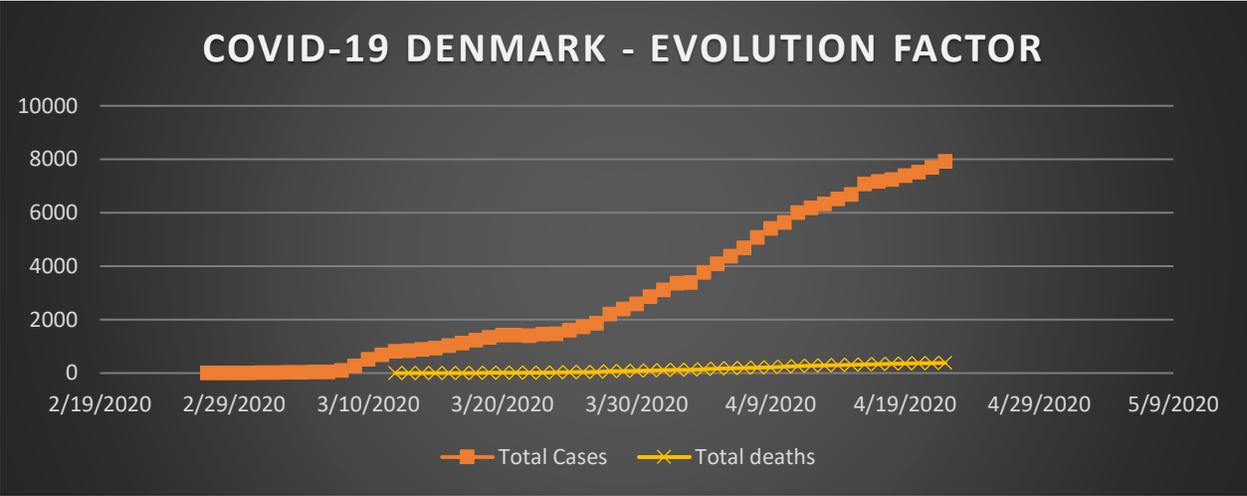
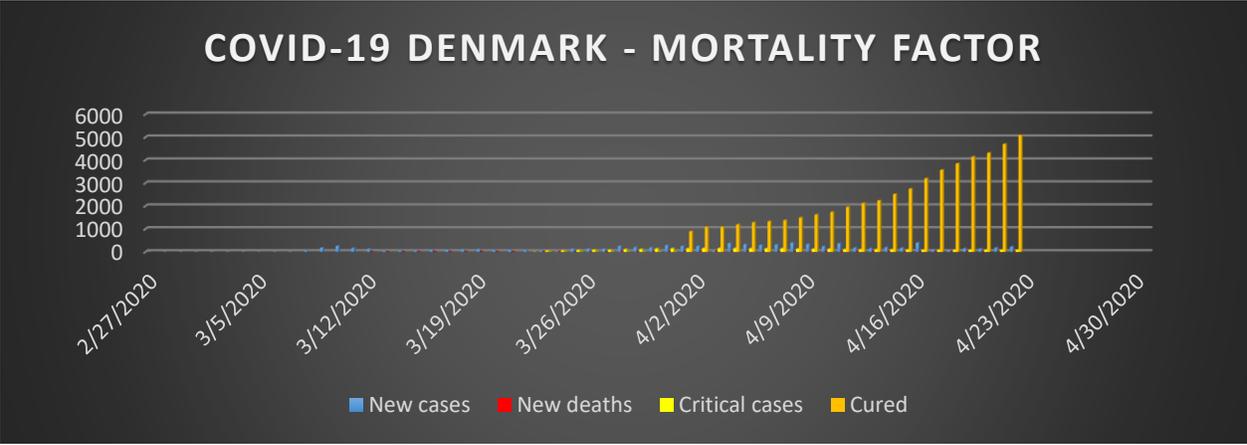
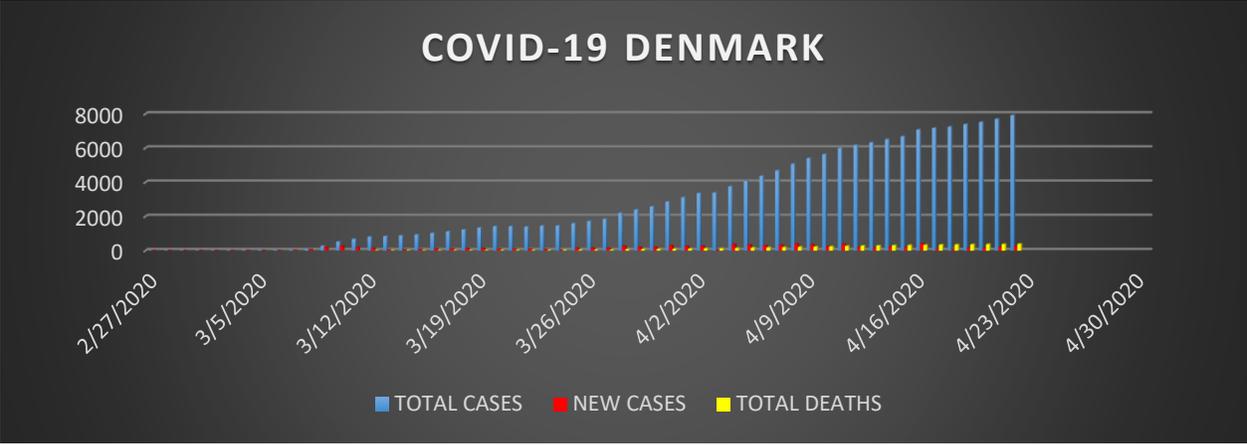
Period	Total cases	new cases	Total deaths	New deaths	Total Recovered	New recovered	Active Cases	Cases / 1M	Critical
6.04	4077		161		1283		2633	704	142
13.04	6318	2241	285	124	2235	952	3798	1091	100
22.04	7912	1594	384	99	5087	2852	2441	1366	80
Trend 13-22.04		-647		-25		1900	-1357	275	-20

COVID-19 DENMARK Trends



COVID-19 DENMARK Trends





Danish Government still imposes the following measures:

1. all healthcare workers that have travelled to a region with high risk of [COVID-19](#) to stay home for two weeks from the date of their return to Denmark.

2. Passengers on flights that originated in a high risk region would not have access to Danish airport buildings, but instead were picked up directly from the plane in special busses that could transport them to their home or other locality of quarantine
3. People that use public transportation should attempt to reduce their travel in peak hours,
4. Non-essential operations and all flights from high risk regions are still cancelled.
5. All non-essential travel to the rest of the world was advised against. All non-essential travel to the rest of the world was advised against.
6. Danish borders will be closed, except for transport of goods, people with an important reason for visiting, foreigners leaving Denmark, and Danes and people with a residence permit returning to Denmark.
7. It is still illegal to assemble more than ten people in public, all shopping centres and stores with close contact such as hairdressers and nightclubs must be closed, restaurants can only serve take-away, and other businesses must ensure that there is enough space between customers. Breaking the restrictions is associated with fines of DKK 1500.
8. The "first phase" of the reopening of Denmark was announced – nurseries, kindergartens and that folkeskole for pupils in years 1–6a re opened from 15 April; Restaurants, cafés and hairdressers are to remain closed until 10 May, and larger gatherings will be prohibited until September.

Sources:

1. <https://www.bbc.com/news/world-europe-52226763>
2. https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Denmark.

Annex 15 Sweden

Sweden banned large gatherings, closed high schools and universities and told elderly people to self-isolate. But restaurants, bars, primary schools and most businesses are still open. The country has forged its odd path and in absolute terms, unfortunately, more people so far have died compared to its Nordic neighbours. The virus has been over four times more deadly in Sweden than in Denmark, even though it has only twice the population.

Even though that statistic rises dramatically, hospitals in Sweden have not been overwhelmed; figures available from last week show capacity is running at 80 per cent and worst-case estimates around infection and death rates have simply not transpired.

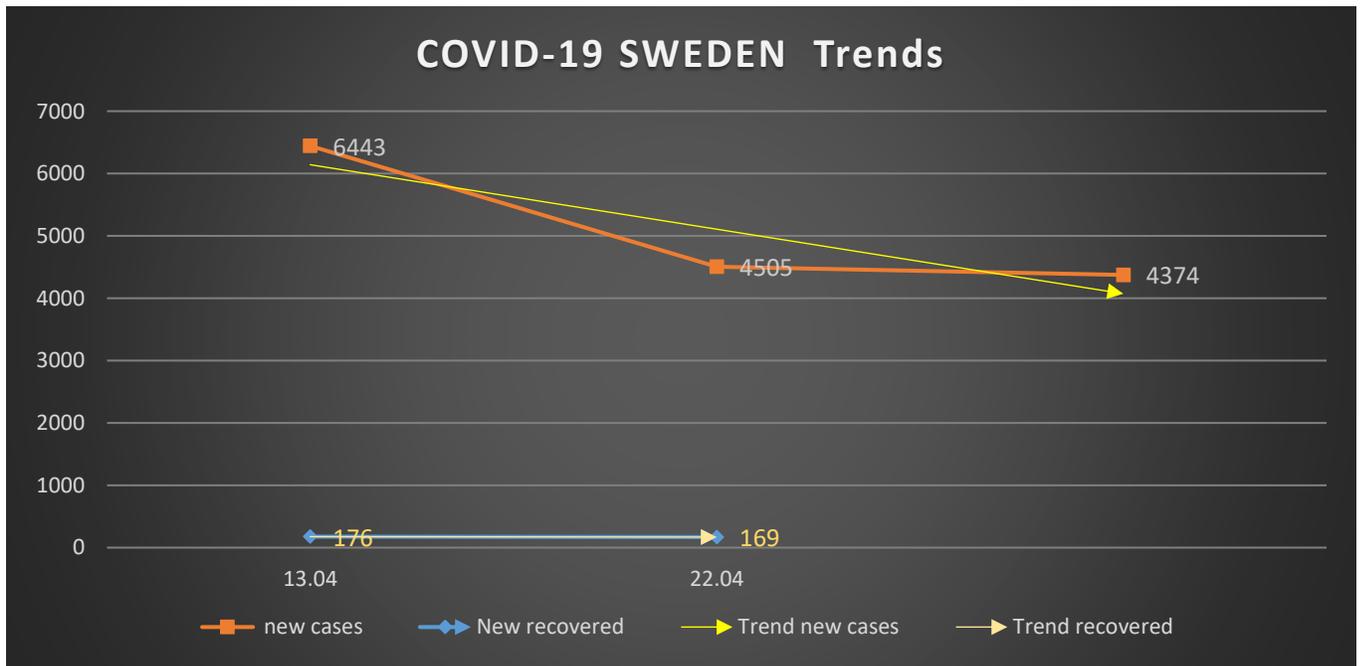
Unsurprisingly, Sweden has been less damaged economically. Personal spending in Denmark is down 66 percent and in Finland it stands at 70 percent, compared to only 30 percent in Sweden. Unemployment claims in Norway are rising four times as fast as those in Sweden. The latter's overall economy is not expected to slump to nearly the same degree as much of Europe.

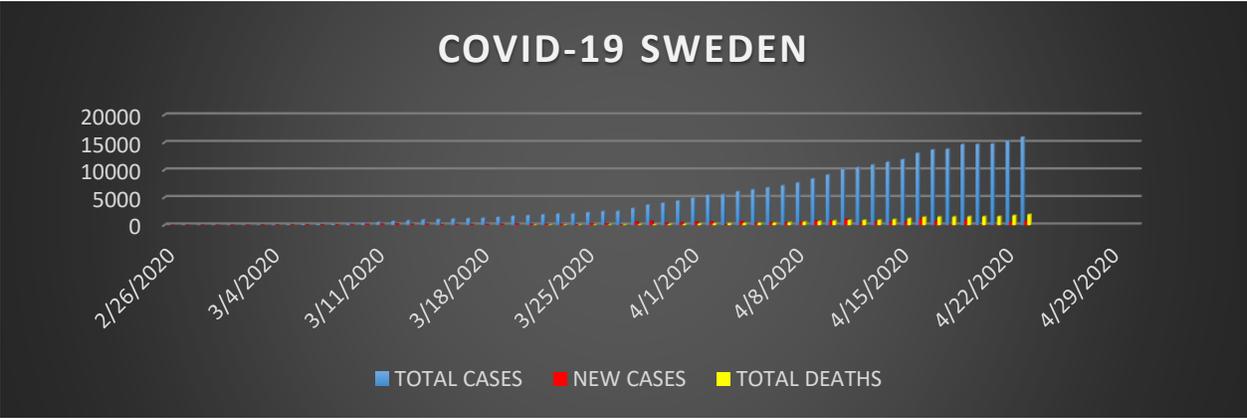
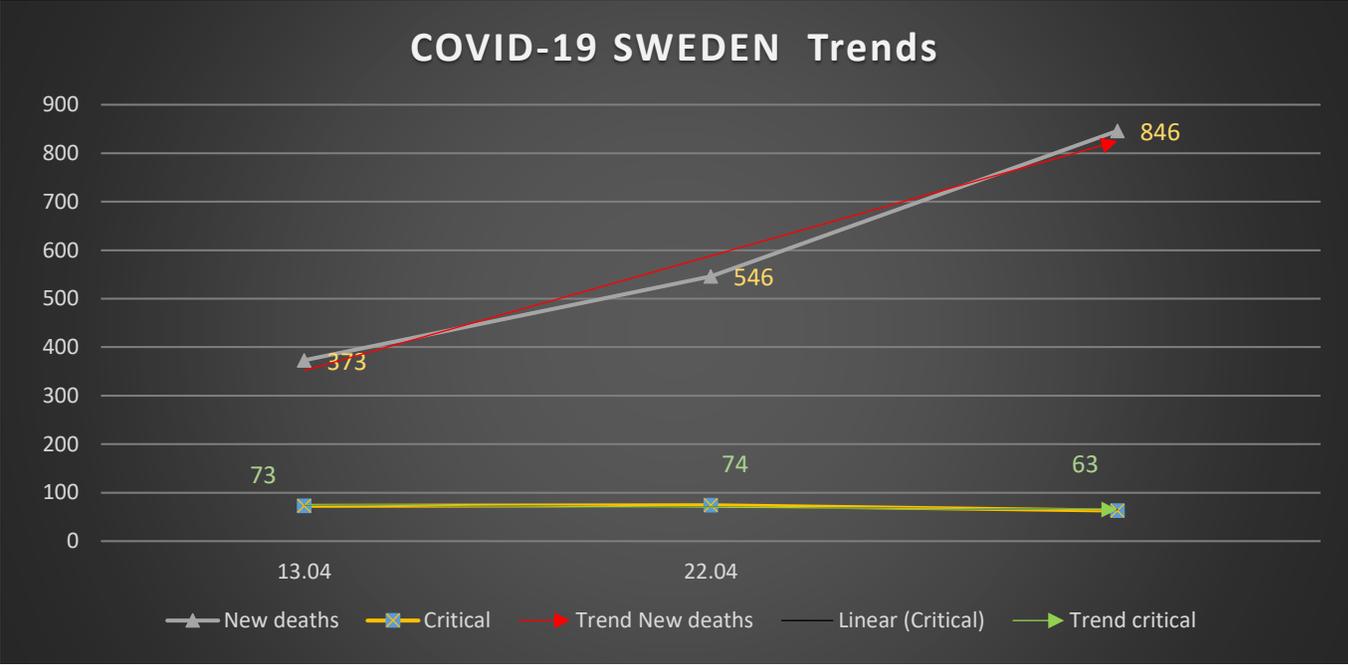
Assessment:

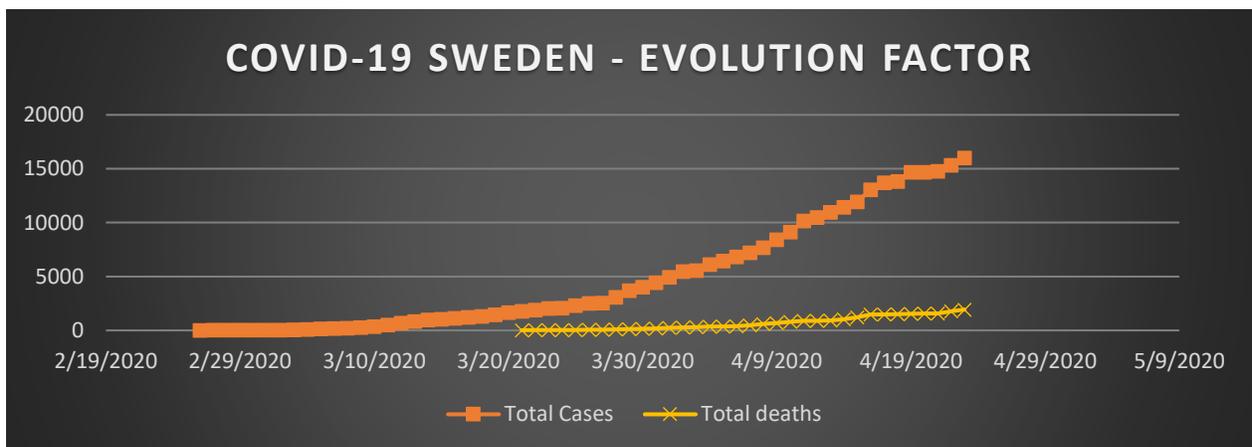
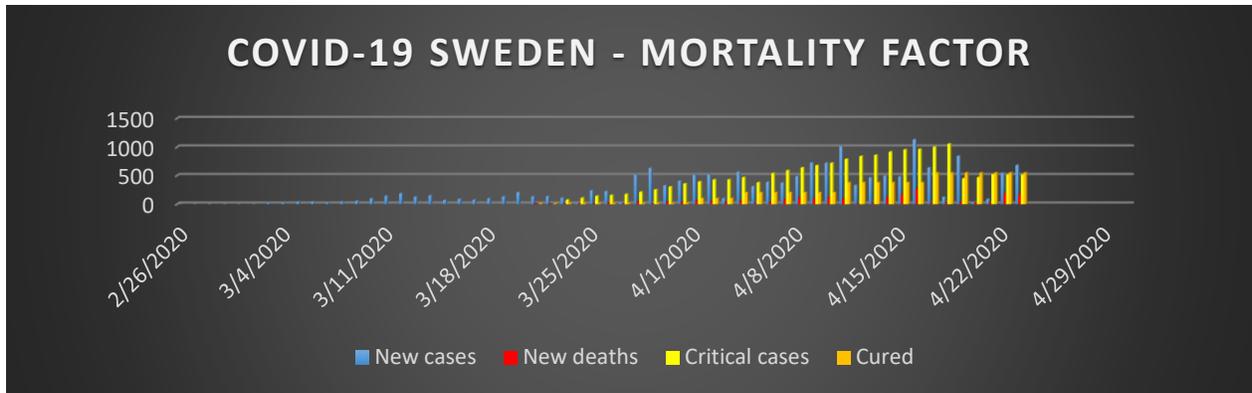
Based on the statistics, diagrams and researches (exposed below) it is hard to conclude Sweden is on the wrong track to get through the crisis. The impact of the coronavirus cannot simply be measured by its effect on health but also economics, investments, unemployment etc. It is highly likely Sweden government has bet on a strategy based on minimum negative social disturbance, minimum financial negative effects, on the other hand it is highly likely there will be long-term political consequences. Keeping social structures open could be considered risky but it lowers the social pressure and will further provide conditions for faster economic growth. All the statistics data rise dramatically yet if we consider SPEED over TIME, measures could be considered effective. Vice versa if we consider HUMAN LIVES over ECONOMICS it could be considered not humane. There are a lot of assumptions, variables, constrains and many other

unknowns like time, implications, etc. which are to be considered prior to judge Sweden approach to the crisis.

Period	Total cases	new cases	Total deaths	New deaths	Total Recovered	New recovered	Active Cases	Cases / 1M	Critical
6.04	6443		373		205		5865	638	379
13.04	10948	4505	919	546	381	176	9648	1084	859
22.04	15322	4374	1765	846	550	169	13517	1517	515
Trend 13-22.04		-131		300		-7	3869	433	-344







Sweden Government still imposes the following measures:

1. the Public Health Agency of Sweden ('Folkhälsomyndigheten') expanded testing for Covid-19 beyond only those who have been in risk areas abroad, to also test cases of pneumonia without known cause.
2. the Public Health Agency of Sweden raised the level of risk of the virus spreading from "high" to "very high", which is the highest level.
3. The government has banned all gatherings larger than 500 people, under threat of fines and a six-month prison sentence.
4. Restrictions to bars and restaurants requiring all service to be table service only.
5. All private visits to nursing homes was outlawed by the government.

Sources:

1. <https://www.bloomberg.com/news/articles/2020-01-31/sweden-reports-first-case-of-confirmed-coronavirus>
2. <https://www.worldometers.info>
3. https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Sweden

https://www.euronews.com/?utm_source=newsletter&utm_medium=special_coverage&utm_campaign=coronavirus&_open=eyJndWlkIjoiMjY0OGRjMmIwYTJmODgwOWQxNjM3Mjg3NTdmODRhMzMiMifQ%3D%3D

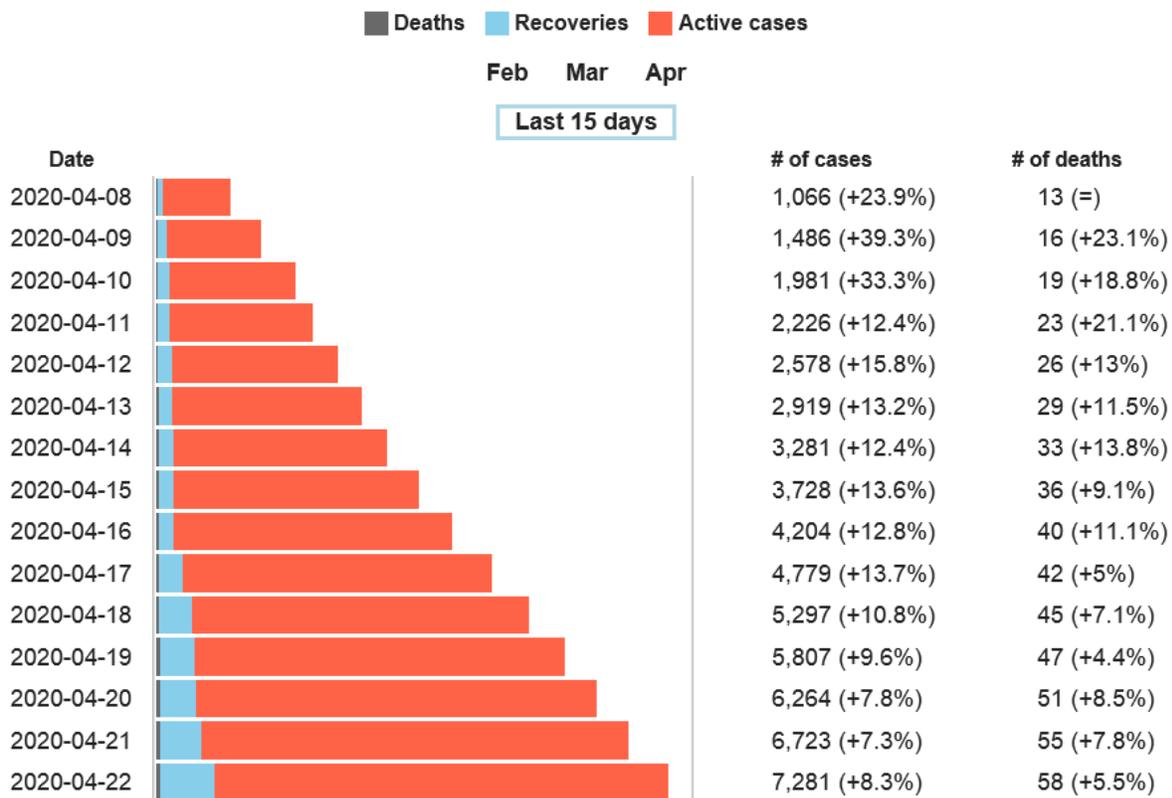
Annex 16 Belarus

Situation in the country from the beginning of contamination till 22 April

The first recorded case of COVID-19 in the country was registered in Minsk on February 28, 2020.

Following criticism, both at home and abroad, that he did not introduce measures to limit the spread of the virus, President of Belarus Alexander Lukashenko has called on experts from the World Health Organization (WHO) to assess the situation and show it to Belarusian citizens that they are safe and the government is hiding nothing.

As of April 22, in Belarus were registered, the total number cases 7281 deaths are 58 and 769 are recoveries.



No quarantine has been imposed in the country and preparations are underway for a parade marking the 75th anniversary of the victory over Nazi Germany.

Overall measures undertaken/no undertaken by the government to reduce the effects of the pandemic

The number of both infected and deceased in the last days is growing rapidly. In the country football games are still played, which are attended by many spectators.

The president defines a safe circle around the coronavirus as a "psychosis". It is the right of the right to make sure that the protective clothing is very important for medicines and claims, if

it is to be followed by the care. In Belarus, contamination is forbidden from leaving the home, so that no further spread of the virus can be avoided.

On March 25, 2020, a mandatory 14-day self-quarantine requirement was introduced for persons entering Belarus from countries affected by the pandemic, with the exception of diplomats and their families, air crews and persons transporting Belarus when returning to their home countries.

By March 30, Belarus had not undertaken a nationwide quarantine effort. This, as well as the gradual decrease in the transparency of official pandemic reports, has led to criticism from the press and the population, emphasizing the lack of up-to-date information on the areas affected by the virus, reducing the frequency of updates and increasing ambiguity in official reports, as well as restraint of non-governmental media from government sessions on the epidemiological situation in the country.

On April 4, the Belarusian Ministry of Education announced a one-week extension of spring break for schools.

On April 9, a mandatory 14-day self-isolation requirement was issued for foreign and Belarusian citizens, either with a confirmed COVID-19 diagnosis or with first or second level contact status. Sanctions for violation of the requirement include administrative detention, a fine and imprisonment.

While the majority of other European countries have imposed isolation of the population and canceled all public events, in Belarus the football championship continues and there is no state of emergency.

10 April – The USA government has allocated \$1.3 million to Belarus for the sake of counteracting the COVID-19 pandemic. The money was provided via the United States Agency for International Development (USAID).

A WHO delegation who visited Belarus this week, at the invitation of the authorities for increasing criticism, noted that the Belarusian authorities had taken steps to identify COVID-19 patients. However, the virus has begun to spread to the capital Minsk and other parts of the country. WHO spokesman Patrick O'Connor said Belarus is "entering a new phase of the epidemic's evolution" and that the situation is worrying and requires new measures.

On 21 April, a new set of recommendations for Belarus was published by the WHO, which included increase in social distancing, quarantining of the contacts of the confirmed COVID-19 patients, implementation of the remote education for schools and universities, reducing nonessential movements for the high-risk groups of people, repurposing of the private and public sector for the production of the protective equipment for health-care workers, government commitment to implement the containing and mitigation measures, clear, transparent and regular communication of the risks, health advice and response measures by the government and continuation of the socioeconomic support for the vulnerable groups of people.

Conclusions and recommendations:

The coronavirus epidemic in Belarus is growing rapidly, with the number of newly infected cases doubling every two to three days, indicating that the country's soft approach to curbing the spread of the virus is not working.

The WHO recommends the Belarusian authorities to impose a physical distance between people and continue social isolation, testing of people and monitoring of contacts of those infected.

SOURCES:

1. <http://minzdrav.gov.by/ru/sobytiya/o-rezultatakh-testirovaniya-patsientov-na-koronavirus/>
2. <http://www.euro.who.int/en/countries/belarus/news/news/2020/4/who-expert-mission-to-belarus-recommends-physical-distancing-measures-as-covid-19-virus-transmits-in-the-community?fbclid=IwAR3xP5zMKKAftoRPhVtnFvIwlOKJ6-zVLZp4XKLDzU-fQJlTOn8L1V4ESI>
3. <https://eng.belta.by/society/view/us-government-allocates-13m-to-help-belarus-fight-coronavirus-129715-2020/>
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<https://www.worldometers.info/coronavirus/>.

Annex 17 Poland

Sources:

- Ministry of Health Republic of Poland,
<https://www.gov.pl/web/zdrowie>
- Worldometer coronavirus,
<https://www.worldometers.info>
- Arcgis Company Online,
<https://www.arcgis.com/index.html>
- Medonet Portal,
<https://www.medonet.pl/zdrowie/>

Case numbers in Poland

The 2020 coronavirus pandemic was confirmed to have spread to Poland 4th of March transmitted by patient “0” who came from Germany, recovered on 17th MAR.

Current case status:

Total Cases – 10 034

Total New - +581

Total Deaths – 404

New Deaths - +42

Total Recovered – 1513

Active Cases – 8117

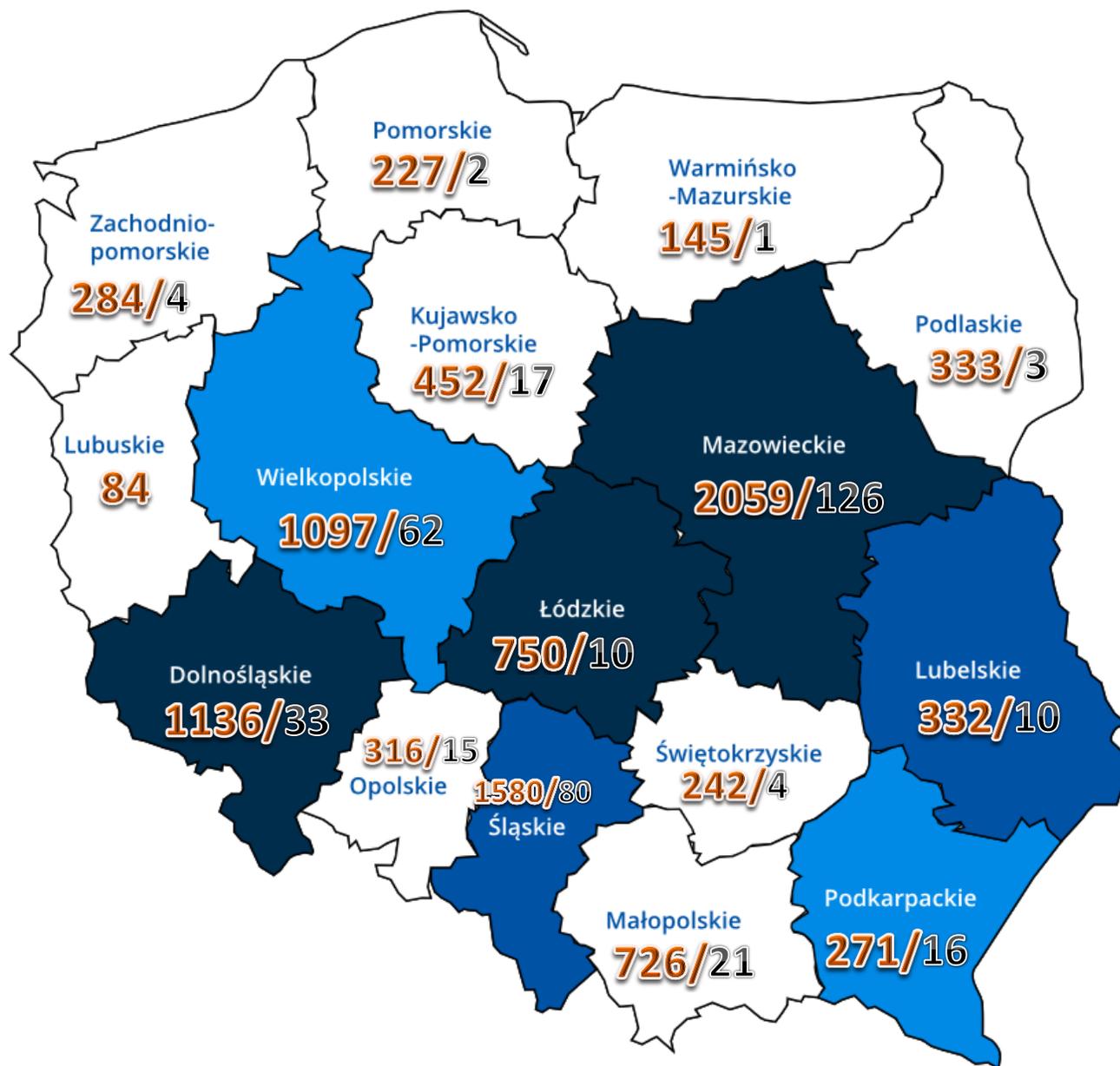
Serious – 87

Cases / 1M – 265

Hospitalized – 2914 (+ 403)

In Home Quarantine – 105 602 (- 5 477)

**Under Epidemiological Supervision –
21 364 (+ 4 098)**

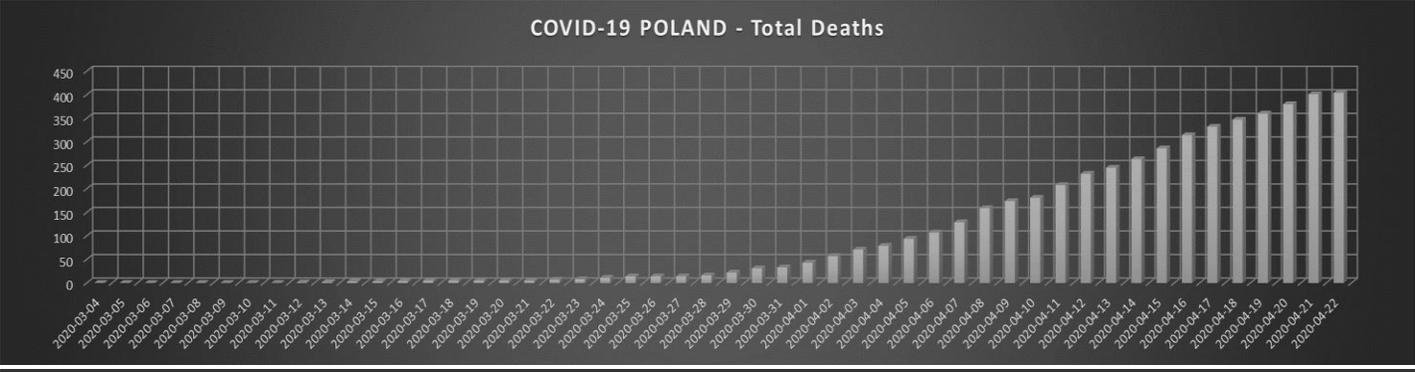
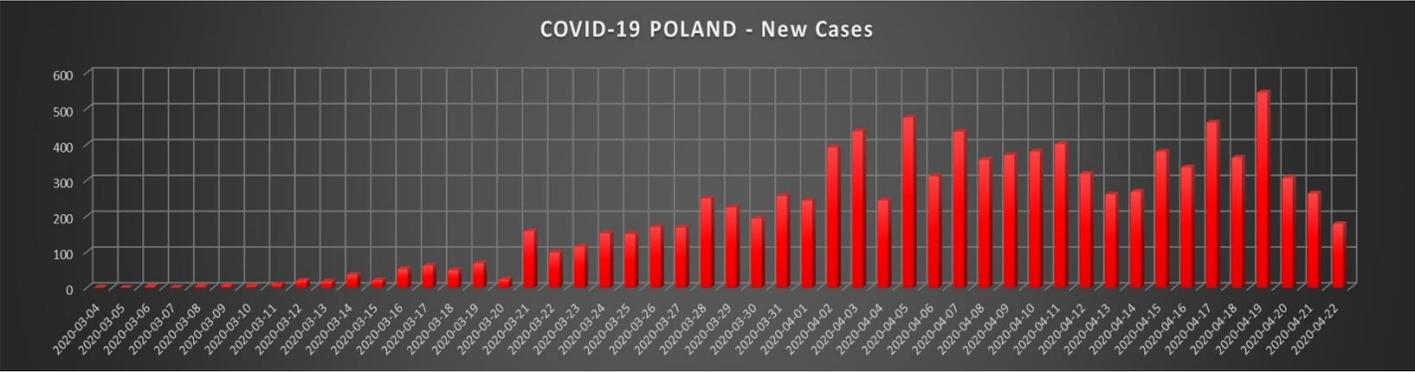
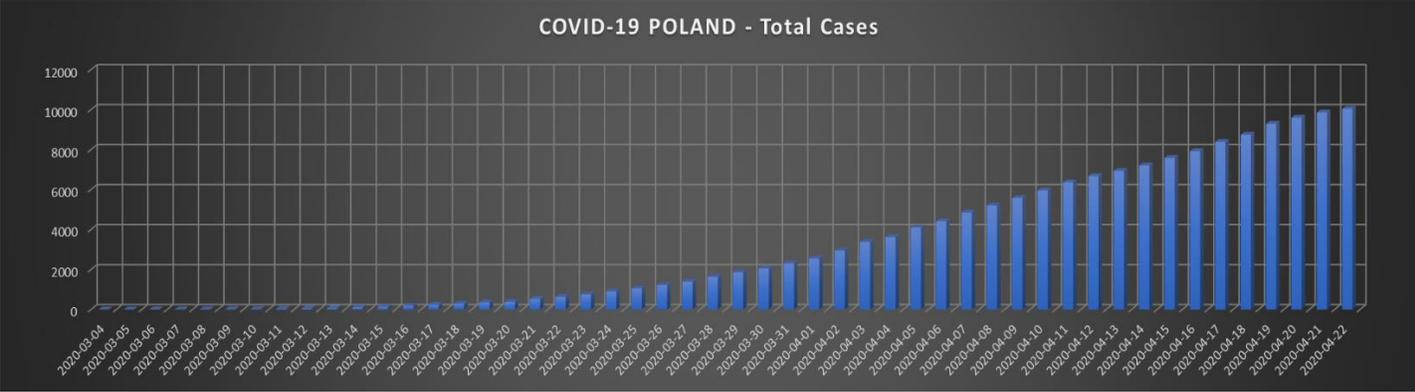


8 – number of confirmed cases

2 – number of deaths

Pandemic trend:

12/1



Measures Taken by Polish Government:

12 MAR 2020

1. From 12 March till 25 March 2020 functioning of schools, universities and all day care places is suspended.

14 MAR 2020

2. From 14 March 2020 government introduced new regulations and declared state of emergency epidemicⁱ.

15 MAR 2020ⁱⁱ

3. From 15 March 2020 until further notice all international railway transport is suspended.

4. From 15 March 2020 until further notice all Polish Citizens coming back from abroad are obliged to:

- *pass to border police its personal data especially home address or where he/she is going to stay;*
- *phone number;*
- *conduct obligatory 14 days quarantine*

5. Those who broke quarantine obligation can be fined with 5000 PLN (1200 EUR) or even imprisoned;

6. Export of following items is forbidden:

- *safety goggles;*
- *overalls type TYVEK;*
- *masks type FFP2/FFP3;*
- *surgical masks;*
- *shoe covers;*
- *latex gloves;*
- *nitrile gloves;*
- *hand, surface and room disinfectants*

7. Periodically restricted work time of restaurants, bars and food business unless is proceeded in take away or home delivery method;

8. Temporary closed cinemas, theaters, museums, public libraries, exhibitions, congresses, conferences, meetings;

9. All activities connected with sport & recreation are temporary closed;

10. Commercial facilities with sales area above 2000m² which are selling textile and clothing products, shoes and leather products, furniture and lighting equipment, radio and television equipment or household appliances, writing and bookselling articles are temporary closed.

11. Organizing of shows or gatherings with more than 50 people is prohibited.

12. From 15 March till 24 March 2020 temporarily restored border control with Republic of Germany, Czech Republic, Republic of Slovakia and republic of Lithuania. The same restriction is applicable to all airports and seaports.

13. 14th border crossing points are temporary closed with Russia, Belarus and Ukraine.

14. On all other border crossing points at the entry direction traffic is limited for:

- *polish citizens;*
- *foreigners who are spouses or children of polish citizens*

- *foreigners holding a Card of Poles*
- *heads of diplomatic missions and consular staff and members of their families*
- *foreigners who have the right of permanent or temporary residence on the territory of the Republic of Poland.*
- *foreigners who run a means of transport used to transport goods.*

15. From 15 March 2020 till 24 March 2020 it is ban on landing at Polish airports of international flights carrying passengers except flights carrying Polish citizens returning to the territory of the Republic of Poland by chartered planes commissioned by the Prime Minister.

18 MAR 2020ⁱⁱⁱ

16. Government introduced so called “*Anti-crisis shield*” which is directed to mitigate economic consequences of pandemic and includes: security of employment, financing of enterprises, healthcare, strengthening the financial system, public investment program.

19 MAR 2020

17. It was announced by President that new application for mobile phones called “Home Quarantine” is available. It was prepared by Ministry of Digitalization and can be downloaded from App Store or Google Play Store. The program allows you to confirm the place where you are, basic health assessment and direct reporting of danger. It also makes it easier to supply the most-needed items to people who cannot do this themselves. Link - <https://www.gov.pl/web/koronawirus/kwarantanna-domowa>

23 MAR 2020

18. Government decided to prolong closing of all schools and universities till Catholic Eastern Holiday, mean till 13 APR 2020.

19. Penalty fine for not complying with quarantine rules was raised up to 30000 PLN (6600 EUR or 13000 BGN).

24 MAR 2020

20. The Government forbade free movement until 11 APR except travel to work, volunteering in fighting with COVID-19, dealing with matters necessary for everyday life. In the bus can be only as many people as half of the number of seats. Total ban for any assembly – exception only for close family. During holy mass only 5 people can be present (excluding priest and acolytes).

21. Private companies which poses 3d printers started producing googles and protection masks for hospitals.

22. Scientists from Polish Institute of Science constructed device “Ventil” which unable to connect two patients to one respiratory in the same time - <https://biotechnologia.pl/technologie/jeden-respirator-do-wentylacji-dwoch-pacjentow-wynalazek-naukowcow-pan,19522>

25 MAR 2020

23. The Government decided to prolong restriction connected to movement over borders till 13 APR 2020, also put more restrictions to people permanently crossing

borders for work
(from now they will also go for 14 days quarantine).

26 MAR 2020

24. Polish parliament changed internal regulations and decided to continue work in distributed mode, enabling envoys to vote online.

31 MAR 2020

25. New restrictions were introduced, starting from 1 APR till next two weeks:

- limited number of persons in the shops – 3 per 1 cash point
- limited number of persons in post offices – 2 per desk
- from 10:00 a.m. till 12:00 a.m. shops are opened only for people 65+
- all people must do their shopping wearing latex gloves
- markets with construction materials will be closed during weekends
- between walking people 2m distance must be kept
- children and teenagers below 18, can't be outside their homes without parents or grown people supervision

▪ parks, boulevards, seas and lakes beaches are closed for public

▪ hotels, hairdressers and cosmetic saloons will be closed

▪ in all working places 1,5m distance must be preserved and necessary disinfection equipment provided

26. Medical supplies to combat COVID-19 have arrived from China to Poland. As part of the Chinese humanitarian aid that has reached Poland, the transport included 10,000 certified COVID-19 test kits, 20,000 N95 masks, 5,000 protective suits, medical gloves and other protective gear necessary to fight the new coronavirus pandemic. The chief of Polish diplomacy thanked his Chinese counterpart for the support.

1 APR 2020

27. Mobile application called “Home Quarantine” is mandatory from now for all who were directed to stay at home for quarantine.

28. Ministry of National Education announced that local authorities can apply for additional subventions for electronic equipment allowing distributed learning for school children. Entire program can reach 186 million PLN.

29. Sales of medicaments “Arechin” & “Plaquenil” is rationed. Contains chloroquine, which has been used for 70 years, mainly for the treatment of malaria and rheumatoid arthritis. Can be used for adjunctive therapy for SARS-CoV-2 infections based on clinical data published so far.

2 APR 2020

30. Ministry of Regional Funds and Development informed that they started new concurs with granted 200 million PLN for research & development works supporting the fight against the spread of coronavirus.

3 APR 2020

31. Ministry of Digitalization informed that 2000 teachers will be able to use broadband internet provided by UPC Poland as a way to help those conducting remote lessons.

6 APR 2020

32. Ministry of Foreign Affairs informed that after three weeks, on Sunday, April 5, the #Fly to Home campaign came to an end. As part of this operation, LOT Polish Airlines carried out 388 special charter flights, when 55,000 people safely returned to the country.

9 APR 2020

33. Prime Minister and Ministry of Health announced that:

- From **16 APR** mouth and nose must be covered. Everyone in a public place will have to wear a mask, scarf or handkerchief that covers both the mouth and nose. The obligation applies to everyone who is on the streets, in offices, shops or places where services are provided and workplaces.

- Matriculation exams after High School and Primary School, foreseen to be conducted in May are moved till **June**.

- All movement restrictions, restrictions on religious events, restrictions on the operation of shopping malls and large-format construction stores, suspension of hairdressing, cosmetics and tattooing operations, etc., no use of parks, forests, beaches, boulevards, promenades and city bikes, closing of restaurants, restrictions on the number of people in stores, at markets and at the post office, restrictions on the activities of cultural institutions – are prolonged till **19 APR**.

- closing of schools and universities, kindergartens and nurseries, closure of passenger air traffic, closure of international rail traffic – is prolonged till **26 APR**.

- closing borders according to current rules, mandatory quarantine for persons crossing the border with Poland – is prolonged till **3 MAY**.

- limitation on the organization of mass events and gatherings – is prolonged **till further notice**.

34. National register of persons with COVID-19 was created.

14 APR 2020

35. 80 tons of medical equipment, mostly masks and protection cloths bought in China. During press conference Prime Minister announced that this equipment is dedicated only to medical personnel. Also there are talks to buy more respirators^{iv}.

16 APR 2020

36. Prime Minister announced that Poland is going to gradually reduce restrictions introduced to fight with COVID-19 pandemic. This process will be divided into stages - to maintain the maximum safety of citizens. The dates of entry into force of subsequent stages will be determined based on the dynamics of new cases. First stage will start on Monday 20 APR and include:

- Movement for recreation which means that walking, running or biking in the forests, and parks, excluding playgrounds is allowed, however social distance and covering face is still obligatory.

- in stores up to 100m² – can be 4 people for a cash desk in the same time

- in stores over 100m² – number of customers must be calculated taking formula 1 person per each 15m²

- The limit of people in religious places will be increased to 1 person per 15m².
- People over 13 years of age will be able to move without an adult.

Prime Minister Morawiecki announced that at further stages of reducing restrictions related to the coronavirus epidemic, crafts, followed by trade and services will be opened. He emphasized that the decision to move to the next stage will be made after fulfilling the necessary conditions: analysis of the new cases trend, efficiency of health care and implementation of sanitary guidelines^v.

21 APR 2020

37. Prime Minister during press conference informed that from introducing anti-crisis shield program (last 3 weeks), 1.5 million requests for support were issued which allows especially for small businesses to survive on the market and maintain working places.

38. The Minister of Finance has decided that computers and tablets donated to schools and kindergartens by June 30 this year will be charged with 0% VAT tax.

Measures Taken by Polish MOD:

13 MAR 2020

1. Recruiting procedures for new soldiers were suspended.
2. Military planes transported Polish citizens from Wuhan.
3. 27 residential and 3 medical containers were deployed to Wrocław and 3 residential containers on the border with Czech Republic.
4. All duty travels of military personnel and civilian employees are suspended till further notice.

14 MAR 2020

5. 1000 soldiers from Territorial Defense started to support Border Police by patrolling 67 border crossing points.

6. 1100 soldiers from Territorial Defense who have first aid training are under stand by to support Ministry of Health.

7. In each Administrative District Military Task Forces are established equipped with dozens of sanitary vehicles and minibuses, 10 disinfectant task teams, mobile medical teams and ready to support doctors, nurses and paramedics, container field hospital in Wrocław equipped with 100 beds intended for quarantine and providing assistance to those in need, a building in Wrocław equipped with 200 quarantine beds.

8. 14 military hospitals and 5 preventive medicine centers on standby.

9. Center for Diagnostics and Combating Biological Hazards in Puławy in readiness to conduct 350 tests per day.

16 MAR 2020

10. Minister of Defense took decision to engage cadets from Military Universities with scope of activities including delivery of food and medicine for the needy, including those in quarantine.

17 MAR 2020

11. Soldiers from 10th Logistic Brigade delivered respirators to infective hospital in Starachowice.

12. As of 17 MAR 2400 soldiers are engaged on entire territory of Poland and they are using 490 pieces of equipment.

18 MAR 2020

13. Mobile biological recognition laboratory prepared by the Polish Army began to work. It is able to perform up to 120 coronavirus tests per day.

14. Territorial Defense Forces started 24/7 special phone line for psychological help for people under quarantine.

19 MAR 2020

15. Minister of Defense decided to assign military forces to help police in order to ensure security and public order, in total 2600 soldiers.

20 MAR 2020

16. As of today 2700 soldiers are engaged to help Police, Border Police and health care system.

23 MAR 2020

17. More than 5000 soldier already engaged in support of Police, Border Police and health care system. Around 545 pieces of equipment are used.

18. From today Army started blood donation campaign.

25 MAR 2020

19. As of today 5235 soldiers are engaged to help Police, Border Police and health care system. Around 836 pieces of equipment are used.

01 APR 2020

20. 6350 soldiers already engage in support to fight against coronavirus and more than 834 pieces of equipment are used.

21. Municipalities' parks, forests and squares are patrolled by Military Police.

06 APR 2020

22. 8400 soldiers mostly from Territorial Defense Forces are already engaged in support to fight against coronavirus and more than 1068 pieces of equipment are used.

07 APR 2020

23. 8957 soldiers mostly from Territorial Defense Forces are already engaged in support to fight against coronavirus and more than 1275 pieces of equipment are used.

11 APR 2020

24. On Saturday, 8,715 soldiers and army employees, and 1,244 pieces of equipment will be involved in the fight against the coronavirus. Soldiers protect borders, patrol the streets with the police, transport food and personal protective equipment, and look after veterans and medical families. Every day, soldiers support the health service and run a helpline with psychological help. One of the tasks is also to disinfect buildings.

17 APR 2020

25. Recently 9,633 soldiers and army employees, and 1,396 pieces of equipment were involved in the fight against the coronavirus. On the night from 16 to 17 April, 19 tons of protective suits arrived to Poland from Turkey, transported by 4 military aircrafts, which will be handed over to medical personnel of hospitals. On the same day AN124 Ruslan landed at the airport in Wrocław, who transported personal protective equipment, protective masks and shoe covers to Poland from China. The flight was co-organized by the Ministry of National Defense as part of the NATO SALIS program^{vi}.

20 APR 2020

26. Ministry of National Defense ordered that a military crisis intervention teams be created in each voivodship, which would be able to provide immediate support in social welfare homes if needed. The teams will include both soldiers from Territorial Defense Forces and soldiers from units subordinate to the General Command of the Polish armed Forces.

21 APR 2020

27. 9360 soldiers mostly from Territorial Defense Forces are already engaged in support to fight against coronavirus and more than 1349 pieces of equipment are used.

SUMMARY:

✓ *number of infected people is still growing and reached **10 034**, disease growth rate is on similar trend during last 3 days, and now average number of infected is **350** people a day during last week, which placed Poland on 15th place in Europe and 33rd on the world (the top 5 with highest noted recently is USA [**25 985**], Russia [**5 642**], Turkey [**4 611**], UK [**4 301**], and Spain [**3 968**]);*

✓ *the most affected administration districts are: Mazowieckie, Śląskie, Dolnośląskie and Wielkopolskie;*

✓ *number of tests done so far is **224 355** / **+20 109** from last report;*

✓ *reported number of people cured from coronavirus so far – **1513** / **+380** from last report*

✓ ***404** people died so far (217 men and 187 women), average age of died person is **74 years**, the youngest persons who died was 32 years old women and man. The reason for the woman's death was "COVID-19 infection with severe pneumonia,*

respiratory failure and multiple organ failure." "The patient is burdened with concomitant diseases (giant obesity, type 2 diabetes, hypertension, depression syndrome). Because of the huge obesity, the patient is disqualified from ECMO therapy. 32 years man was infected by COVID-19 but he didn't have any concomitant diseases.

Age structure of died people in Poland

0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+
0	0	0	9	13	21	84	124	153
0%	0%	0%	2%	3%	5%	21%	31%	38%

Annex 18 UK

1. COVID-19 Outbreak in UK

The ongoing pandemic of coronavirus disease 2019 (COVID-19) spread to the United Kingdom in late January 2020. These cases are considered as imported from abroad and the first case with transmission within the country is documented on 28 February.

On 12 Jan following the WHO statement that coronavirus has caused respiratory disease in majority of the population of Wuhan, Hubei Province, China, in UK a laboratory test prototype has been developed.

On 30 Jan when the WHO declared the coronavirus outbreak a Public Health Emergency of International Concern, the UK's Chief Medical Officers raised the country's risk level to moderate, the first cases appeared in the UK, and a public health information campaign was launched.

The new cases in February made the Secretary of State for Health and Social Care, Matt Hancock, to introduce the Health Protection (Coronavirus) Regulations 2020. There was also a guidance on infection prevention and control, on how to detect and diagnose COVID-19, daily updates, and advice to travellers, being published by the Department of Health and Social Care (DHSC) and Public Health England (PHE).

The National Health Service (NHS) set up drive-through screening centres at some hospitals. The Chief Medical Officer for England, Chris Whitty, explained a four-pronged strategy to tackle the outbreak: contain, delay, research and mitigate.

At the same time, drive through monitoring centers in some of the hospitals are being prepared and the Chief Medical Office of England declares the four phases of the disease response – contain, delay, research and mitigate.

The number of COVID-19 cases rose drastically in March. As of 22 April, there have been 133,495 confirmed cases in the UK and 18,100 people with confirmed infections have died, a rate of about 267 deaths/1M population. More than 90% of those dying have underlying illnesses and are over 60 years old. There are large regional variations in the pandemic's severity. The capital, London, has the highest number and highest rate of infections. England and Wales are the countries with the highest recorded death rate per capita, while Northern Ireland has the lowest recorded death rate.

Since 16 March lockdown state in UK has been declared which has been extended on 16 April with three more weeks. Freedom of movement and assembly are restricted for the whole population, and all public venues are closed.

2. COVID-19 Death Rate Demographics

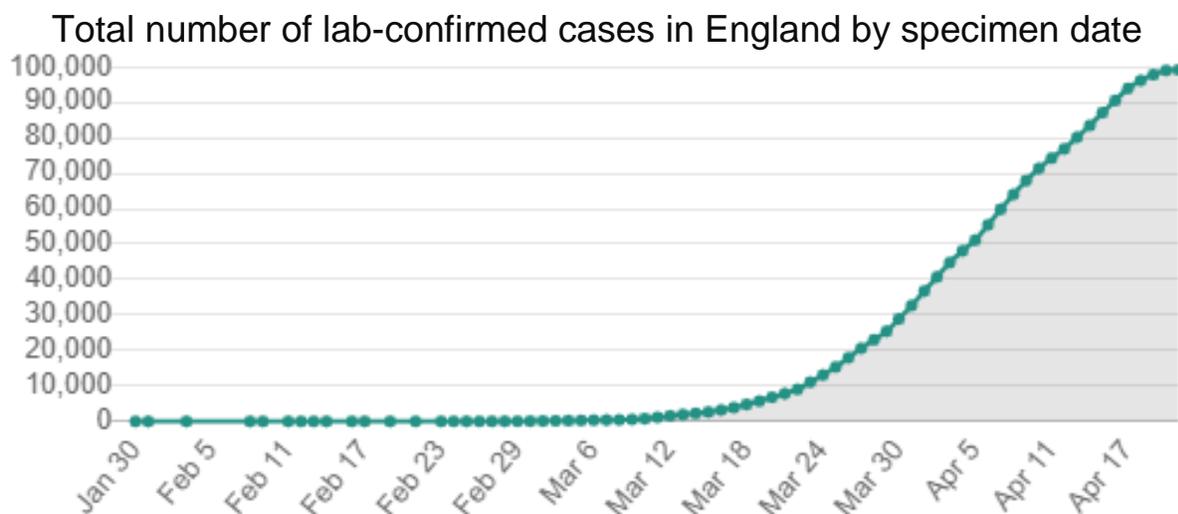
Age Deaths England	All Ages	0-19	20-39	40-59	60-79	80+
Deaths by 22-Apr	16272	8	118	1282	6407	8457
Death rate	100%	0.05%	0.73%	7.88%	39.37%	51.97%

Age Deaths Scotland	All Ages	Under 1	01-14	15-44	45-64	65-74	75-84	85+	Male	Female
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Deaths by 19-Apr	1616	0	0	10	154	263	586	603	888	728
Death rate	100%	0.00%	0.00%	0.62%	9.53%	16.27%	36.26%	37.31%	54.95%	45.05%

3. Statistics – total cases, death cases, recoveries and new cases

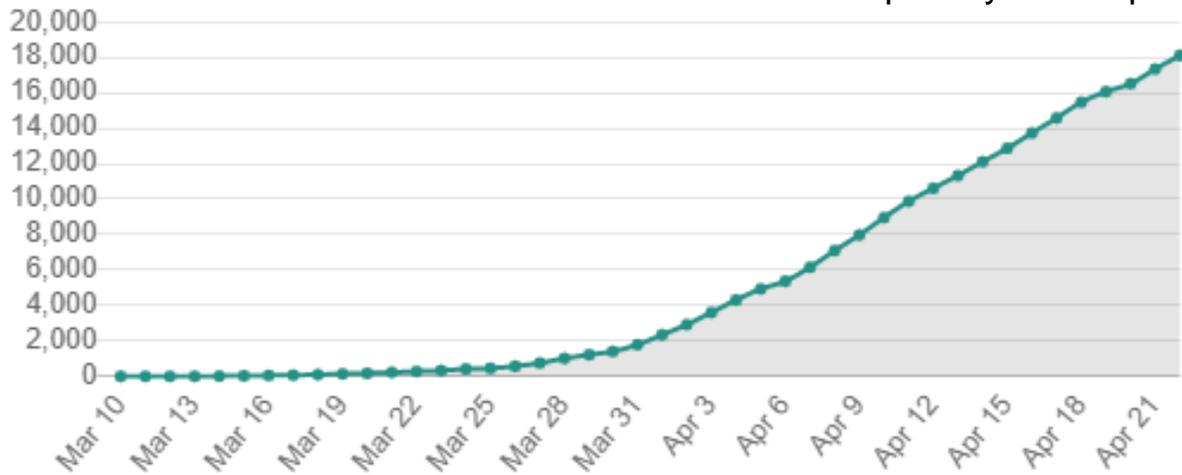
COVID-19 cases 133,495	England 99,137	Wales 9,038
	Scotland 9,038	Northern Ireland 2,874
Смъртни случаи 18,100	England 16,271	Wales 624
	Scotland 985	Northern Ireland 220
Възстановени n/a	England -	Wales -
	Scotland -	Northern Ireland -
Total tests 559,935	Общ брой тествани 411,192	В болница (към 21.04) 17,477



Daily number of lab-confirmed cases in England by specimen date



Total number of COVID-19 associated UK deaths in hospital by date reported

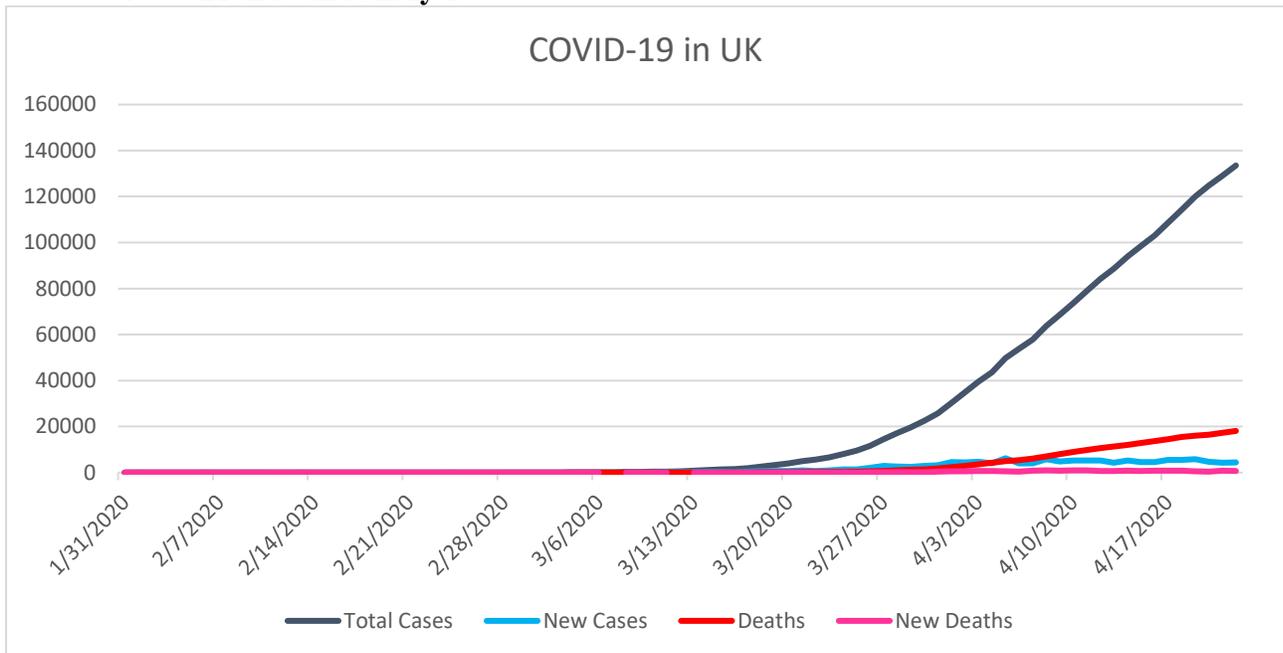


Daily number of COVID-19 associated UK deaths in hospital by date reported



Data source: https://coronavirus.data.gov.uk/?_ga=2.222152351.664292134.1587589608-306427495.1587589608

4. Trends and analysis



COVID-19 curves have the similar characteristics as in the other European countries in which the outbreak was recorded in late January 2020 (Italy, Spain, France and Germany).

Between the first case (31 Jan) and first death case (05 Mar), the total COVID-19 cases are negligible (114 cases) which does not ring the bell of the UK Government.

By the beginning of March 2020, the UK government is following the principle of the herd immunity believing that this is a “simple” respiratory seasonal virus. Only 11 days later, on 16 March, COVID-19 measures for social distancing have been announced as London Imperial College scientists had presented to the UK Prime Minister their research paper on the consequences for the state if no measures are being taken.

Despite the taken measures, COVID-19 continues to spread rapidly in dense populated areas, like London. This could be an explanation of the lower number of cases in Northern Ireland, Wales and Scotland.

Almost 90% of all deaths involving COVID-19 to date were of people aged 60 or over. In Scotland, a third (33%) of COVID-19 deaths registered to date related to deaths in care homes while 56% of deaths were in hospitals and 10% of deaths were at home or non-institutional settings.

An interesting fact is that since 13 April, UK officials are not reporting on recovery. The last stated number was 344 on 11 April which is suspiciously low in comparison with the other European countries.

According to some scientists, examining the available statistics worldwide, there is a common model of the COVID-19 curve behavior ramping up on the fortieth day from the outbreak and going down on the eightieth day. Of course, this is a pure mathematical model, and infection and virus specialists are strongly against such generalizations. However the UK officials take the date for the first in-country transmission (28 Feb) as the first case in UK which will make the fortieth day to be 08 April which indeed is the period with highest new and death cases in UK.

Will the COVID-19 disease slacken on the eightieth day (18 May), as forecasted, we would look on.

Taken measures

Active health case measures:

Stay at home. People can leave the houses only for:

- shopping for basic necessities, for example food and medicine
- one form of exercise a day, for example a run, walk, or cycle
- any medical need, including to donate blood, avoid or escape risk of injury or harm
- providing care or assistance to a vulnerable person, providing emergency assistance
- travelling to work or to carry out voluntary services, where it's not possible to do these from home
- attending the funeral of a member of your household, or a close family member (or in some circumstances, a friend)
- fulfilling legal obligations, such as attending court, satisfying bail requirements or participating in legal proceedings
- accessing critical public services including childcare or education, social services, or victim support
- allowing children of separated parents to move between both households
- moving house where reasonably necessary

Do not meet others, even friends or family. All "unnecessary" visits to friends and relatives in care homes should cease

Use the NHS "where we really need to" in order to reduce the burden on workers by getting advice on the NHS website, where possible

If one person in any household has a persistent cough or fever, everyone living there must stay at home for 14 days. Get an isolation note from 111 coronavirus service to send to the employer as proof for the need to stay off work. No need to get a note from a GP.

Only critical workers (Health and social care, Education and childcare, Key public services, Local and national government, Food and other necessary goods, Public safety and national security, Transport and Utilities, communication and financial services) can still take their children to school or childcare

UK government said it has reached the lab capacity to do about 12,000 tests, but so far just over 8,000 people are being tested a day. Testing is key to tackling coronavirus and the UK hopes to increase the number of people tested to 25,000 a day in the coming weeks. So far more than 152K people have been tested for the virus in the UK. The intention is to get from thousands to hundreds of thousands within the coming weeks however staff in contact with the sickest patients would be tested first.

People who should be "particularly stringent" in minimizing their social contact are:

- People over the age of 70
- Other adults who would normally be advised to have the flu vaccine (such as those with chronic diseases)
- Pregnant women

Taken measures by date

22.01.2020	<ol style="list-style-type: none"> 1. DHSC and PHE raised the risk level "very low" to "low" 2. Heathrow Airport received additional clinical support and tightened surveillance of the three direct flights that it receives from Wuhan every week 3. All airports in the UK were to give written guidance (in English, Mandarin, and Cantonese) available for unwell travelers 4. Simultaneously, efforts to trace 2,000 people who had flown into the UK from Wuhan over the previous 14 days were made
23.01.2020	The four UK CMOs raised the UK risk level from low to moderate (WHO's announced the disease as a PHEIC)
31.01.2020	Public health information campaign launched to advise people how to lessen the risk of spreading the virus
06.02.2020	UK's CMOs expanded the number of countries where a history of previous travel associated with flu-like symptoms – such as fever, cough and difficulty breathing – in the previous 14 days would require self-isolation and calling NHS 111. These countries included China, Hong Kong, Japan, Macau, Malaysia, Republic of Korea, Singapore, Taiwan and Thailand
09.02.2020	<ol style="list-style-type: none"> 1. The Health Protection (Coronavirus) Regulations 2020 Law issued, applying only to England 2. A hospital and a conference center in Milton Keynes became designated "isolation facilities" 3. Wuhan and Hubei province was declared an “infected area” 4. Daily updates, including advice to travelers have been published by the UK's Department of Health and Social Care (DHSC) and Public Health England (PHE) 5. The National Health System (NHS) set up COVID-19 drive-through screening centers at multiple hospitals
28.02.2020	Scottish CMO announced that surveillance would begin at some hospitals and 41 GP surgeries in Scotland.
01.03.2020	Coronavirus Action Plan announced by the PM, declaring the COVID-19 outbreak as a "level 4 incident"
11.03.2020	WHO declared the outbreak a pandemic. As follow up some schools in England choose to close, some airlines announced a number of flight cancellations and some online retailers have reported consumers placing unusually large orders
12.03.2020	UK risk level was raised from moderate to high.

16.03.2020	<ol style="list-style-type: none"> 1. Social distancing and advised people in the UK against "non-essential" travel and contact with others 2. Suggested people should avoid pubs, clubs and theatres, and work from home if possible. 3. Pregnant women, people over the age of 70 and those with certain health conditions (about 1.4M) were urged to consider the advice "particularly important", and would be asked to self-isolate. 4. School closures would be considered "at the right stage" of the outbreak. 5. NHS England announced that all non-urgent operations in England would be postponed from 15 April to free up 30,000 beds. 6. Chancellor Rishi Sunak announced that £330bn would be made available in loan guarantees for businesses affected by the pandemic.
18.03.2020	Schools in UK are closed except for key workers children.
19.03.2020	<ol style="list-style-type: none"> 1. UK MoD announced the formation of the COVID Support Force, enabling the military to support public services and civilian authorities. 2. Two MIL OPS announced; Operation Rescript, which focuses on the outbreak in the UK, and Operation Broadshare, which focuses on British military activities overseas.
20.03.2020	All restaurants, clubs, pubs, indoor sports and entertainment facilities are closed but the home deliveries and take away food chains continue to work.
23.03.2020	Restrictions made on freedom of movement, enforceable in law, for a planned "lockdown" period intended to last for at least three weeks.
24.03.2020	<ol style="list-style-type: none"> 1. A new temporary hospital will open at the ExCel Centre from next week, Matt Hancock has announced. NHS Nightingale Hospital will comprise two wards and the ability to hold up to 4,000 patients. 2. Same measures were undertaken by Wales's government, which planned to open field hospital at Cardiff Principality Stadium.
25.03.2020	Scotland government announced that a temporary hospital is being built at Glasgow's Scottish Events Campus. It could have capacity for as many as 1,000 beds and will be named the NHS Louisa Jordan after a nurse who served in Serbia during World War One.
26.03.2020	Belfast City Hospital's tower block will become Northern Ireland's first Nightingale hospital with 230 beds.
27.03.2020	England announced that additional emergency field hospitals to treat coronavirus patients will be opened in several places – Bristol, Birmingham, Manchester and Harrogate Convention Center
01.04.2020	Hundreds of doctors and nurses in Cardiff are being trained to treat patients with coronavirus in a simulation ward, as Wales' biggest hospital prepares for more cases. And it's not just the doctors and nurses, behind the scenes cleaners and catering staff are working round the clock to keep the hospital moving during the crisis.
02.04.2020	Mr. Hancock announced his five point plan to tackle the coronavirus pandemic in the UK. The plan includes:

	<ol style="list-style-type: none"> 1. Accelerating Public Health England in-house testing to hit the 100,000 target. 2. Using the private sector to buy up commercial swab tests. 3. Roll out new antibody tests for immunity. 4. Conduct a giant survey of the population. 5. A call to manufacturers, inventors and commercial developers to assist the UK's diagnostic capability.
03.04.2020	<p>The first of the government's emergency field hospitals to treat coronavirus patients opened in east London's ExCel centre.</p> <p>The temporary NHS Nightingale Hospital is able to hold as many as 4,000 patients and is the first of several such facilities planned across the UK.</p>
10.04.2020	<p>On the daily briefing, Matt Hancock announced:</p> <ol style="list-style-type: none"> 1. Government now has capacity to test all frontline staff 2. Test centres opened in Glasgow, Cardiff, Belfast, Nottingham, Leeds and London 3. First mega-lab 'capable of testing thousands a day' has opened in Milton Keynes
08.04.2020	<p>Welsh Government would extend the lockdown beyond the initial three-week period for Wales</p>
16.04.2020	<p>Britain is extending its coronavirus lockdown measures by at least another three weeks</p>
17.04.2020	<ol style="list-style-type: none"> 1. Government has set up a Vaccines Taskforce to co-ordinate the efforts of government, academia and industry towards accelerating the development of a coronavirus vaccine. 2. 21 new research projects combating coronavirus will receive government funding from a £14 million pot investment to rapidly progress treatments and vaccines. This follows the government's £250 million pledge to develop a vaccine, putting the UK at the forefront of international efforts to fight the virus

Additional measures by sectors:

- Policing
 - The police have been given powers to make sure people follow the measures.
 - Police were told to use “judgement and common sense” in swiftly updated guidance, following reports of heavy handedness including the use of checkpoints and drones to enforce physical distancing.
 - The guidance says that "the police will act with discretion and common sense in applying these measures".
 - If you leave your home or gather in public for any reason other than those allowed, the police may instruct you to go home or disperse. They may also instruct you to stop your children from also breaking the rules. They also have the power to take you home or arrest you.
 - If the police believe you have broken rules, or if you refuse to follow their instructions, they may issue you with a fine of £60 (reduced to £30 if paid within 14 days). If it's the second time you've received a fine, the amount will increase to £120 and double on each further repeat offence.

- Local authorities (such as trading standards officers) will be monitoring local businesses to make sure they also follow the rules. Those that don't comply will face the threat of fines, and of being closed down.
 - Local government
 - Local Government Secretary Robert Jenrick has launched a new taskforce bringing together senior experts across sectors to tackle the outbreak of coronavirus. The taskforce will bring together senior experts from across key sectors – including resilience, local government, public health and adult social care fields – who will assess Local Resilience Forum (LRF) plans and provide support and advice to ensure they are robust. As part of the review process the taskforce will:
 - analyse LRF local flu response plans
 - discuss support with LRF chairs for vulnerable people, and how key services could be maintained
 - commission a tabletop exercise in each LRF area
 - examine relationships between LRFs and Local Health Partnerships to ensure they can facilitate and support cross-LRF working
 - Data controllers (NHS Digital, NHS England and Improvement, health organizations, arm's length bodies, local authorities and GPs) are obliged to share data for purposes of coronavirus (COVID-19).
 - Ministry of Defence:
 - On 19 March, following requests for military aid to the civil authorities, the Ministry of Defence announced the formation of the COVID Support Force under the Standing Joint Commander to support public services and civil authorities in tackling the pandemic. The support force initially consisted of 20,000 personnel but later grew to amount to 23,000. The COVID Support Force was initially tasked with driving oxygen tankers for the NHS, as well as delivering medical supplies, including PPE, to hospitals.
 - Prior to the announcement of the COVID Support Force, the armed forces had assisted the British government in repatriating British citizens from affected areas, including China and Japan.
 - The Royal Air Force repatriated British and EU citizens from Cuba.
 - Two military operations; Operation Rescript, based in the UK, and Operation Broadshare, focused on overseas defence activities, were launched. Chief of the Defence Staff Nick Carter ordered the military to prepare for a "six month" operation and to be on an "operational footing" by mid-April.
 - The coronavirus pandemic affected British military deployments at home and abroad. Training exercises, including those in Canada and Kenya, had to be cancelled to free up personnel for the COVID Support Force. The British training mission in Iraq, part of Operation Shader, had to be down-scaled.
 - The British Army deployed two experts to NATO to help counter disinformation around the pandemic.
 - Civilian airports, including Birmingham Airport, were used by UK Royal Air force to practice transferring Coronavirus patients to local hospitals via helicopter.
 - The armed forces assisted in the transportation of coronavirus patients in some of the country's remotest regions, such as Shetland and the Isles of Scilly.
 - On 23 March 2020, Joint Helicopter Command began assisting the coronavirus relief effort by transporting people and supplies. Helicopters were based at RAF Leeming to cover

Northern England and Scotland, whilst helicopters based at RAF Benson, RAF Odiham and RNAS Yeovilton supported the Midlands and Southern England.

- On 24 March 2020, the armed forces helped plan and construct a field hospital at the ExCeL London conference centre, named NHS Nightingale Hospital London. Further critical care field hospitals were later built with military assistance in Birmingham, Manchester, Harrogate, Bristol, Exeter, Washington and Glasgow. These hospitals were staffed by military medics, alongside the NHS.

- In April, armed forces personnel began supporting ambulance services across the country. Elsewhere, the armed forces helped transform locations to accommodate additional patient beds, including across Cumbria and the Isle of Wight. Testing centres, including in Glasgow, were also assembled with military assistance.

- By 12 April 2020, the COVID Support Force had responded to 76 requests for assistance from government ministries with 2,680 personnel deployed from a total of 23,000 on standby. 2,300 vehicles were also in use as temporary ambulances and to transport personnel and supplies in 34 locations across the country.

- On 16 April 2020, it was reported that 9.1% of the defence workforce, representing 13,000 personnel, were off work due to coronavirus. Under 100 personnel had tested positive.

- Education:

- Fourteen schools in England had closed by 28 February

- On 18 March, the Welsh government announced that all schools in Wales would be closing by 20 March. On the same day, the First Minister of Scotland Nicola Sturgeon announced that Scottish schools would also be closing from 20 March, and may not reopen before the summer. Later that day, it was announced that schools in Northern Ireland would close to pupils immediately and to staff on 20 March. Shortly thereafter, the Secretary of State for Education, Gavin Williamson announced that schools in England would close from 20 March for an unspecified length of time

- However schools would still look after the children of key workers, and vulnerable children

- The UK government also announced that GCSE and A Level exams were to be cancelled, an unprecedented action in UK educational history, and that grades were to be given out based on predicted grades and teacher assessment. On 16 April the Department for Education said these grades would be published on their original intended dates, 13 August for A Levels and 20 August for GCSEs

- Public transport:

- Suspended services; reduced timetables; closed stations.

- The London Underground brought in new measures on 25 March to combat the spread of the virus, by slowing the flow of passengers onto platforms. Measures included the imposition of queuing at ticket gates and turning off some escalators.

- In April, TfL trialled changes encouraging passengers to board London buses by the middle or rear doors to lessen the risks to drivers, after the deaths of 14 TfL workers including nine drivers. This measure was extended to all routes on 20 April, and passengers were no longer required to pay, so that they did not need to use the card reader near the driver.

- People are asked not to use the public transportation Умоляват се хората да не ползват публичния транспорт, а само при крайна необходимост, за да се използва главно от работещите в критичните сектори;

- England's trains have effectively been nationalised, at least temporarily, after the government suspended rail franchise agreements to avoid train companies collapsing because of the coronavirus.
- Construction and property:
 - Many construction sites initially remained operational following the introduction of social distancing rules.
 - Following criticism, several housebuilders paused work on 24 March but later reopened some sites.
 - In Scotland, work was ordered to be suspended on all non-essential construction projects from 6 April.
 - By 8 April, work at 80% of UK housebuilding sites had stopped
 - By 17 April, work had halted on 2,434 UK sites; approximately £58bn or 35% of total UK construction value had been paused.
- Religion:
 - The Church of England and other Anglican churches in the British Isles suspended in-person
 - The Catholic Church, Methodist Church in Great Britain and the Society of Friends also put a temporary moratorium on public worship.
 - The chief rabbi in the United Kingdom advised the suspension of Jewish worship in synagogues and the Muslim Council of Britain has ordered the closure of mosques in the country.

5. Economic Policy Response

Economic damages from COVID19 in world and UK are already tangible. It is expected that 1 million small companies (1/5 from all small companies) in UK to close in next one month experiencing difficulties of finding cash to overcome the lockdown. In response, number of fiscal and monetary support mechanisms were introduced by UK government. There is large consensus in Britain that a variety of measures to support low income households and business should be employed through unemployment benefits, credit support, and direct transfers. Likewise, a substantial share of economists agree that higher public debt burdens should not be a concern in the process of supporting the economy.

Related to this debate, the first two questions in the latest Centre for Macroeconomics (CFM) survey asked panelists for policies that would best dampen the immediate impact of the economic crisis. They were asked to put aside the obvious need to respond to the health crisis itself and focus on the economic fallout from social distancing measures enacted. This also contrasts with policies that might be useful as lockdowns are removed and health concerns subside.

The questions were:

- Which of the following would have the greatest impact in mitigating the economic effects of the coronavirus economic crisis?
- Which of the following would have the second greatest impact in mitigating the economic effects of the coronavirus economic crisis in the UK?
- Which would be the maximal public debt you would be willing to tolerate if used effectively (as in your answers to 1 and 2 above) to support an economic recovery?

Figure 1. Policy responses to COVID-19 economic crisis

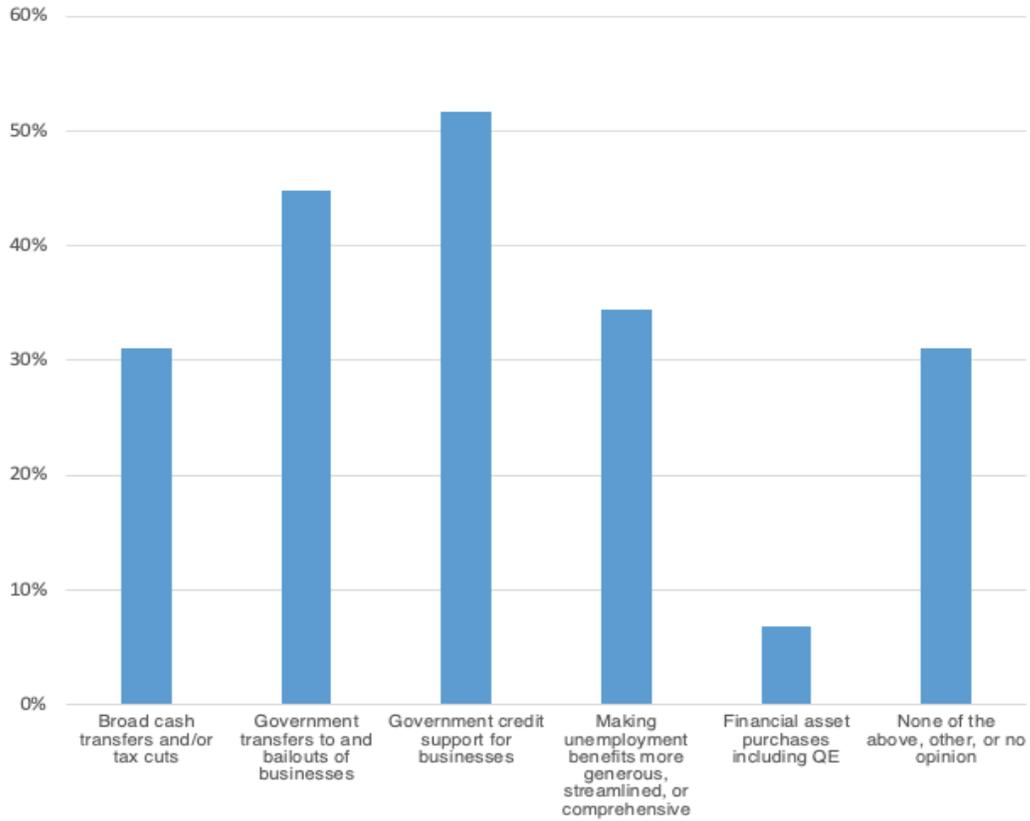
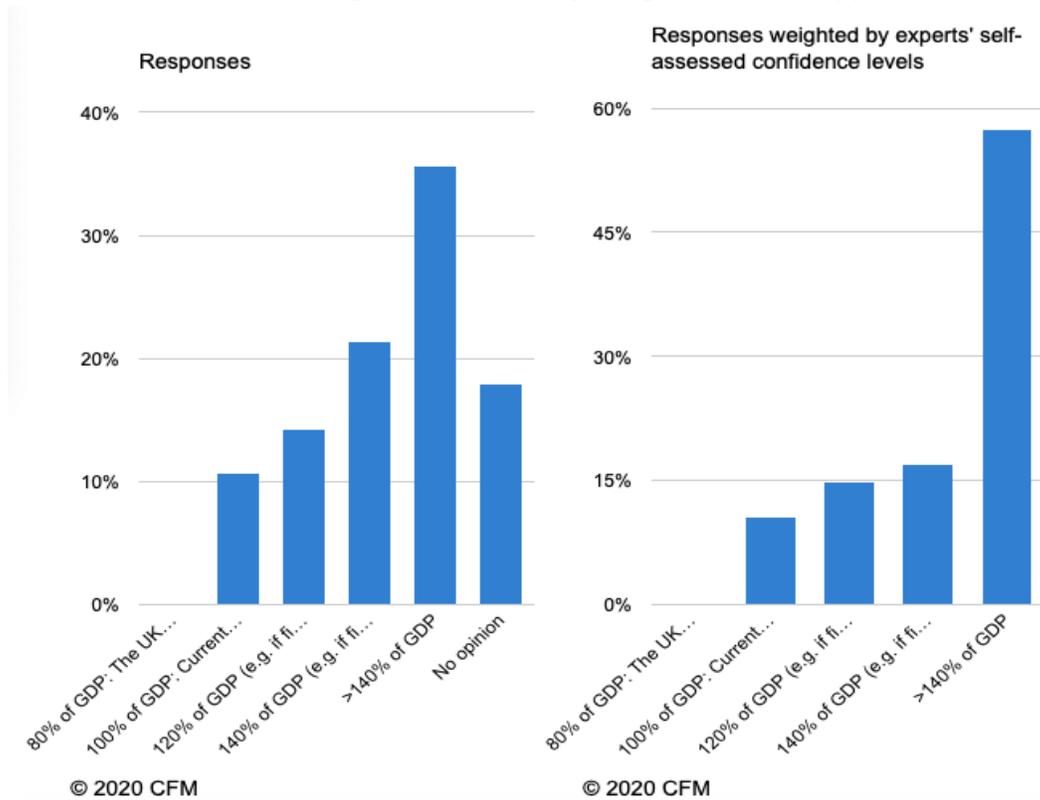


Figure 2 Tolerance for higher debt to support economic recovery



The government has unveiled a package of financial measures to shore up the economy against the coronavirus impact. It includes £330bn in loans, £20bn in other aid, a business rates holiday, and grants for retailers and pubs. Help for airlines is also being considered.

- Support to millions of self-employed individuals through the Self-employment Income Support Scheme

- Direct cash grant of 80% of their profits, up to £2,500 per month for at least 3 months. Cleaners, plumbers, electricians, musicians, hairdressers and many other self-employed people who are eligible for the new scheme will be able to apply directly for the taxable grant, using a simple online form, with the cash being paid directly into people's bank account. The income support scheme, which is being designed from scratch, will cover the three months to May. Grants will be paid in a single lump sum instalment covering all 3 months, and will start to be paid at the beginning of June.

- Statutory Sick Pay (SSP)

- You can get £94.25 per week Statutory Sick Pay (SSP) if you're too ill to work. It's paid by your employer for up to 28 weeks. If you cannot work while you are self-isolating because of coronavirus (COVID-19), you could get SSP for every day you're in isolation. You must self-isolate for at least 4 days to be eligible.

- Proof of Sickness. If you have COVID-19 or are advised to stay at home, you can get an 'isolation note' by visiting NHS 111 online, rather than visiting a doctor. For COVID-19 cases this replaces the usual need to provide a 'fit note' (sometimes called a 'sick note') after 7 days of sickness absence.

- Universal Credit

- Universal Credit is a payment to help with your living costs. It's paid monthly - or twice a month for some people in Scotland. You may be able to get it if you're on a low income or out of work. Universal Credit is replacing the following benefits:

- Child Tax Credit
- Housing Benefit
- Income Support
- income-based Jobseeker's Allowance (JSA)
- income-related Employment and Support Allowance (ESA)
- Working Tax Credit

- Employment and Support Allowance (ESA)

- You can apply for Employment and Support Allowance (ESA) if you have a disability or health condition that affects how much you can work. ESA gives you:

- money to help with living costs if you're unable to work
- support to get back into work if you're able to
- You can apply for ESA if you're employed, self-employed or unemployed.

- Furloughed workers

- If you and your employer both agree, your employer might be able to keep you on the payroll if they're unable to operate or have no work for you to do because of coronavirus (COVID-19). This is known as being 'on furlough'.

- You could get paid 80% of your wages, up to a monthly cap of £2,500.

- If your salary is reduced as a result of these changes, you may be eligible for support through the welfare system, including Universal Credit.

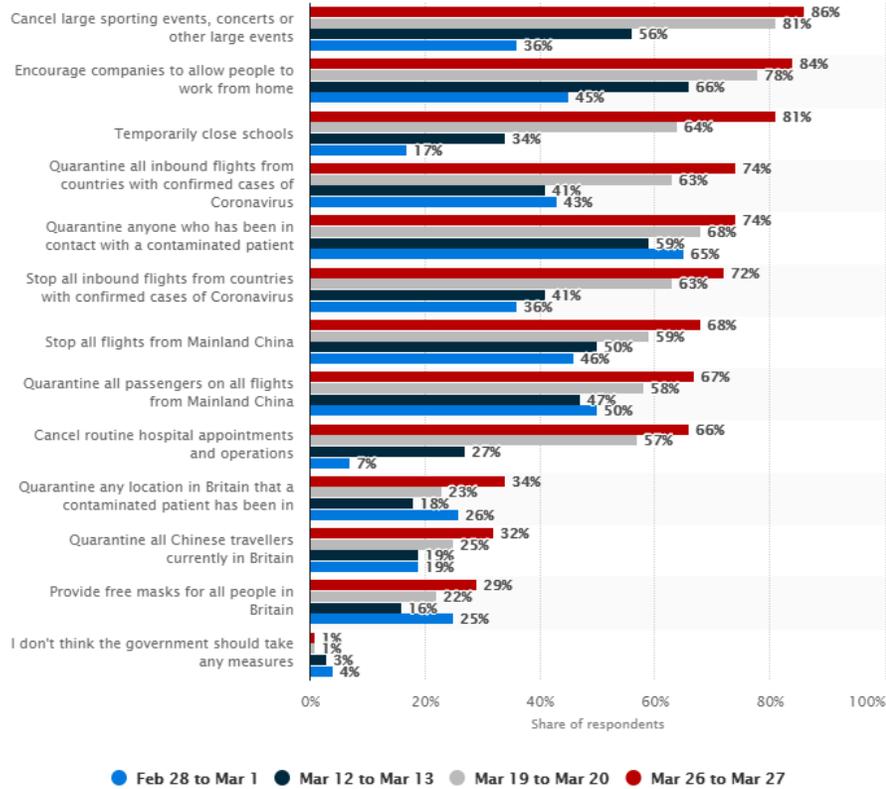
- Lay-offs and short-time working

- Your employer can ask you to stay at home or take unpaid leave if there's not enough work for you.
- A lay-off is if you're off work for at least 1 working day. Short-time working is when your hours are cut.
- There's no limit for how long you can be laid off or put on short-time. You could apply for redundancy and claim redundancy pay if it's been:
 - 4 weeks in a row
 - 6 weeks in a 13-week period
- You should get your full pay unless your contract allows unpaid or reduced pay lay-offs. If you're unpaid, you're entitled to guarantee pay during lay off or short-time working. The maximum you can get is £29 a day for 5 days in any 3-month period - so a maximum of £145.
 - If you usually earn less than £29 a day you'll get your normal daily rate.
 - If you work part-time, your entitlement is worked out proportionally.
 - If you cannot pay because of coronavirus (COVID-19) your tax bill on time
- You can delay (defer) any VAT payments due between 20 March 2020 and 30 June 2020.
 - Businesses will start benefiting from £22 billion in the form of business rates relief. And grants of up to £25,000 which are being paid into the bank accounts of the smallest high street firms.
 - Local authorities have received more than £12 billion for grants to small businesses.
 - In response to the Coronavirus, Covid-19, the Government announced there would be support for small businesses, and businesses in the retail, hospitality and leisure sectors.
 - This support will take the form of two grant funding schemes, the Small Business Grant Fund and the Retail, Hospitality and Leisure Grant Fund.
 - The schemes will be delivered by Local Authorities – if you are eligible, your Local Authority will be in touch with you to arrange payment.
 - High street banks are working really hard to support the UK through this period, including through mortgage holidays and increased credit facilities.
 - Loans for businesses are also being issued through the Coronavirus Business Interruption Loan Scheme since it came into operation last week.
 - To stimulate the economy, the Bank of England cut interest rates from 0.75 to 0.25 percent. On 19 March, the interest rate was again cut this time to 0.10% – the lowest rate in the bank's 325-year existence.

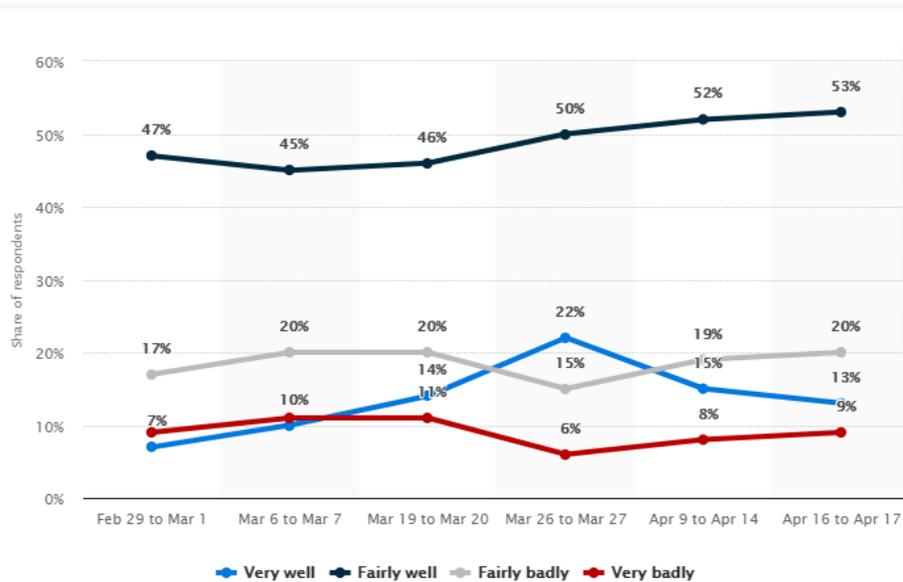
6. Other facts, surveys and forecasts

Statista surveys

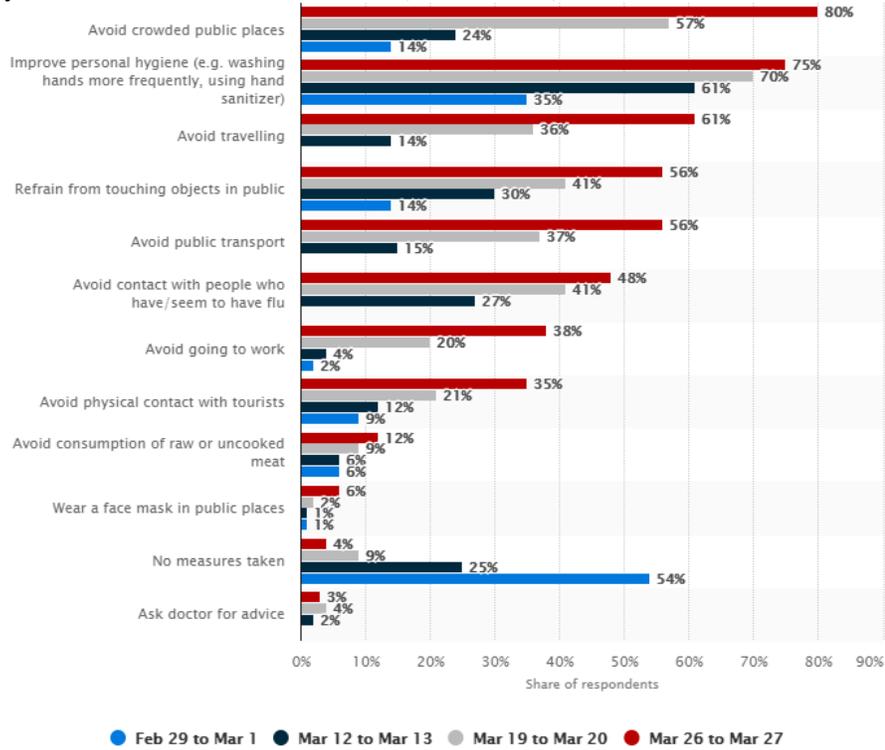
Which measures, if any, should UK Government take in COVID-19 response?



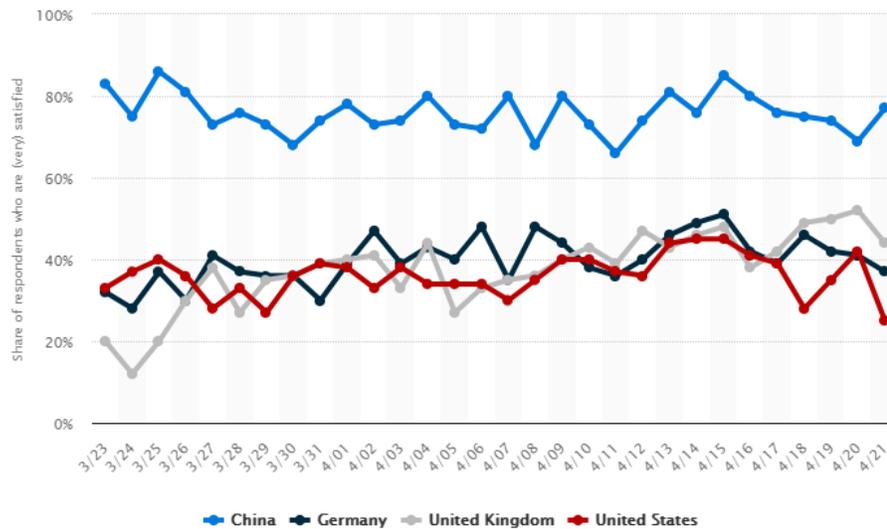
How well or badly do you think the government is handling the coronavirus (COVID-19) outbreak?



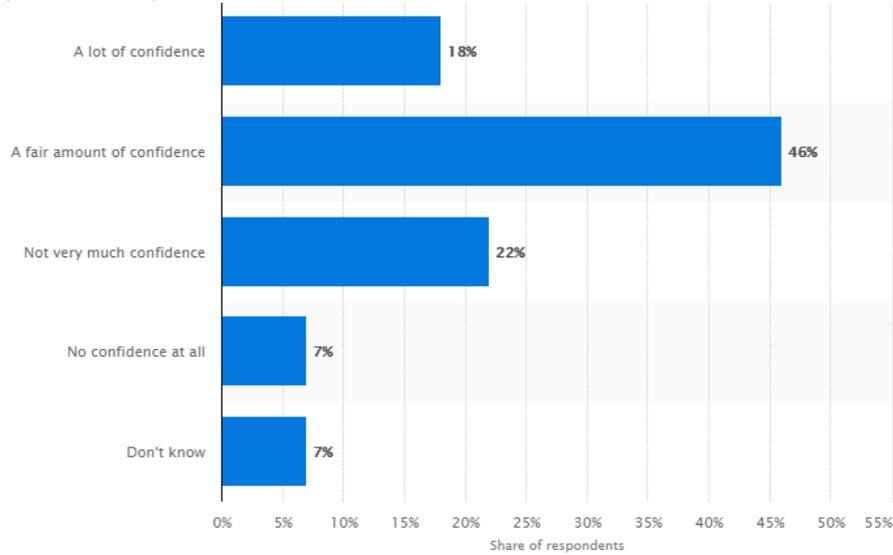
Which, if any, of the following measures have you taken in the past 2 weeks specifically to protect yourself from the Coronavirus (COVID-19)?



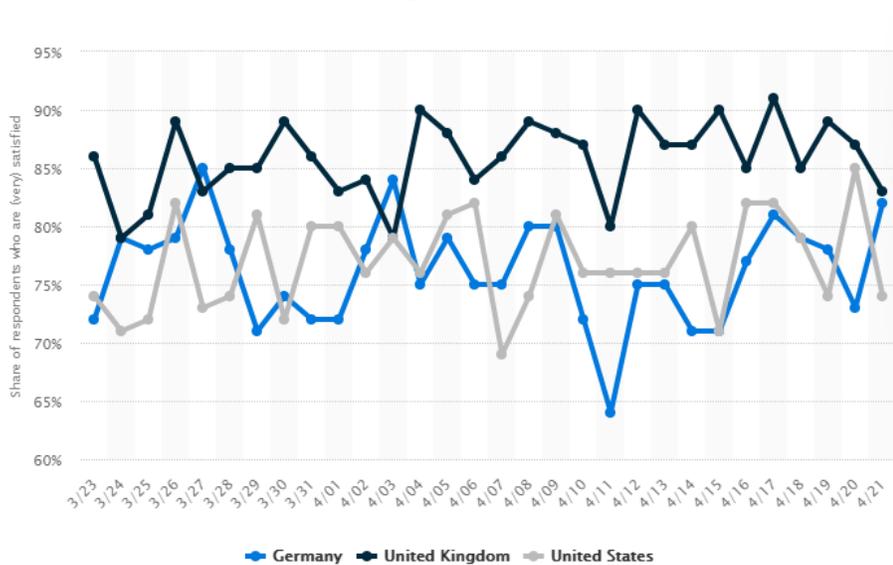
Satisfaction with fellow citizens' response to the COVID-19 / coronavirus pandemic in the United States, United Kingdom, Germany and China 2020?



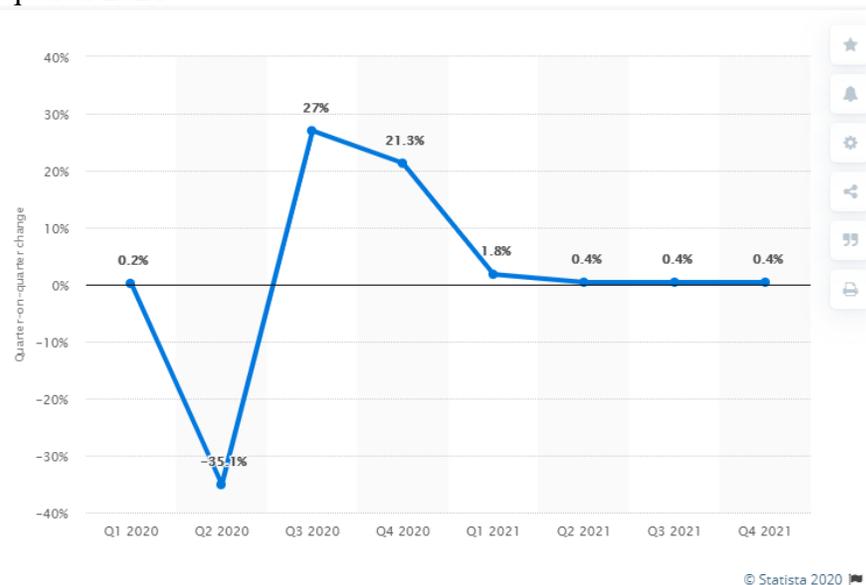
How much confidence do you have in the NHS to respond to a Coronavirus (COVID-19) outbreak in the UK?



Satisfaction with hospitals' response to the COVID-19 / coronavirus pandemic in the United States, United Kingdom and Germany 2020?



Growth forecast for gross domestic product (GDP) in the United Kingdom from 1st quarter 2020 to 4th quarter 2021



Britain had its credit ranking downgraded by Fitch Ratings, which cited the weakening of public finances caused by the impact of the Covid-19 outbreak.

The ratings company also pointed to the uncertainty regarding the post-Brexit trade relationship with the European Union in cutting the U.K. rating to AA- from AA. The outlook is negative.

The downgrade reflects a significant weakening of the U.K.'s public finances caused by the impact of the Covid-19 outbreak and a fiscal loosening stance that was instigated before the scale of the crisis became apparent" Fitch said. "The downgrade also reflects the deep near-term damage to the U.K. economy caused by the coronavirus outbreak and the lingering uncertainty regarding the post-Brexit U.K.-EU trade relationship."

The economic devastation being wrought by the coronavirus pandemic has blown apart the relatively benign fiscal projections made just a few weeks ago. Fitch now estimates the U.K. economy could contract by close to 4% this year, followed by growth of around 3% in 2021, though there is "material downside risk" to the forecast.

7. Assumptions

The model that predicted the progression of the coronavirus pandemic produced by researchers at London's Imperial College set off alarms around the world. The study was a huge factor in many governmental decisions to take drastic decisions locking things down, which suggested that two million people would die in the United States alone.

However, rather infamously, a new model from Oxford University is supposedly

‘challenging’ the Imperial College model’s accuracy. This research suggests that COVID-19 exists in UK since January 2020 and by 19-th March 68% of the British population would have been infected.

By the way, London Imperial College model was predicting about 250K to 500K deaths only in UK “from” COVID-19 but recently the authors admitted that these fatalities would not be additional but part of the yearly death toll rate which in UK is about 600 K people/year. In other words, the additional death toll rate from COVID-19 would remain low.

In parallel, as of 19-March, the UK government no longer classifies coronavirus as a High Consequence Infectious Disease (HCID).

8. Conclusions

From the conducted analysis few conclusions could be drawn:

1. UK authorities has spent precious time between first case (31 Jan) and lockdown measures (16 Mar) for preparation of the healthcare system – securing Personal Protective Equipment, Ventilators, Emergency beds, etc., building up laboratory capacity to conduct mass testing since the dawn of the outbreak like in Germany and South Korea.

2. Thanks to the emergency measures taken after March 16, these gaps are being fixed, but this delay may possibly cost more victims and increase the burden on the health system. The optimistic estimates for the death toll are up to 20,000 victims of this virus, which is about 3,000 more than the average seasonal mortality rate for the country.

3. Officials state the COVID-19 peak has been reached but it is too early to loosen the measures as the numbers had not started to go down and the risk of second wave. Therefore the lockdown period has been extended with 3 more weeks. Mass testing is the corner stone of UK exit strategy but no plan has been developed yet.

4. From economic perspective, it is clear that even strong economies cannot cope with such challenge and for their economy rebuild would rely on new debts in order to support the workers and the business in the next 3-6 months.

5. The economy of the United Kingdom is expected to fall by 35 percent in the second quarter of 2020, following the Coronavirus outbreak and closure of several businesses. According to the forecast the economy will bounce back in the third quarter of 2020, based on a scenario where the lockdown lasts for three months, with social distancing gradually phased out over a subsequent three-month period.

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Annex 19 Hungary

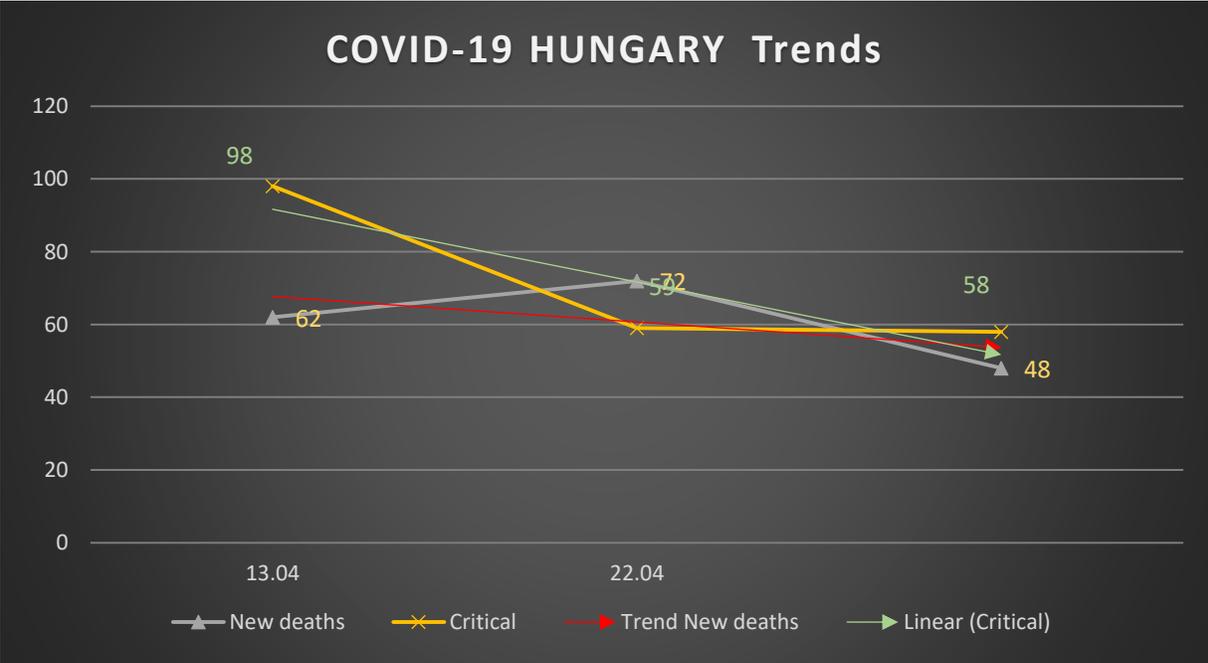
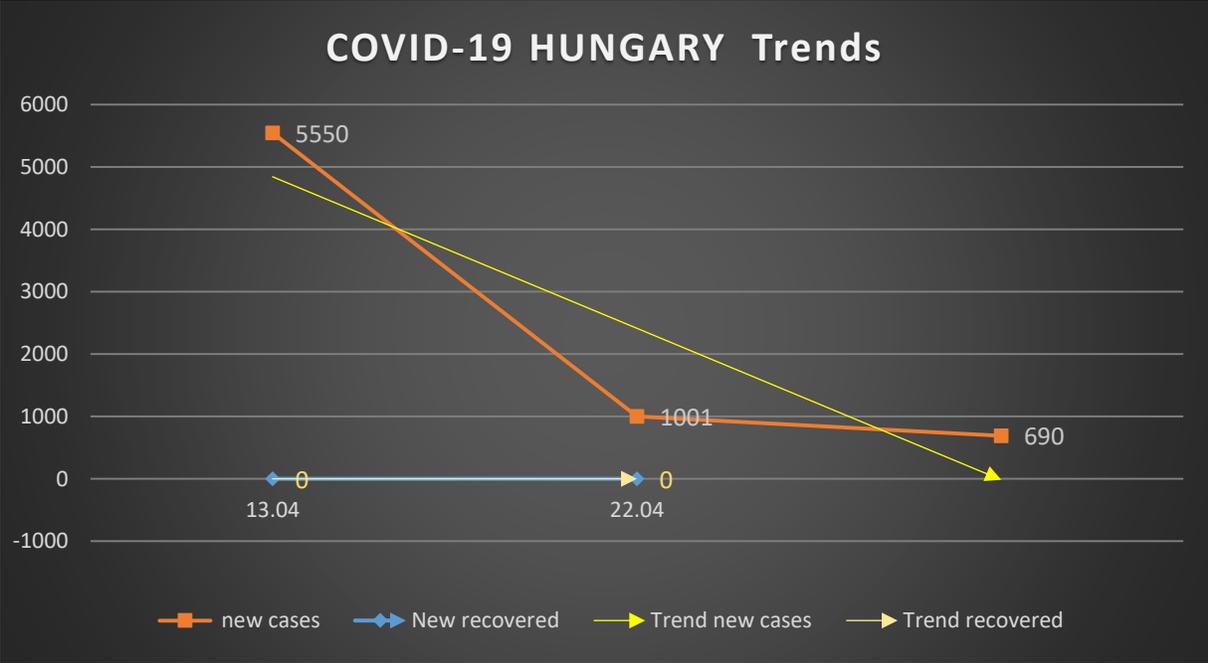
In Hungary the government curfew is still in force, but local authorities will be able to issue stricter movement restrictions over the following two weekends. The rules on restrictions of movement will remain in force until May 3, but local governments will be able to issue a decree on stricter restrictions over the next two weekends. The police continuously check compliance with the ordered restrictions and rules.

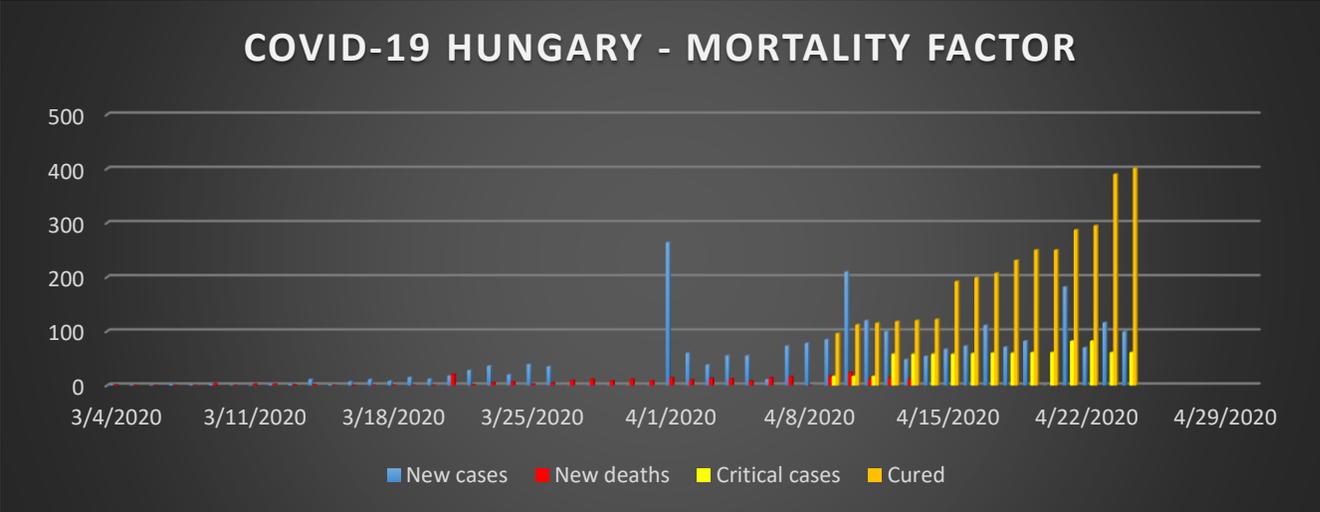
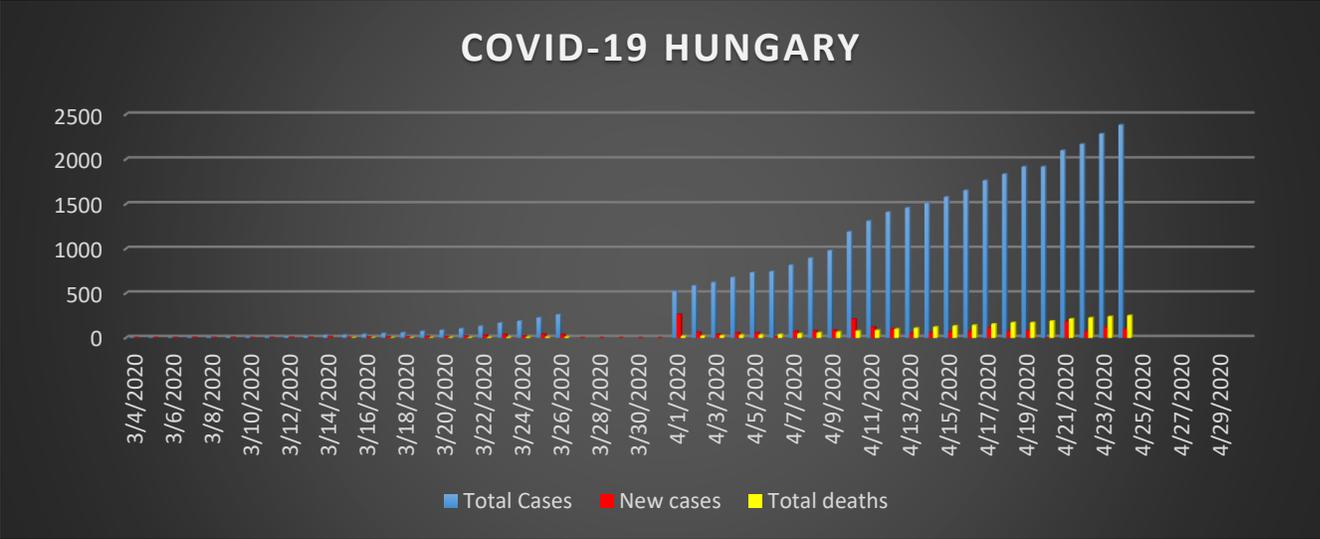
In line with the government's decision, 50 percent of all hospital beds have been successfully freed up. In regards to education and graduating seniors, educational platform will be launched in the coming days, so those applying to higher education can submit their documents online.

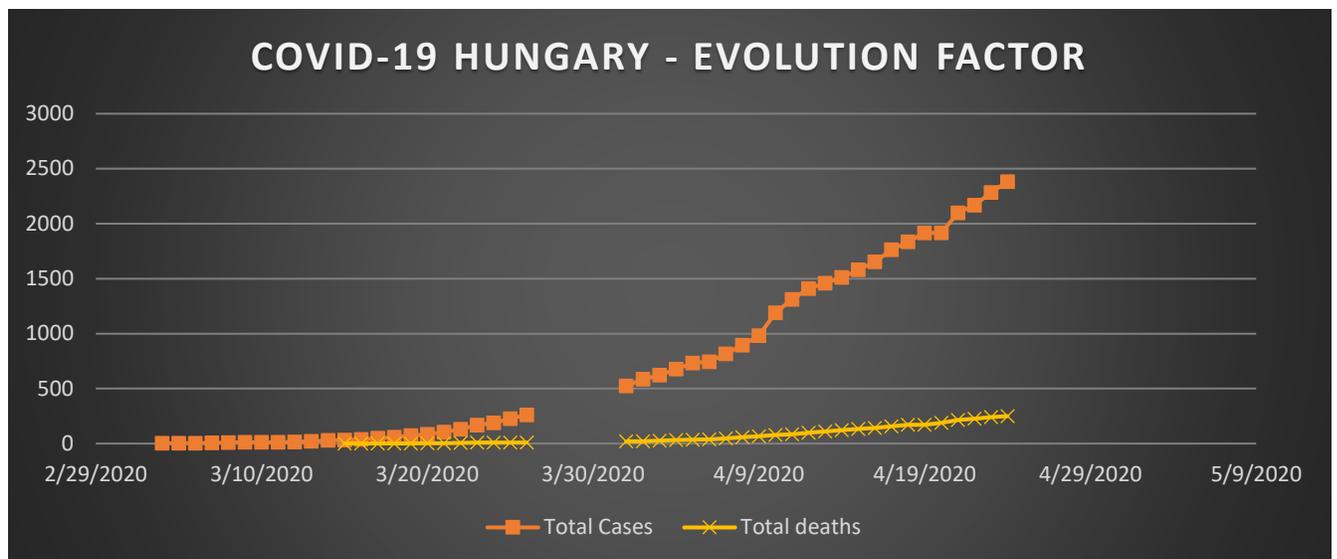
Assessment:

Based on the statistics, diagrams and researches (exposed below) it could be assumed Hungary is on the right track to get through the crisis with minimum negative social, financial and political consequences. All the disease development trends go down and likely the spread of COVID 19 is under control. Hungary will likely try to replicate Singapore's success in Europe. Thus Hungary will have to understand and "reconstruct" the essence of the city state's economic success. But in order to fully adopt Singapore's recipe for success, Hungary would likely need a new healthcare model, way of life, financial system, education system, business sector and state operations.

Period	Total cases	new cases	Total deaths	New deaths	Total Recovered	New recovered	Active Cases	Cases / 1M	Critical
6.04									
13.04	1418	1418	17	17	10	10	1391	256	56
22.04	2168	750	225	208	295	285	1648	224	82
Trend 13-22.04		-668		191		275	257	-32	26







Hungarian Government still imposes the following measures:

1. All the travel and entry restrictions are still in effect.
2. National ceremonies were cancelled.
3. Visiting hospitals or social institution has been prohibited.
4. 11 March **State of emergency**- indefinite and allowed Prime Minister Orbán to rule by decree
5. Public gatherings in an enclosed space with more than 100 people were prohibited, sporting events that could attract more than 500 spectators must be held behind closed doors, and foreign exchange programs were suspended. Universities were ordered to suspend in-person classes and switch to online courses.
6. Elementary and high schools are closed.
7. April 27, wearing a mask will be mandatory on public transport in Budapest.

Source:

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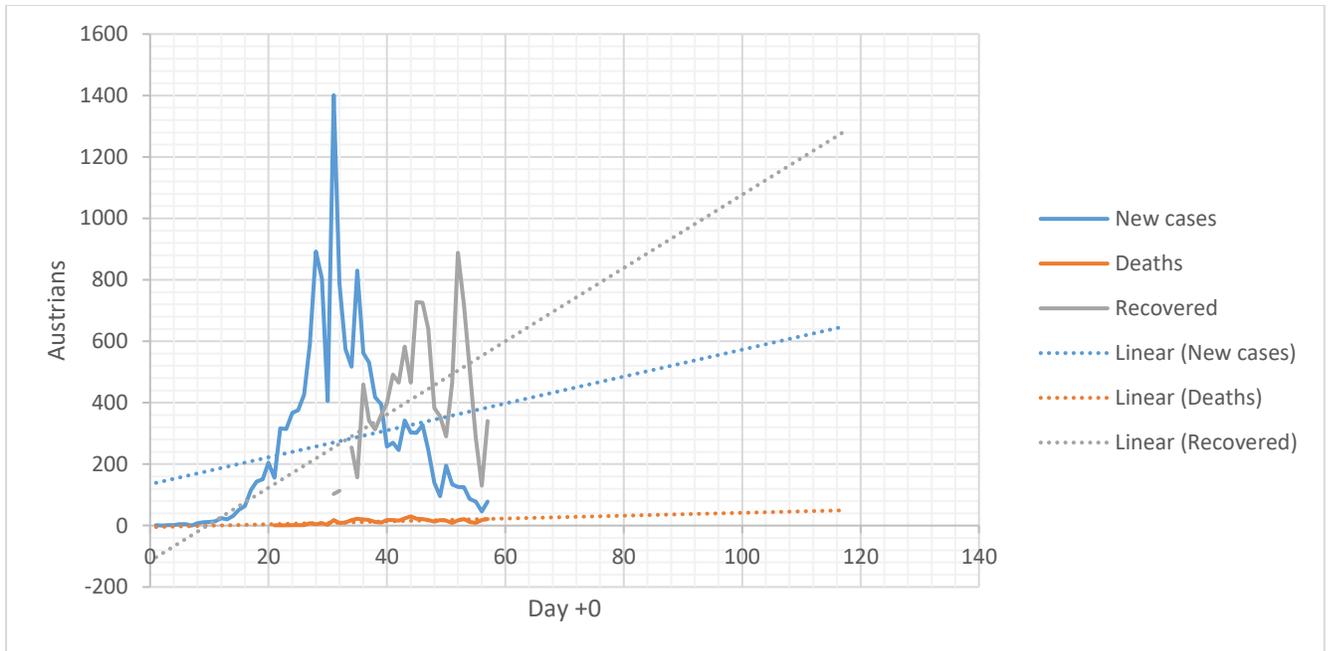
Annex 20 Austria

2019-2020 coronavirus pandemic started spreading in Austria on 25 February. A 24-year-old man and a 24-year-old woman traveling from Lombardy, Italy, are the first carriers of the infection in Austria. After a few days, a 72-year-old man and a 15-year-old boy were tested positive. Thus began the spread of the coronavirus in Austria. Like most of the infected countries, Austria is not prepared for such a challenge and hopes it is just a dream. But not, it is a reality - in the beginning of March an outbreak of infection was established in the Tyrol ski resort of Ischgl. Several hundred are infected with the virus, but authorities decide to close the city only on March 13th. The development of the Austrian crisis has been hesitant since then, but the trend to date is encouraging. Because of the good tendency, Austria will begin relieve the strict measures against coronavirus infection after Easter. Sebastian Kurtz told the news in conference that small retail outlets, the markets for building materials and gardening stores would be allowed to reopen on April 14th if they comply with strict hygiene standards. "Our goal is a gradual return to work"¹. He invoked people to observe the strictest discipline. After the small retail outlets, it is expected that all other stores will open in the beginning of next month and the restaurants will reopen in mid-May. The ban on mass public activities will be active at least until the end of June.

Statistics

The population of Austria to date is 9,006,398 people and the age-to-death ratio of the virus is shown in the table. Higher mortality was observed with increasing age.²

Population Age	% 0-9 y	%10-19	%20-29	%30-39	%40-49	%50-59	%60-69	%70-79	%80+
Total:9,006,398	11	12,89	15	21,11	14	6	7	6	7
Death rate	0,5	2,15	6,78	12,7	12,4	15,4	16,1	16,4	17,57



On the graph, we can clearly analyze Austria's situation and trends in the fight against the virus. We have a pandemic peak, a gradual decrease in the number of infected and increasing number of cured. The country has 14.925 registered patients, of which 11.328 are cured, 510 died and 3087 active cases.³

Measures against COVID 19

On 10 March 2020, the government announced that all universities would close their classes at the latest by 16 March. All outdoor events with more than 500 people and all indoor events with more than 100 people were cancelled. All children older than 14 years old were ordered to stay at home, starting 15 March, with the younger children starting 17 March. This will apply until 4 April. Travel restrictions for people coming from Italy are established. The government asked the general public to avoid social contact and announced even further restrictions to be made soon.

On 12 March 2020, Austria confirmed the first death of COVID-19, a 69-year-old man from Vienna died in Vienna's Kaiser-Franz-Josef Hospital.

Reintroduction of border controls:

Temporary reintroduction of border controls at the internal borders with Italy, Liechtenstein and Switzerland.

Entry into Austria from these countries is only allowed on the declared ones

Border crossings take place.

Termination of rail traffic from Italy due to the outbreak of SARS-CoV-2. This does not apply to freight transport and trains without a commercial stop in Austria.

Landing ban for aircraft from SARS-CoV-2 risk areas now applies in particular also for Italy (other countries: People's Republic of China, Republic of Korea, Islamic Republic of Iran)

- Measures on entry:

People who want to enter Austria have a medical certificate (in German, English or Italian) about their state of health (in accordance with the annexes specified in the regulation) and to show that the molecular biological test for SARS-CoV-2 is negative.

The medical certificate must not be older than four days upon entry. Persons who cannot present such a medical certificate are admitted to the country refuse, with the following different exceptions:

- People who are Austrian citizens or who have their main or have a secondary residence or habitual residence in Austria to enter without presenting a medical certificate, provided that they become one 14-day self-monitored home quarantine to be started immediately commit and confirm this with their own signature. In case that a molecular biological test for SARS-CoV-2 carried out in the meantime negative home quarantine can be ended.

- The transit through Austria without a stop is general - without restriction - permitted, provided the departure is ensured.

- Freight traffic and in principle also commercial traffic (for commercial Passenger transport, the regulations mentioned apply) as well as the commuter Rush-hour traffic is not affected by the above regulations.

On 15 March, a ban was also announced for public gatherings of more than five people, and restaurants were ordered to close beginning on 17 March. In addition, Günther Platter, the governor of Tyrol, announced a one-week lockdown for the whole province. Residents in Tyrol were required to remain in their homes except for necessary reasons such as purchasing food or medicine, visiting the doctor, withdrawing cash, or walking a dog.

As of 16 March, nationwide, homes may only be left for one of the following reasons:

- urgently necessary professional activities
- necessary purchases (groceries or medication)
- assisting other people
- outside walks, alone or in the company of people living in the same household

Health resorts were closed. Rehabilitation facilities may only be entered if absolutely necessary medical measures of rehabilitation following medical acute treatment.

Financial measures

- The tax relief measures concern tax payments and tax return filings, including:
- A reduction regarding income and corporate tax prepayments in 2020
- Deferral of tax payments and ability to pay tax in installments
- Reduction or relief from late payments of tax
- Suspension of tax audits
- Relief from interest or late-payment penalties is available for taxpayers that are able to demonstrate that a liquidity issue is linked to the COVID-19 situation.

New wage subsidy plan in Austria - On 30 March 2020, the Government has announced a new wage subsidy plan, where employers will receive a \$1,500 per fortnight 'job keeper payment' before tax for each employee they keep on over the next six months. It will be available to full and part time workers, sole traders and casuals who have been with their employer for 12 months or more. The eligible employers must pay the eligible employees at least the \$1,500 payment per fortnight, even if their regular wage per fortnight is less than \$1,500.

Foreign investment framework changes - On 29 March 2020, the Federal Government announced that effective from this date proposed foreign investments into Australia subject to the Foreign Acquisitions and Takeovers Act 1975 will require approval, regardless of value or the nature of the foreign investor.

Moratorium on evictions - On 29 March 2020, the National Cabinet agreed to a temporary moratorium on evictions over the next six months for commercial and residential tenancies in financial distress who are unable to meet their commitments due to the impact of coronavirus.

Commercial tenants, landlords and financial institutions are encouraged to sit down together to find a way through to ensure that businesses can survive and be there on the other side.

In addition, the Australian Banking Association announced an extension of Australian banks loan repayment deferral scheme, to make it available to commercial landlords with loans up to \$10M who undertake not to evict or terminate the lease of their tenants.⁴

For the period from 13.04 to 23.04.2020. Austria has a positive trend in dealing with the virus (see chart). For this reason the government has planned to release the measures previously imposed to combat the pandemic - retail shops, home improvement stores and garden centers reopened. However, there are strict requirements for wearing a mask and a limited number of clients. Wearing a protective mask is also mandatory in public transport.

The "release" of the measures in Austria is possible due to the reduced new virus diseases and the serious attitude of the Austrian nation, but they are strictly controlled by the authorities. The tendencies in the country are for the smooth renewal of the health system, beginning to perform emergency and delayed operational activities. Works in partnership with private hospitals to make up for lost time. The rules for hospital visits remain very strict. The recommendation against going outside the home will be in place until May 1st⁵.

Testing of sales staff, employees and nursing home residents is forthcoming. 130,000 tests will be performed in the nursing homes, where the country's highest-risk group is located. Therefore, the main task now is for these individuals to be tested as soon as possible, and if there

are positive among them, to isolate them to prevent others from becoming infected. The low number of newly infected people in Austria enables the health authorities to concentrate their efforts on this risk group and, if there are positive to find contact persons as soon as possible.

The second phase of liberalization, which began on Tuesday, is under the motto of a "secure and controlled" opening of the economy. The main objective is to prevent a second wave of the pandemic⁶

Austria is reducing income and corporate tax prepayments, deferring tax payments, allowing taxes to be paid in installments, reducing or providing relief from late tax payments, and suspending tax audits. For businesses that need to reduce working hours, labor subsidies are being provided. There is also direct aid being provided to sole proprietorships and family-owned businesses in addition to the tourism and cultural sectors. For corporate tax payments, taxpayers can apply to have their advance payments reduced to zero or to receive a payment deferral or an installment plan. Applications can be submitted until October 31, 2020. Value-added tax (VAT) payments can also be deferred on a case-by-case basis, and payments are not necessary while an application for deferral is pending with the tax authorities. The VAT payment due on June 30 is delayed until August 31.

Annex 21 Romania

From the beginning of pandemic, number of infected people is still growing and reached 9 710 as of 22 APR 2020 , disease growth rate is on relatively low level, comparing to other countries, and currently average number of infected is 356 people a day during last week, which keeps Romania on 14th place in Europe and 31st on the world.

512 people died so far (326 men and 186 women), average age of died person is 67 years, the youngest persons who died was 27 year old.

Age structure of died people in Romania

<i>0-9</i>	<i>10-19</i>	<i>20-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>	<i>60-69</i>	<i>70-79</i>	<i>80+</i>
0	0	4	12	36	83	139	154	84
0%	0%	1%	2%	7%	16%	27%	30%	16%

According to Romanian Ministry of Health around 10% of people who died were under age of 50 years. This placed Romania bit differently than in other countries. All death certificates reports that patients had additional concomitant diseases, mostly: obesity, cardiovascular diseases, diabetes, hypertension, cirrhosis or hypersplenism.

During recent days, Romanian Armed Forces much more were involved in fighting with COVID pandemic, mostly providing support for Police to maintain public order and protect borders. Also CBRN subunits were used for decontamination of infected areas and military medical units build Modular Medical Isolation and Treatment System in Timisoara.

Status: as of April 22, 10:00 UTC

Sources:

- Romanian Government
<https://www.gov.ro/en>
- Romanian Ministry of Health
<http://www.ms.ro/comunicate/>
- Worldometer coronavirus,
<https://www.worldometers.info>

Case numbers in Romania

- The 2020 coronavirus pandemic was confirmed to have spread to Romania on 26th of February transmitted by patient “0”, 20 years old male, who came into contact with a 71-year-old man from Cattolica, Italy, diagnosed with coronavirus. The Italian visited his wife's family and had several business meetings in Romania between February 18 and 22. Patient “0” recovered on 13th MAR.
- Current case status:

Total Cases – **9 710**

Total New - **+ 774**

Total Deaths – **512**

New Deaths - **+61**

Total Recovered – **2 406**

Active Cases – **6 792**

Serious – **66**

Cases / 1M – **504**

Hospitalized – **13 372 (-1 158)**

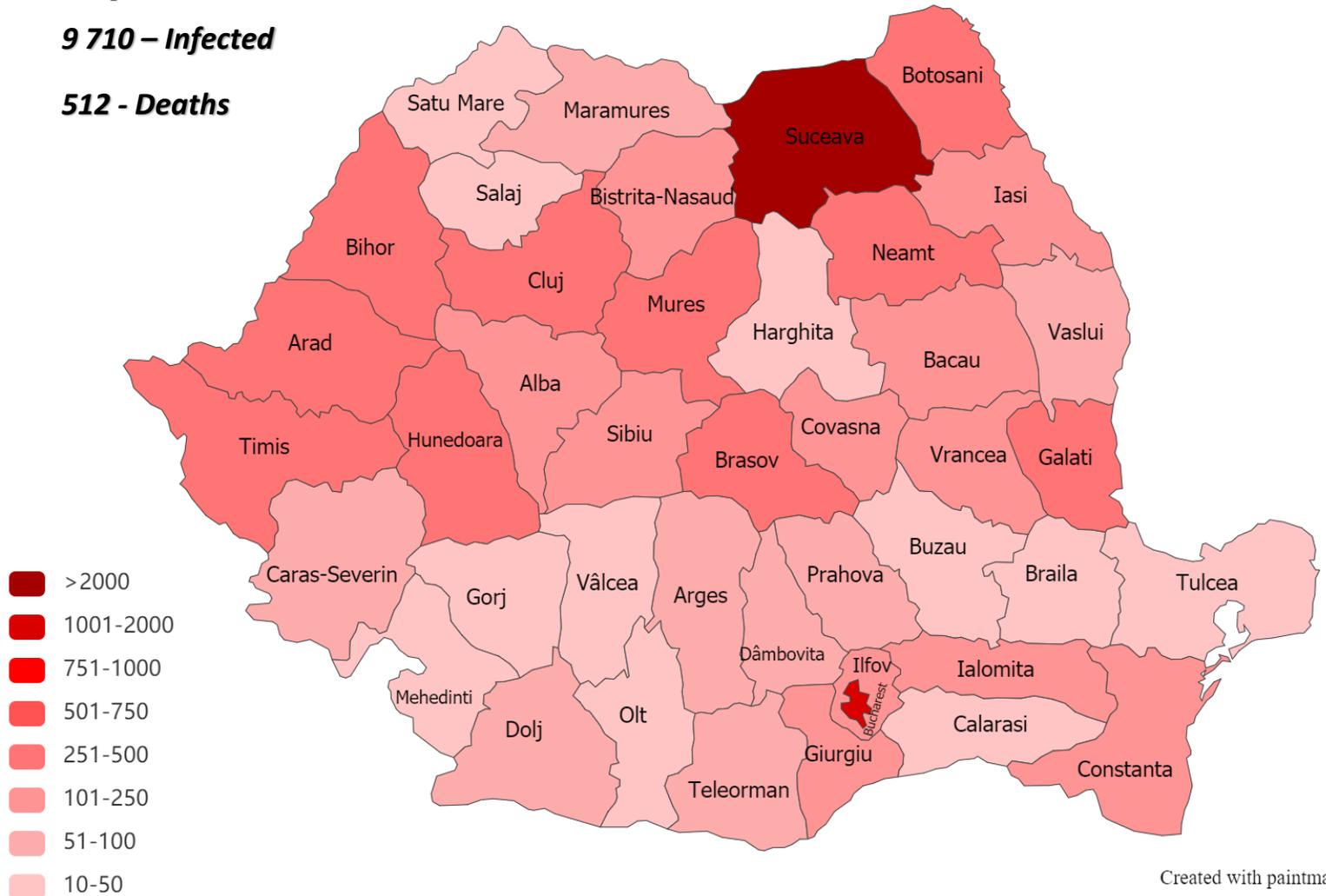
In Home Quarantine – **42 846 (-1 710)**

2020 Pandemic in Romania

21 Apr 2020

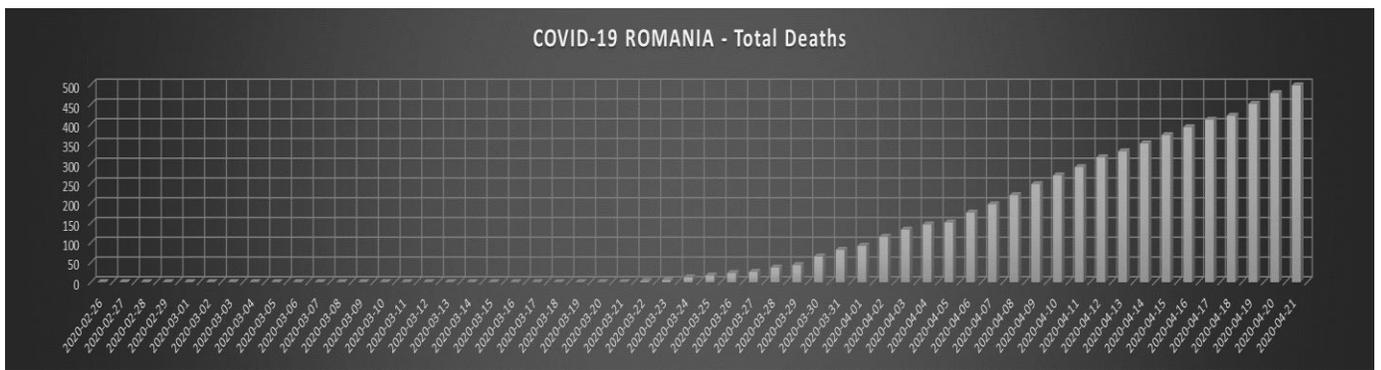
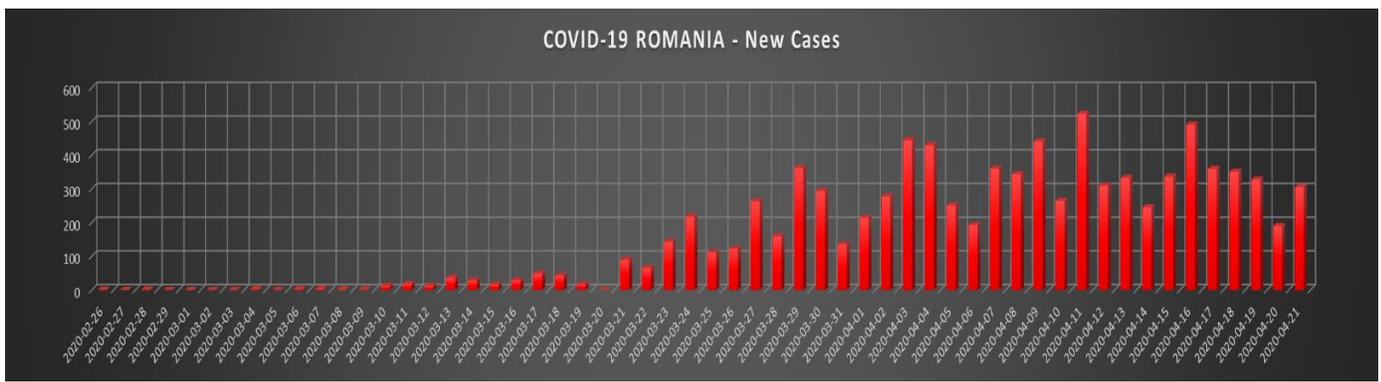
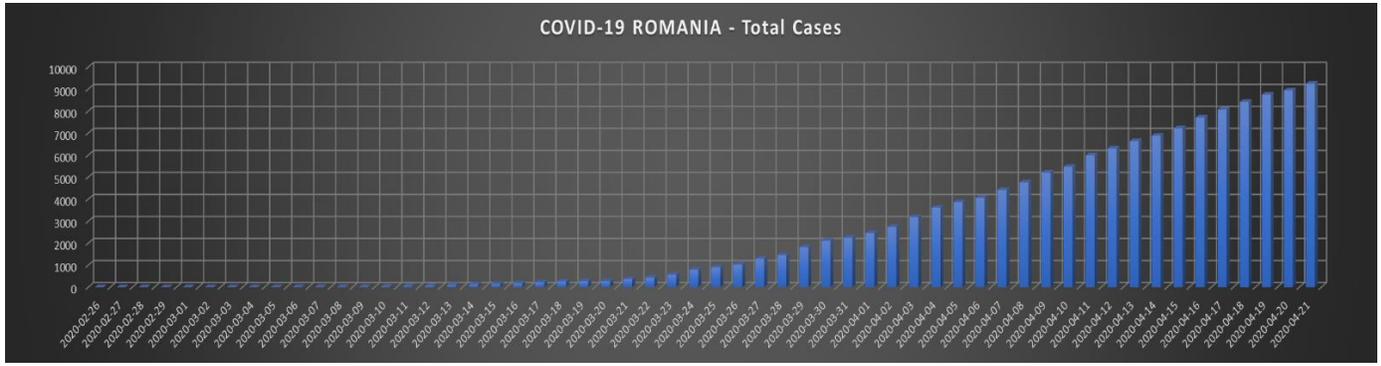
9 710 – Infected

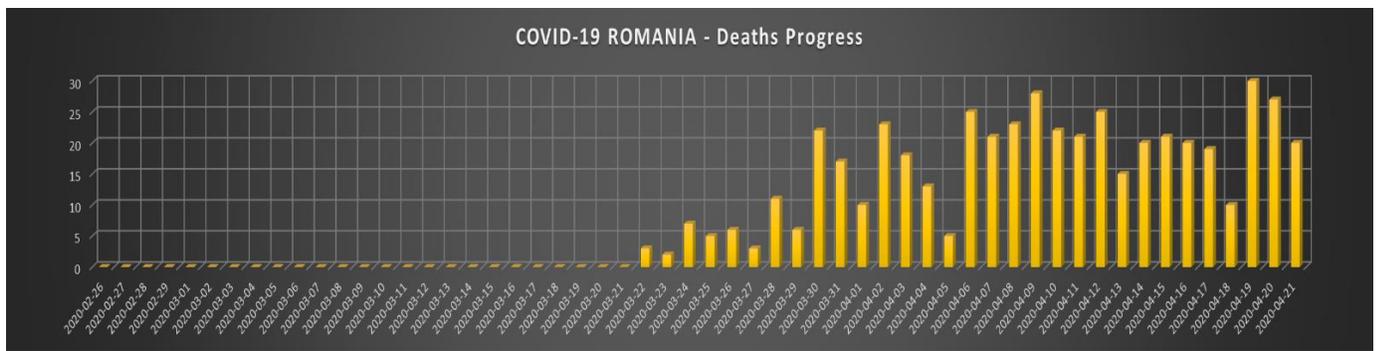
512 - Deaths



Created with paintmaps.com

Pandemic Trend in Romania:





Measures Taken by Romanian Government:

21 FEB 2020

39. On February 21, following a COVID-19 outbreak in Italy, the Romanian government announced a 14-day quarantine for citizens returning from the affected regions.

22 FEB 2020

40. On February 22, the Romanian government announced several preventive measures including designation of five hospitals as isolation centers for new cases, purchase and placement of thermal scanners in international airports and specially designated lines for passengers coming from areas affected by COVID-19 outbreak.

25 FEB 2020

41. On February 25, new measures were imposed. Upon arrival on the Romanian territory, all asymptomatic travelers from the affected areas, respectively Hubei, the 11 localities in Italy, and any remaining passengers on the Diamond Princess cruise ship will go directly to the quarantine, for a period for 14 days. The other people coming from the Lombardy and Veneto regions will enter voluntary isolation at home for 14 days, upon arrival in Romania. 15 March 2020 until further notice all international railway transport is suspended.

26 FEB 2020

42. The Minister of Education and Research required schools to spread awareness about coronavirus.

28 FEB 2020

43. The Romanian Orthodox Church suggested that followers use their own spoons and avoid the traditional kissing of icons in church.

2 MAR 2020^{vii}

44. On March 2, more preventive measures were taken by the National Committee for Special Emergency Situations. Thus, citizens arriving from other provinces or cities in mainland China, other localities in Lombardy, Veneto or Emilia-Romagna regions of Italy, as well as areas and localities in South Korea and Iran not previously specified for institutionalized quarantine, enter 14 days of self-isolation at home immediately upon returning to Romania.

8 MAR 2020

45. The Head of the Department for Emergency Situations, Raed Arafat, announced a ban on all indoor or outdoor activities involving the participation of more than 1,000 people. These restrictions are valid until March 31, when a new assessment will be made. After Northern Italy was put under quarantine on March 8, low-cost airline Wizz Air suspended all flights to Treviso and Bergamo until April 3. Likewise, Blue Air cancelled all flights to and from Milan for March 8 and 9. In the same day, flights from and to Italy have been suspended. In a press conference, Interior Minister Marcel Vela stated that if a school reports even a case, courses will be suspended throughout the school.

9 MAR 2020

46. The officials announced the cessation of flights to and from Italy, at all airports in the country, until March 23. On the same day, the National Committee for Special Emergency Situations has decided to close all schools in Romania, from March 11 until 22, with the possibility of extending the measure. All bus rides and rail transport to and from Italy were suspended from March 10 until 31. The Committee also decided to establish a series of obligations for food units and for public and private providers of passenger transport, such as frequent disinfection of surfaces, avoiding crowds in commercial spaces, frequent disinfection of the passenger compartment in the means of transport.

11 MAR 2020

47. The Government published a list of fifteen guidelines regarding the "responsible social behavior in preventing the spread of coronavirus (COVID-19)". The authorities have imposed a ban on sports, scientific, religious, and cultural or entertainment events with over 100 participants in closed spaces until March 31. Likewise, the public activities for museums were suspended until March 31.

12 MAR 2020

48. Serbian authorities have closed seven border points with Romania to prevent the spread of coronavirus. On the same day, the Romanian Ombudsman asked President Klaus Iohannis to declare the state of emergency and the Romanian Parliament to approve it. The Romanian Football Federation decided to postpone all football matches in Romania until March 31. Interior Minister Marcel Vela announced that the border crossing points with low traffic have been closed so that employees there to be directed to high traffic posts. Health Minister Victor Costache issued an order prohibiting the export of medicines and medical equipment for six months.

14 MAR 2020

49. After over 101 people have been diagnosed with coronavirus, Romania entered the third COVID-19 scenario. The third scenario goes from 101 to 2,000 cases. In the third scenario the doctors will perform epidemiological screening in the tents installed in the hospitals' yards, and the hospitals of infectious diseases will treat only cases of SARS-CoV-2 infection. Likewise, the authorities will be able to impose quarantine at home, not just in hospitals, as in many areas the capacities of medical units could be exceeded. At the same time, according to the plan in the third scenario, public gatherings with more than 50 people are banned. Marcel Ciolacu, President of the Chamber of Deputies, announced that the Parliament will suspend its activity for a week. However, the activities will be carried out online.

16 MAR 2020

50. President issued the decree establishing the state of emergency in Romania for a period of 30 days and insisted that the implementation of the measures included in the decree is being made gradually. The schools will be closed during the state of emergency. If necessary, prices may be capped on medicines and medical equipment, on strictly necessary foods and on public utility services (electricity and heat, gas, water supply, sanitation, fuels, etc.). Also, gradual measures can be taken, if the situation gets worse, only after an evaluation of the National Committee for Special Emergency Situations. These include temporary closure of restaurants, hotels, cafes, and clubs, gradual closure of borders, or limiting or prohibiting the movement of vehicles or persons in/to certain areas. On March 19, the Parliament convened a joint online session and unanimously adopted the decree issued by the President.

17 MAR 2020

51. The Ministry of Foreign Affairs facilitated the return to the country for 137 Romanians who were abroad, either as tourists, in transit, or in medical emergency situations and who were directly affected by the measures adopted by the states in which they were. Later that same day, Military Ordinance has been issued: no groups larger than 3 persons on the streets. Leaving home between 10 p.m. and 6 a.m. for no reason is prohibited. All shopping malls are closed, except for the sale of food, veterinary or pharmaceutical products and cleaning services. It is forbidden to enter the territory of Romania, of foreign citizens and stateless persons, except when they transit through the territory of Romania, through the transit corridor, organized by agreements with the neighboring states.

22 MAR 2020

52. The first three deaths were reported in Romania. All three had preexisting conditions: one was on dialysis, one had terminal lung cancer, and one had diabetes.

23 MAR 2020

53. Suceava's main hospital, one of the largest in the country, reported at least seventy medical personnel infected with COVID-19, and 2 patients passing away. The hospital director was dismissed, shortly thereafter, for mismanagement.

24 MAR 2020

54. The government announced Military Ordinance No.3, instituting a national lockdown and calling in the military to support police and Gendarmerie personnel in enforcing the new restrictions. Movement outside the home or household is prohibited, with some exceptions (work, buying food or medicine etc.). People over 65 years-old are allowed to leave their homes only between 11 a.m.-1 p.m.

26 MAR 2020

55. The state airline Tarom suspended all internal flights.

29 MAR 2020

56. A fourth Military Ordinance has been issued, further strengthening previously imposed fines and restrictions, extending the ban on international travel and placing Suceava, along with

eight adjacent communes, under total quarantine. The first Romanian city to be placed under complete lockdown since the start of the outbreak in late February, holding over a quarter of all infected cases and about two thirds of all infected medical personnel. Some hospital staff have quit, others have signed a petition stating they "are sent to death barehanded".

4 APR 2020

57. Next Military Ordinance has been issued, further extending the national lockdown period.

7 APR 2020

58. A 53 year old paramedic from Suceava became the first reported casualty among Romanian medical personnel.

9 APR 2020

59. Next Military Ordinance came into effect, reinforcing previously adopted measures, prohibiting the export of certain basic foods, banning the commerce of majority share packages in the National Energetic System, recommending that residential buildings be equipped with sanitary products and that their stairways and elevators be periodically disinfected, and making provisions for various professional categories, such as fishing, apiculture, car service and dealership, the food market, pharmaceuticals, cross-border workers, social services, medical staff etc.

12 APR 2020

60. According to the National Institute of Public Health in Romania, 812 persons from medical personnel are infected with the new coronavirus in Romania.

16 APR 2020

61. The Minister of Health today approved the proposal of the Commission for the clinical and epidemiological management of COVID-19 regarding the modification of the testing algorithm for COVID-19, as well as the case definition. Due to high evolution of the number of deaths, additional measures of detection of the infection to categories of patients that can develop severe forms of illness, in order to intervene with medical treatment as early as possible was introduced, so extra testing for following patients were approved :

- Patients before the transplant procedure (asymptomatic) and donors of hematopoietic organs, tissues and cells before donation; patients with hematopoietic stem cell transplantation who are undergoing immunosuppressive treatment, before each hospitalization during the post-transplant monitoring period - 2 tests every 24 hours.
- Asymptomatic patients with immunosuppression in the context of the disease or drug-induced hospitalization - 2 tests at 24 hours interval.
- Asymptomatic oncology patients undergoing chemotherapy - 2 times a month.
- Asymptomatic oncological patients before operative interventions or invasive maneuvers.
- Symptomatic hemodialysis.
- Hemodialysis asymptomatic contacts with confirmed case, 2 tests, every 6-7 days between them; during this period they will be dialyzed in separate sessions from the rest of the patients

- Asymptomatic pregnant women who were quarantined / isolated at home or have been in close contact with a confirmed case.
- Care staff in old people's homes - 2 times a month.

17 APR 2020

62. According to the National Institute of Public Health in Romania, 981 persons from medical personnel are infected with the new coronavirus in Romania.

21 APR 2020

63. The Suceava Public Health office confirmed that 242 boarders and 59 of care staff from the Neuropsychic Recovery and Rehabilitation Center Sasca Mică were tested positive for coronavirus. 127 boarders went for isolation and for care staff one of the nearest hotels was rented to put them into quarantine.

Measures Taken by Romanian MOD:

18 MAR 2020

28. The Ministry of National Defense started the preparations for the installation of the ROL 2 Hospital within the headquarters in „Ana Aslan” National Institute for Gerontology.

07 APR 2020

29. A C-27J Spartan aircraft of the Romanian Air Force conducts a flight on route Bucharest - Timișoara -Milano, in order to airlift a team of Romanian physicians and nurses.

10 APR 2020

30. Almost seven tons of medical protection materiel consisting in 100,000 FFP2 and FFP3-type masks are brought from Turkey on Friday, April 10, with a C-27 J Spartan aircraft belonging to the Romanian Air Forces.

11 APR 2020

31. At the request of the Department of the Emergency Situations (Ministry of Internal Affairs), a Romanian Air Force C-27J Spartan aircraft, configured to perform MEDEVAC missions, conducted an emergency humanitarian mission on route Bucharest– Suceava and return, in order to transfer a patient in serious health condition, who had been positively confirmed with SARS-CoV-2.

13 APR 2020

32. According to Art. 7, Annex no. 1 from Decree no 195/16, on the declaration of the state of emergency on Romanian territory , exercises, simulations and other kinds of activities that can interfere with the measures taken by competent authorities in order to prevent and combat the spread of COVID19 infections are suspended with the exception of the military actions conducted in the training areas so that the forces of the institutions functioning within the National Defense, Public Order and National Security System can always be available to intervene in real situations generated by the COVID-19 pandemics.”

33. Almost 45 tons of medical equipment consisting in 100,000 protection overall suits will be airlifted into the country, over 13-17 April, with Romanian Air Force aircraft that will conduct

daily flights on route Bucharest – Frankfurt and return. The equipment was bought by the Romanian state from South Korea, through the National Office of Centralized Acquisitions and General Inspectorate for Emergency Situations, as part of the efforts to combat the COVID-19 pandemics and the flights were requested by the Department for Emergency Situations, Ministry of Foreign Affairs.

15 APR 2020

34. Soldiers of the 49th CBRN Defense Battalion “Argeş” from Piteşti started the mission for decontamination and disinfection of the roads in Suceava.

20 APR 2020

35. 2433 soldiers and 528 pieces of equipment are engaged, mostly in support of Police to maintain public order and protect borders. The National Institute of Medical-Military Development "Cantacuzino" is doing medical tests for SARS-CoV-2 from received samples.

21 APR 2020

36. Ministry of National Defense made revision of Romanian contingencies abroad and withdraw 70 soldiers in total from NATO missions “Resolute Support” in Afghanistan, “Inherent Resolve” in Iraq and EU mission in The Republic of Central Africa.

37. Romanian Armed Forces has started the preparations for the installation and operationalization of a Modular Medical Isolation and Treatment System (SMMIT) in Timișoara, inside the football sport stadium. The system consists of a medical area with a capacity of 56 places, of which four for ATI and is composed, among others, of triage units, radiology, sterilization, and laboratory and decontamination area. A quarantine and isolation module (camp) with a capacity of 120 seats will also be installed in the location.

SUMMARY:

- ✓ *number of infected people is still growing and reached **9 710** , an average number of infected is **356** people a day during last week, which placed Romania on 14th place in Europe and 31st on the world (the top 5 with highest noted recently is USA [**25 985**], Russia [**5 642**], Turkey [**4 611**], UK [**4 301**], and Spain [**3 968**]);*
- ✓ *the most affected administration districts are: Suceava, Mun. Bucureşti, Arad, Hunedoara, Timiş and Neamţ;*
- ✓ *number of tests done so far is **106 357** / **7 866** from last report;*
- ✓ *reported number of people cured from coronavirus so far – **2 406** (+ 389 from last report)*
- ✓ ***508** people died so far (321 men and 186 women), average age of died person is **67 years**, the youngest persons who died was 27 years old.*

Age structure of died people in Romania

<i>0-9</i>	<i>10-19</i>	<i>20-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>	<i>60-69</i>	<i>70-79</i>	<i>80+</i>
0	0	4	12	34	82	138	153	84
<i>0%</i>	<i>0%</i>	<i>1%</i>	<i>2%</i>	<i>7%</i>	<i>16%</i>	<i>27%</i>	<i>30%</i>	<i>17%</i>

Annex 22 Turkey

Weekly report 15 – 22 April 2020

This week, Turkey is making progress in its fight against the coronavirus outbreak. Each passing day, the numbers moved slowly down. According to the graphics, 3,083 new cases were confirmed in the past 24 hours, a 33% decrease compared to Tuesday's 4,611 cases, and 117 more people died due to COVID-19, bringing the total death toll to 2,376. Patients currently placed in intensive care units (ICU) are 1814.

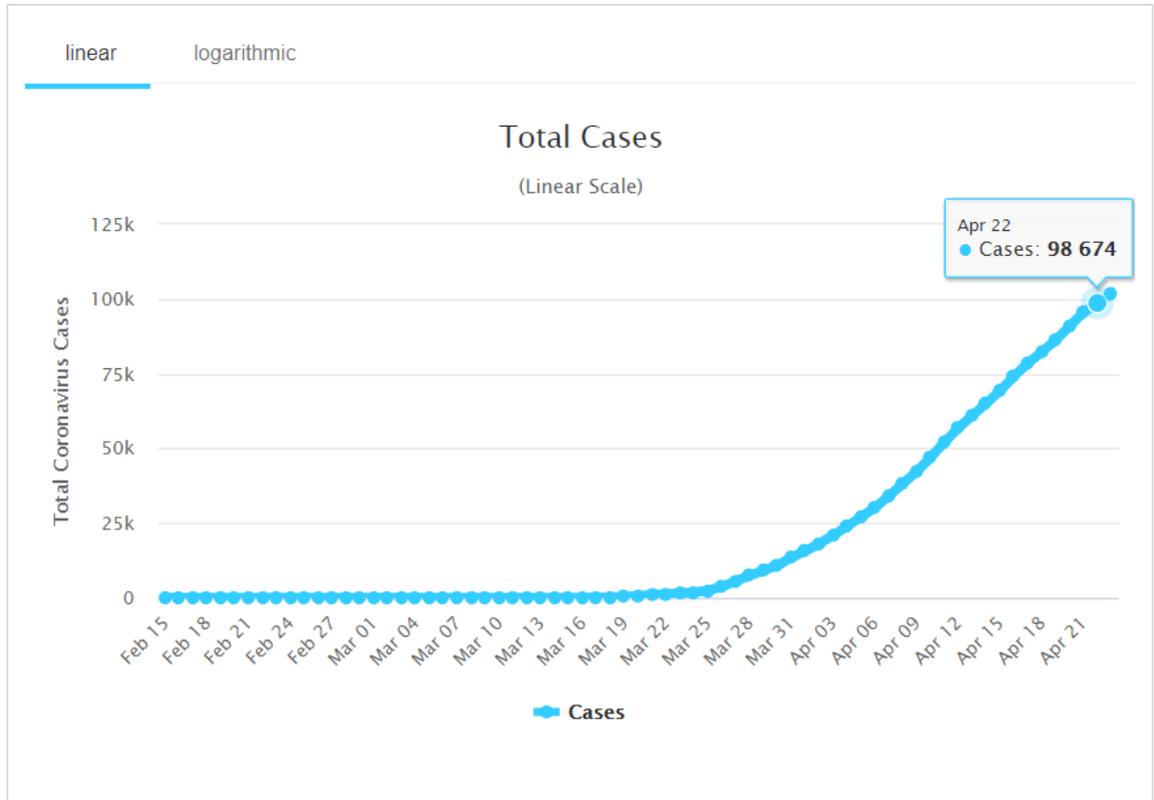
On April 22, 16477 patients have been discharged from hospitals after recovering from the virus. The occupancy rate of intensive care units across the country was down from 80% to 60%. Here we could conclude that the national health care system is well prepared.

About patients in critical condition, the number of intubated patients has fallen considerably as well. The number of intubated patients has fallen from 58% to 14%. The mortality rate is 2.3% in Turkey, while is 5.3% in the U.S, 10.5% in Spain, 13.2% in Italy, 13.5% in the U.K., and 17.3% in France. Turkey is among the countries with the lowest COVID-19 mortality rates. So far, the ministry has carried out a transparent information process during the outbreak. During Ramadan, citizens are requested to follow the measures imposed by government⁷².

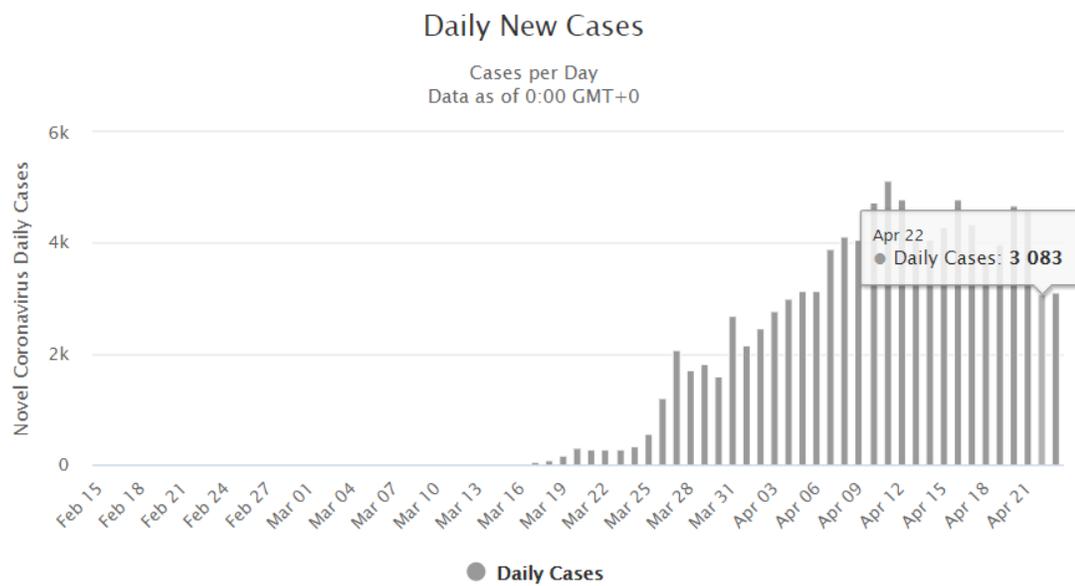
Last weekend, the Turkish government implemented a 48-hour curfew for 31 provinces, impacting three quarters of Turkey's population.

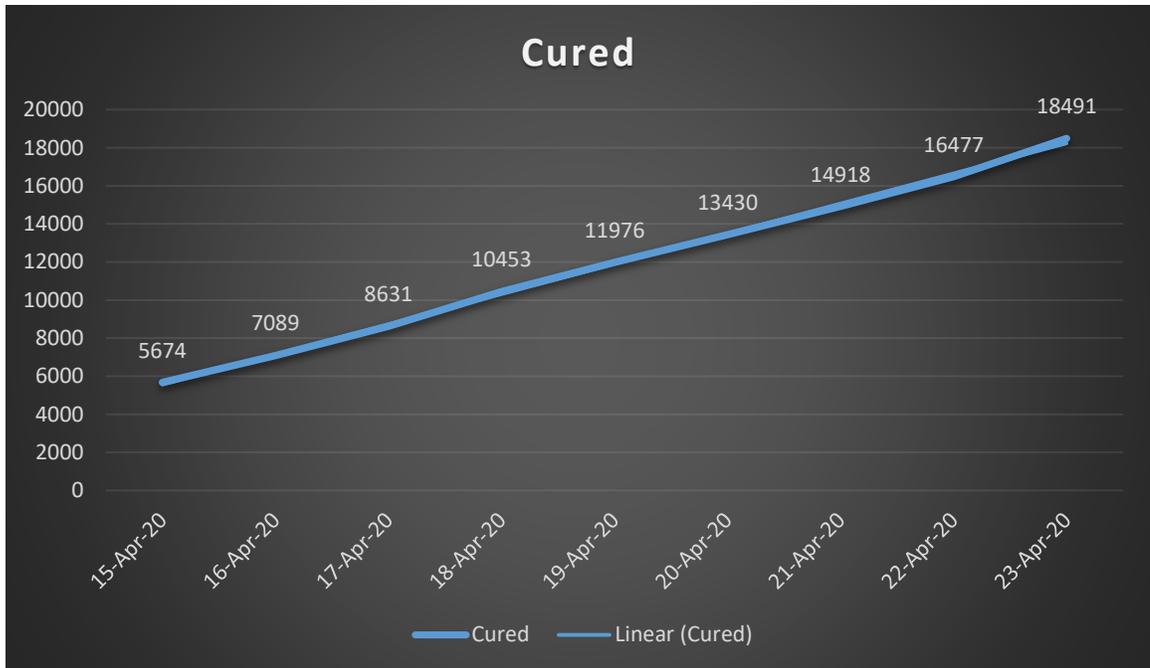
⁷² (<https://www.dailysabah.com/turkey/figures-show-turkey-brought-spread-of-virus-under-control-minister-says/news>, 2020)

Total Coronavirus Cases in Turkey

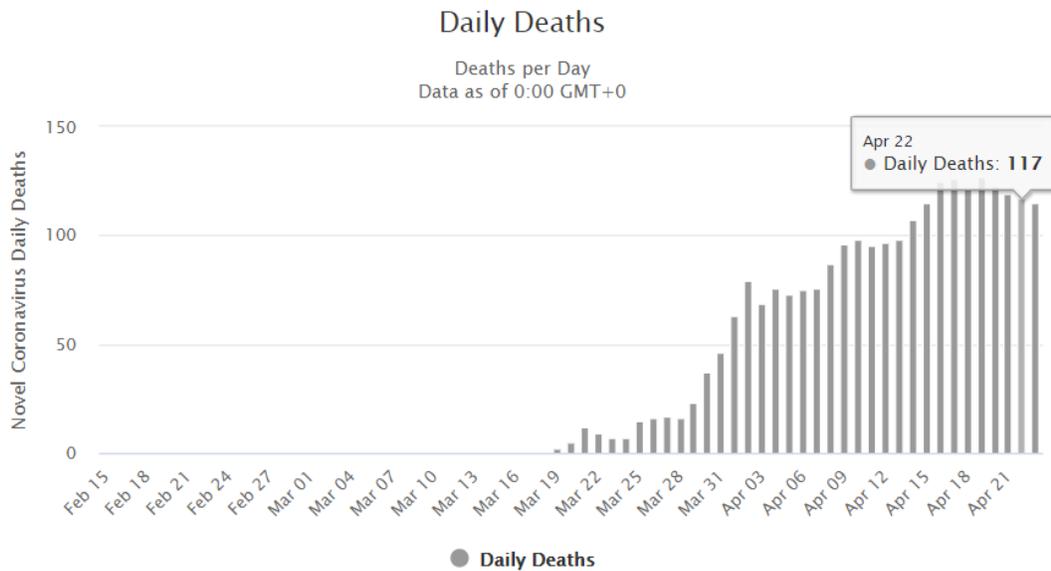


Daily New Cases in Turkey





Daily New Deaths in Turkey



During the week, the stay-at-home order only applies to those under the age of 20 or over 65. All other citizens are in theory allowed to go out, although many small businesses are closed, restaurants are open for delivery or pick-up only, public places like parks are off-limits, and banks have limited hours. By contrast, construction sites are in full swing, along with factories and other

businesses that are unwilling to take an economic hit⁷³. **In confronting coronavirus, Turkey is charting its own path - as it does in so many other ways.**

Turkey has imposed partial restrictions, it can be successful, as long as those who are vulnerable continue to be protected and those who do venture out follow the appropriate measures. The benefit of a lockdown is that the spread of the disease is slow, the pressure on the hospitals reduce. A partial lockdown can be good, it can balance keeping some of the economies functioning while still trying to contain the outbreak. It depends on how well the population is adhering to the guidelines and how well physical distancing and hand hygiene are being implemented in workplaces.

Turkey's approach to fighting COVID-19 centres around contact tracing instead of general testing or testing after clinical presentation. They have also been delaying intubation by using high-frequency oxygen for a longer period, which has yielded better results. Turkey used the malaria drug **hydroxychloroquine** and **favipiravir**, a Japanese antiviral, much earlier than other countries in the onset of COVID-19.

Turkey has started using plasma from patients that already contracted the disease on those that are still fighting it. In response to COVID-19, the country quickly developed programs to manufacture and distribute personal protective equipment (PPE) not just within Turkey itself, but overseas as well - sending cargo loads to more than 30 countries, including the UK, Spain, and Italy. The gesture of solidarity and goodwill is also perhaps aimed at rebuilding Turkey's frayed ties with its NATO allies.

Turkey keeps on producing face masks, bodysuits, and surgical gowns intended for in-country use. Others produce face shields and gallons and gallons of disinfectants, hand sanitizers, and other essential cleaning products. Masks are obligatory in public places like markets but are not sold anywhere anymore. That was banned because the government is distributing them free at pharmacies, or for those who can't go out, straight to their homes. Turkey is easing the burden of the epidemic on those under stay at home orders by sending volunteers and police door to door to make sure vulnerable people have the services they need.

Call centres help elderly citizens under stay-at-home orders can call in requesting anything from grocery delivery, pharmacy purchase, or their monthly retirement cash.

⁷³ (<https://edition.cnn.com/2020/04/17/europe/turkey-coronavirus-lockdown-response-intl/index.html>, 2020)

Annex 23 Greece

- In total, **2,408** COVID-19 cases and **121** deaths due to COVID-19 have been reported. The first confirmed case was reported on 26 February 2020 while the first death on 13 March 2020. On 21 April **150** cases were confirmed as positive within a refugee structure in Kranidi.
- Of the reported cases, **55,9% are male** and **44,1% are female**. Of them, **3,5 %** are children **up 17 years** of age, **31 %** persons aged **18 to 39 years**, **43,9 %** persons aged **40 to 59 years** and **21,5 %** persons aged **60 years and older**. The median age of cases is **49 years**.
- **577** persons are estimated to have recovered from their COVID-19 infection.
- Total of **55** patients are Critical/Serious Condition. From them **40 (72,7 %)** are men and **15 (27,4%)** are women while **86 %** have some underlying disease or are over **70** years. Their mean age is **67** years.
- The **121** COVID-19 related deaths concerned **89 (73,5%)** men and **32 (26,5 %)** women. Their mean age was **74** years while **91 %** had some underlying disease or they were over **74** years⁷⁴. On 22 April no new death was recorded.

Population Age	%For all ages	% 0-17 y	%18-39	%40-59	%>=60
Total: 2,408	55,9 % male 44,1 % female	3.6%	31,0%	43,9%	21.5%

Table 1: Percentage of COVID-19-cases notified as Confirmed cases (22/04/2020, 18:00 AM) ⁷⁵

Age	0-17	18-39	40-64	>65
Male	2,8%	30,7%	44,4%	22,1%
Female	4,5%	31,5%	43,3%	20,8%
Total	3,6%	31,0%	43,9%	21,5%

Table 2: Percentage of COVID-19-cases by age group and sex (22/04/2020, 18:00 AM)⁷⁶

⁷⁴ <https://eody.gov.gr/> (accessed on 22 April 2020)

⁷⁵ <https://eody.gov.gr/wp-content/uploads/2020/04/covid-gr-daily-report-20200422.pdf> (accessed on 22 April 2020)

⁷⁶ Ibid

Population Age	%For all ages	% 0-17	% 18-39	%40-64	%>=65
Total Deaths: 121	73,5 % male 26,5 % female	0%	1.7%	24,0%	74.4%

Table 3: Numbers of COVID-19-cases notified as having died (22/04/2020, 12:00 AM)⁷⁷

Age	0-17	18-39	40-64	>65
Male	0 %	2,2%	28,1%	69,7%
Female	0 %	0 %	12,5%	87,5%
Total	0 %	1,7%	24,0%	74,4%

Table 4: Percentage of COVID-19-cases notified as having died by age group and sex (22/04/2020, 18:00 AM)⁷⁸

a. Graphics – total, deaths, recovery, new cases

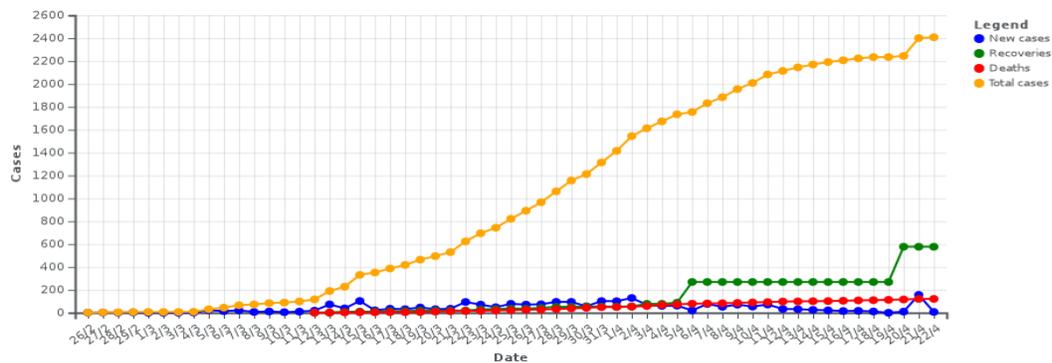


Figure 1: COVID-19 confirmed cases in Greece (22/04/2020 18:00 AM)⁷⁹

⁷⁷ Ibid

⁷⁸ Ibid

⁷⁹ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Greece (accessed on 22 April 2020)

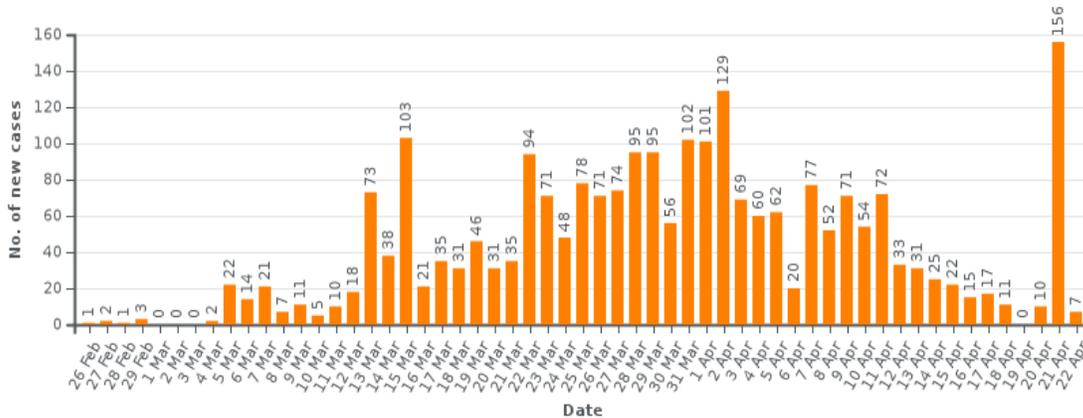


Figure 2: New Cases per Day (22/04/2020, 18:00) 80

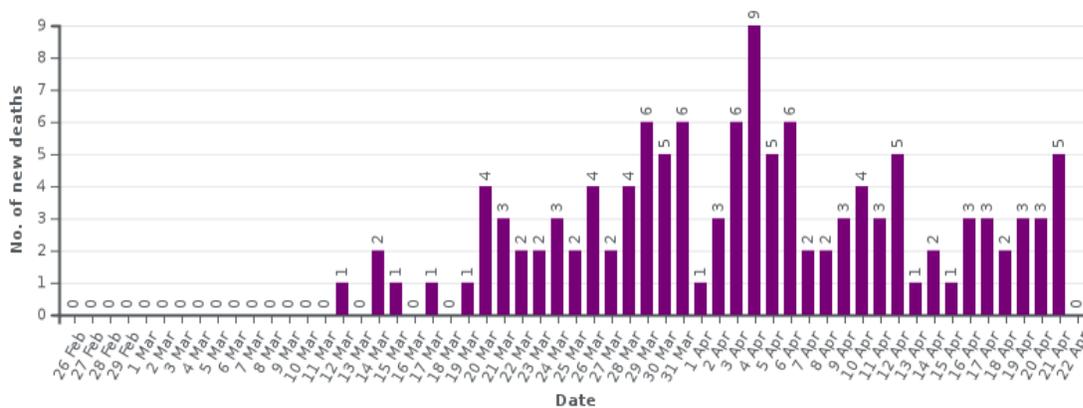


Figure 3: New Deaths per Day (12/04/2020, 18:00)81

- Assessment:** The number of cases, and fatalities in Greece continues to increase but at a **very slow pace**. The number of hospitalizations decreases. The curve of new cases is almost flat. It seems that the disease is under control and the virus spread is diminishing. However, the probability of serious disease spread still exists in close structures such as refugee and Roma camps.

- On **9 March**, all school trips banned, all sports games were to be played with no fans attending and all school championships were cancelled.
- On **9 March**, temporary suspension of all flights to and from Northern Italy. On **14 March**, the suspension extended to all passenger flights to and from Italy, excluding cargo and sanitary ones.
- On **10 March**, all educational institutions closed **until 27 April**. A special purpose leave introduced for working parents.

⁸⁰ Ibid
⁸¹ Ibid

- **On 12 March**, closure of all theatres, courthouses, cinemas, gyms, playgrounds and clubs.
- **On 13 March**, nationwide closure of all shopping centres, cafes, restaurants, bars, museums and archaeological sites and food outlets, excluding supermarkets, pharmacies and food outlets that offer take-away and delivery only.
- **On 14 March**, all organised beaches and ski resorts closed.
- **On 16 March**, the Church agreed to suspend services in all areas of religious worship of any religion or dogma, effectively suspending Sunday divine Liturgies for that period too.
- **On 16 March**, two villages in Western Macedonia quarantined. The quarantine lasted until 06 April 2020.
- **On 16 March**, Greece closed its borders with Albania and North Macedonia, deciding to suspend all road, sea and air links with these countries, while only permitting the transportation of goods and the entry of Greek nationals and residents. The suspension of ferry services to and from Italy air links to Spain, as well as the prohibition of all cruise ships and sailboats docking in Greek ports also decided. The same day it was announced that a 14-day home restriction will be mandatory for those who enter the country.
- **On 18 March**, Greece and the other EU member states decided to close their external borders to all non-EU nationals. In Greece, the entry of citizens of countries from outside the European Union is only permitted for a condition that relates exclusively to an emergency or family matter. All private pleasure boats from abroad also banned from entering the country.
- **On 18 March**, movement restrictions pertaining to migrant camps. Compulsory temperature checking, all visits to the camps whether by individuals or organisations were suspended,
- **On 18 March**, a ban on public gatherings of 10 or more people announced. The fine on violators set to 1,000 euro fine.
- **From 19 March**, all Greek citizens returning from abroad are subjected to mandatory surveillance and isolation for at least 14 days.
- **On 19 March**, closure of all hotels across the country, from midnight on March 22 and until the end of April. Only hotels that accommodate personnel that guard the border will continue to operate, as well as three hotels in Athens and Thessaloniki and one hotel per regional region remains open.
- **On 21 March**, only permanent residents and supply trucks allowed to travel to the Greek islands
- **On 22 March**, all parks, recreation areas and marinas were also closed
- **On 23 March**, ban on all nonessential transport and movement across the country (**lock-down**), **until 27 April**. Movement is permitted only for a prescribed set of reasons. It includes moving to or from the workplace during normal business hours, shopping for food or medicine, visiting a doctor or assisting a person in need of help, exercising individually or in pairs or walking a pet, attending a ceremony (wedding, baptism, funeral etc.), and cases of divorced

parents moving to ensure communication with their children. People returning to their permanent places of residence will also be exempt. Members of the government and parliament as well as all Health, Civil Protection, Law Enforcement and Armed Forces personnel are excluded from the measure.

- On **23 March**, daytime public transport services will be limited, although ensuring sufficient service during business hours. Journeys by car are only permitted for the specific exemptions, and the driver may only have one passenger in the vehicle.

- On **23 March**, suspended all passenger flights from the UK as well as all sea, rail and road connections with Turkey, with an exception for Greek citizens and those who have residence permits or whose main residence is in Greece, as well as trucks and ships that transport goods.

- On **31 March**, additional restrictive measures for a duration of 14 days in 6 the municipalities and villages. A night curfew imposed from 8:00 p.m. until 8:00 a.m. Only close relatives can attend a funeral and pet owners allowed to walk their pet for up to 15 minutes and near their house only.

- On **2 April**, following the confirmation of a case in Mykonos island, all construction activities on the island were suspended.

- On **5 April**, another case was confirmed and a night curfew was imposed the island of Mykonos for 14 days. The same day all construction activity was suspended for 30 days on the island of Santorini, although no cases have been reported there.

- From **8 April**, the Police installed roadblocks and intensified checks of vehicles in national roads and highways. Anyone travelling without a valid reason to a destination other than his permanent residency is charged with a fine of 300 euros,

- On **15 April**, the Hellenic Civil Aviation Authority issued NOTAMs covering until 15 May, that ban commercial flights to and from Italy, Spain, Turkey, the United Kingdom, the Netherlands and Germany. Exemptions include cargo, sanitary, humanitarian, state, military, ferry and Frontex flights, as well as flights in support of the Hellenic National Healthcare System, those for repatriation of Greek citizens and emergency flights

- On **21 April**, following the confirmation of 150 cases in a refugee camp in Kranidi, a total curfew in the respective camp was established for 14 days .

- **Masks and Gloves usage**

The Greek Health Commission has declared:

- For the time being, the general use of ordinary face protective masks is not recommended. They can spread the disease. Healthy people often misuse masks. In addition, wearing a mask give someone the false sense of safety. All these could lead to disruption regarding abide by more important measures, such as maintaining the distance and hand hygiene, which are the two most important measures. Likewise, the usage of medical masks with valves (masks of high respiratory protection) is not recommended. These masks are useful only for doctors and nurses.

- In terms of gloves usage; there is little evidence that their usage provides protection against viral infection. Wearing gloves could be perceived as a distraction from the cleaning and hygiene of our hands need. The virus can infect the gloves in the same way that it infects the hands. For example, whether someone touches an infected handle in a supermarket, the gloves can be infected. Touching our face with the contaminated gloves increases the risk of infecting the virus. Research has shown that people touch their face on an average of 3 to 23 times per hour. Against this backdrop, by wearing gloves is likely to spread the virus to other surfaces. The most effective protective measure is hands' washing either with soap and water for 20-30 seconds, or with an antiseptic, especially after visits to supermarkets, pharmacies, or when using public transportation. This strategy is the best defense against the virus.

b. Economic measures

- Greece is particularly vulnerable to the virus due to its financial problems and the economic memorandum that is experiencing due to current economic crises.

- On **18 March**, the government announced a package of measures to support the economy, businesses and employees. The measures include the suspension, for four months, of tax and social security obligations of corporations ordered to close by the state decree, with the sole condition that they do not dismiss any workers. This measure covers about 220,000 businesses and 600,000 employees. The measures also include an €800 stipend as well as a four-month suspension of payment of March taxes on employees of businesses the activity of which was suspended and on freelance professionals who work in sectors affected by the pandemic. The reduction of VAT tax from 24% to 6% on pharmaceutical products such as gloves, masks and antiseptics was also announced.

- Inclusion of Greece in an emergency assets purchases' program of 750 billion euros launched by the European Central Bank. The 3.5% primary surplus target for Greece is no longer in effect, according to a Eurogroup decision.

- On **19 March**, the government announced the revision of the State Budget in order to allocate more than 10 billion euros in support of the economy. The suspension of tax and social security obligations of corporations and the number of beneficiaries of the €800 stipend extended to include all businesses harmed by the pandemic, all freelancers and self-employed workers and the majority of private sector workers. The state will also cover the cost of beneficiaries' insurance, pension, and health payments. The Easter bonus will be paid in full to all employees and announced a special bonus for health and civil protection workers.

c. Additional facts, researches, prognoses

- As of **22 April 2020**, Greece has a **fatality rate** of **5.02%**. That gives Greece a relatively low fatality rate considering that countries with better health system such as Italy and Spain experience **13.39%** and **10,42 %**, respectively. The average fatality rate worldwide is **6.24%**.

- According to the Institute for Health Metrics and Evaluation (IHME) projections:⁸²
 - ✓ The deaths per day **was reached** the peak on **03 April 2020**.
 - ✓ The **total average death toll** by 04 August 2020, will be between **105 to 176** (As of today the real number is 121)
- According to the Deep Knowledge Group (DKG) evaluation report Greece is ranked in the 30th place of the safest countries in terms of covid outbreak management ⁸³

TOP-40 COVID-19 SAFETY RANKING



- According to the IMF latest world economic outlook growth projections, Greece will experience a 10% decrease of its GDP in 2020 while an 5,1 % increase in 2021.⁸⁴

WORLD ECONOMIC OUTLOOK: THE GREAT LOCKDOWN

Annex Table 1.1.1. European Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment
(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices ¹			Current Account Balance ²			Unemployment ³		
	2019	Projections		2019	Projections		2019	Projections		2019	Projections	
		2020	2021		2020	2021		2020	2021		2020	2021
Europe	1.6	-6.6	4.5	3.0	2.0	2.4	2.3	1.6	1.8
Advanced Europe	1.3	-7.3	4.7	1.3	0.5	1.1	2.5	2.0	2.2	6.6	9.2	7.9
Euro Area ^{4,5}	1.2	-7.5	4.7	1.2	0.2	1.0	2.7	2.6	2.7	7.6	10.4	8.9
Germany	0.6	-7.0	5.2	1.3	0.3	1.2	7.1	6.6	6.7	3.2	3.9	3.5
France	1.3	-7.2	4.5	1.3	0.3	0.7	-0.8	-0.7	-0.6	8.5	10.4	10.4
Italy	0.3	-9.1	4.8	0.6	0.2	0.7	3.0	3.1	3.0	10.0	12.7	10.5
Spain	2.0	-8.0	4.3	0.7	-0.3	0.7	2.0	2.2	2.4	14.1	20.8	17.5
Netherlands	1.8	-7.5	3.0	2.7	0.5	1.2	10.9	9.0	9.4	3.4	6.5	5.0
Belgium	1.4	-6.9	4.6	1.2	0.3	1.1	-1.2	-0.7	-1.1	5.4	7.3	6.8
Austria	1.6	-7.0	4.5	1.5	0.4	1.7	2.6	1.9	2.0	4.5	5.5	5.0
Ireland	5.5	-6.8	6.3	0.9	0.4	1.7	-9.5	6.3	5.3	5.0	12.1	7.9
Portugal	2.2	-8.0	5.0	0.3	-0.2	1.4	-0.1	0.3	-0.4	6.5	13.9	8.7
Greece	1.9	-10.0	5.1	0.5	-0.5	1.0	-2.1	-6.5	-3.4	17.3	22.3	19.0

d. Plan taken by Greece to relax covid lockdown⁸⁵

⁸² Institute for Health Metrics and Evaluation, <https://covid19.healthdata.org/greece> Last updated 17 April 2020 (accessed on 22 April 2020)

⁸³ <https://www.dkv.global/news> (accessed on 21 April 2020)

⁸⁴ IMF, <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020> (accessed on 21 April 2020)

⁸⁵ ANA-MPA, <https://www.ana.gr/en/article/451289/The-government-is-working-on-a-plan-to-return-to-normalcy--Petsas-says> (accessed on 22 April 2020)

- The government is working on a plan in order to return to normality.
- Firstly, it has been decided to stick to the measures that are in place until 27 April.
- Secondly, the transition to normality will start from judiciary as some premises and services will start operating as of 27 April
- So far, Greek government hasn't taken other decisions regarding the further relaxation of covid lockdown. In any case the return will be long, gradual and targeted

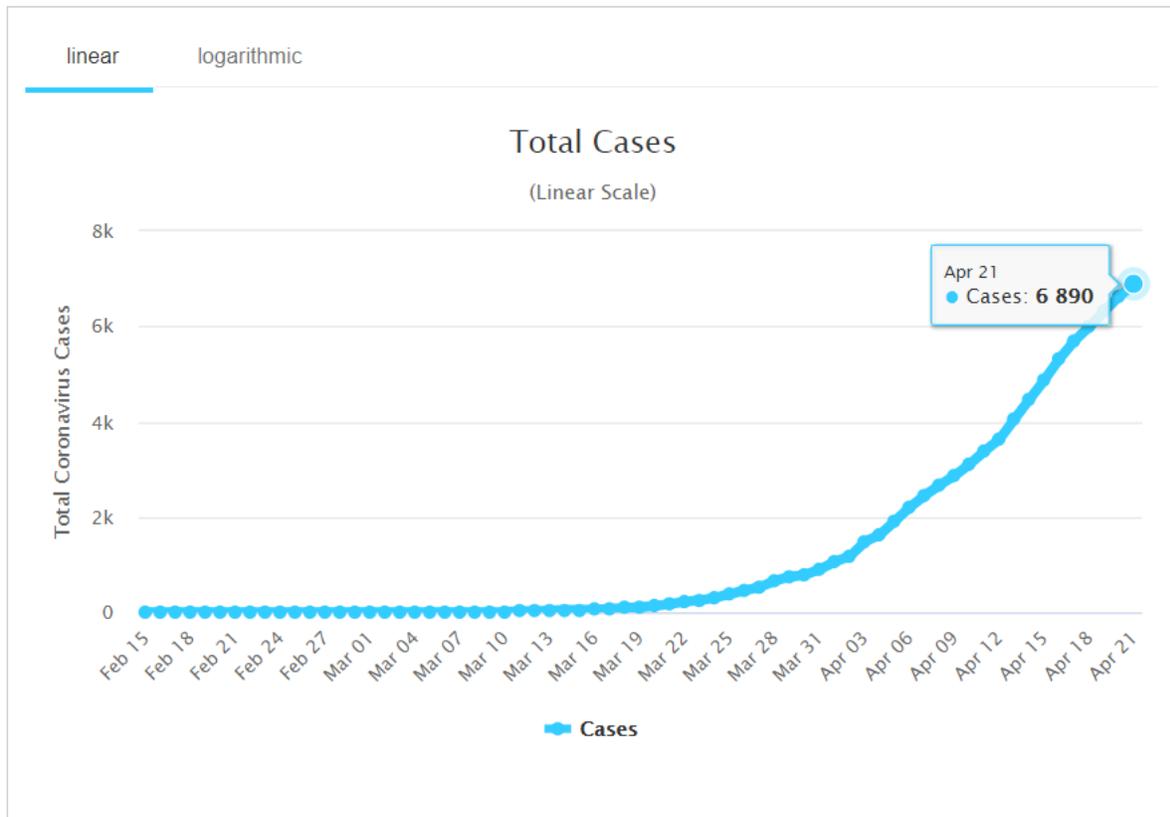
e. Conclusions

- Greece took strict but necessary measures timely, including the lockdown and fully-quarantine susceptible towns and villages,
- The rapid, collective and effective implementation of the measures is currently protecting countries such as Greece from an unbelievable burden on the health system and a significant number of deaths. Only 10% of the intensive care units are occupied for the time being.
- Currently the 150 confirmed cases that emerged on 21 April in a refugee structure cause worries and demonstrates how fragile and susceptible the situation is especially in camps.
- As of 22 April, each disease carrier infects quite less than one other person—the person- to-person rate is significantly under **1** according to Greek National Health Organization.

The curve of new cases, except the last event in the refugee camp, is almost flat. It seems that the virus spread is diminishing.

Annex 24 Serbia

As of 16 April 2020, a total of 5,318 confirmed COVID cases¹⁹ were registered in the Republic of Serbia. Samples of 3,194 individuals were tested, of which 445 were positive and 3,511 patients were hospitalized. A total of 29,472 people were tested who met the criteria of the case definition. The total number of deaths since the beginning of the epidemic is 103. The total number of cured citizens is 443⁸⁶.



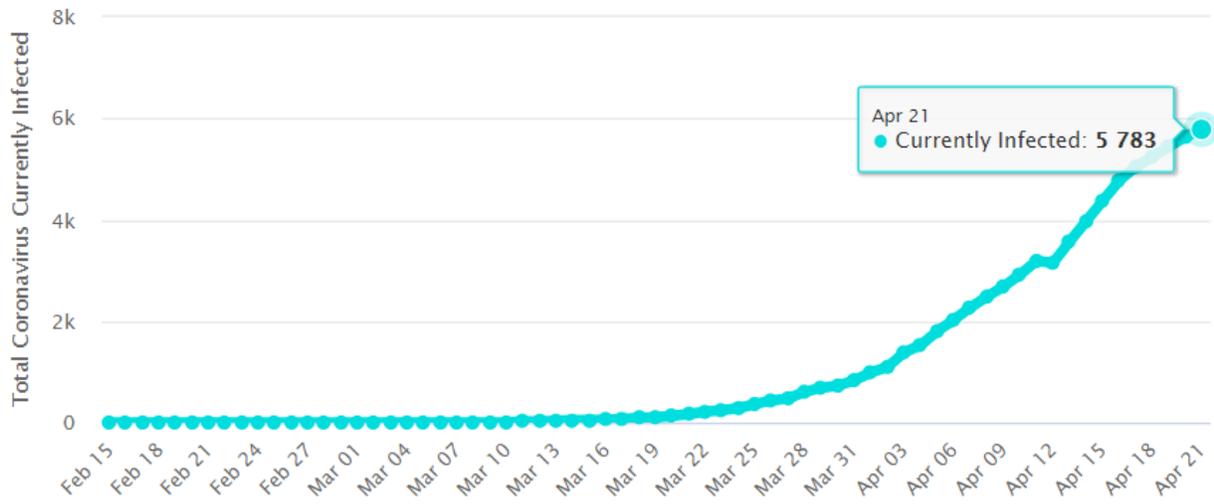
87

⁸⁶ (<https://www.zdravlje.gov.rs/vest/347076/informacija-o-novom-korona-virusu-na-dan-1604-godine-u-15-casova.php>, 2020)

⁸⁷ (<https://www.worldometers.info/coronavirus/country/serbia/>, n.d.)

Active Cases

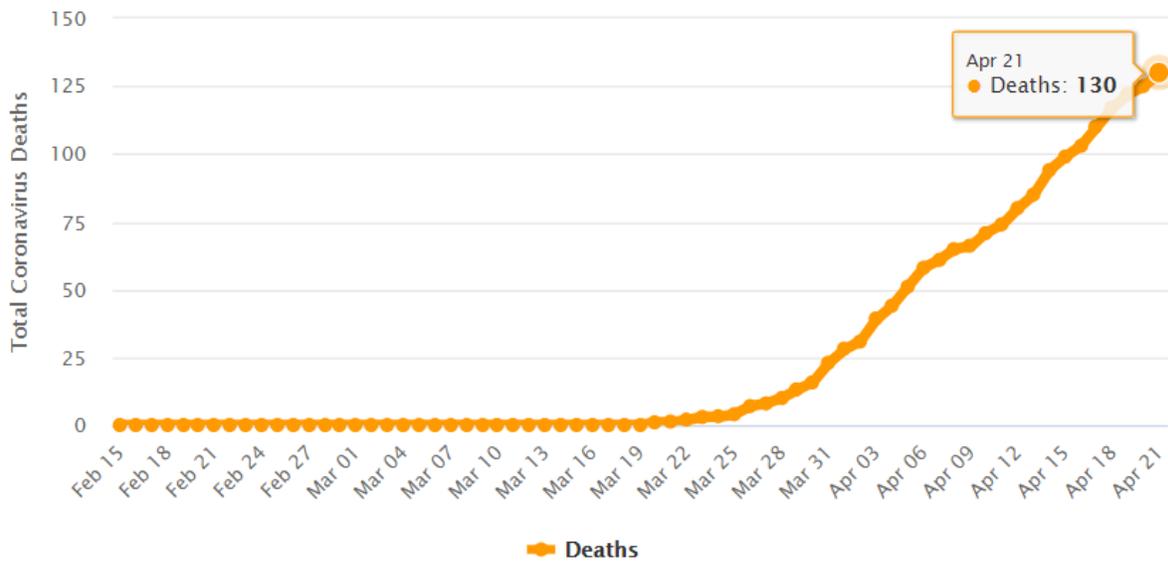
(Number of Infected People)



88

Total Deaths

(Linear Scale)



89

⁸⁸ (<https://www.worldometers.info/coronavirus/country/serbia/>, n.d.)

⁸⁹ (<https://www.worldometers.info/coronavirus/country/serbia/>, n.d.)

The government of the Republic of Serbia, up to 16 of April, has imposed social, economic and financial measures to stop spread of COVID-19 in Serbia. Besides those measures and media statements⁹⁰, coronavirus pandemic continues to spread progressively. It is clearly visualized by the graphics in the report⁹¹.

Serbia continues in its relations with the United States, as well as in its entire international action, to establish itself as an active, responsible and reliable partner against COVID-19⁹².

A 24-hour quarantine is established for all migrants in Serbia until the coronavirus threat has passed. On April 16, the Millennium Team donated to Serbia a new facility at the Obrenovac Reception Centre for migrants. It is considered that, if migrants dwell at proper conditions they do not threaten local citizens.

In this situation, health workers are a group that is at high risk of infection. The number of infected health workers accounts for 10-15% of all confirmed cases, as is the case in other countries. The capacity of temporary hospitals is expanded with 990 more beds⁹³.

On April 17, the new weekend curfew before the Easter holiday was established, from Friday at 17:00 to Tuesday at 05:00 in the morning⁹⁴. The government has launched a campaign to collect blood plasma from cured patients. Giving plasma to a diseased person boosts the person's immune strength, thus enabling the standard therapy that is used and which, according to protocols, help everyone who is ill. The plasma therapy is used in some countries, it is under preparation in France and the United States, and Serbia has started implementing it. Scientists and researchers started working on testing another innovative therapy, high intravenous immunoglobulin therapy, with the help of US experts⁹⁵.

It is decided, based on the increase of infected people, applied measures to continue, not as they are at the moment, but serious consideration was given to recommendations made by scientists and researchers.

⁹⁰ (<https://www.srbija.gov.rs/vest/en/154331/epidemic-kept-under-control-its-end-is-in-sight.php>, 2020)

⁹¹ (<https://www.worldometers.info/coronavirus/country/serbia/>, 2020)

⁹² (Tanjug, 2020)

⁹³ (Tanjug, <https://www.srbija.gov.rs/vest/en/154388/another-445-coronavirus-cases-confirmed-in-serbia.php>, 2020)

⁹⁴ (<https://www.danas.rs/drustvo/policijski-cas-od-petka-u-17-do-utorka-u-5-sati-uvodi-se-setnja-za-penzionere/>, 2020)

⁹⁵ (<https://www.srbija.gov.rs/vest/en/154442/blood-plasma-treatment-new-phase-in-fight-against-coronavirus.php>, 2020)

On April 18, Serbia welcomed the medical supplies, organized with the support of the EU, which included protective masks, contactless thermometers, protective gowns, as well as about 200,000 medical suits⁹⁶.

The Serbian Army continues to carry on with all planned tasks in the fight against COVID-19 on April 19.

On April 20, a new laboratory opened at the Clinic of the Clinical Centre of Serbia "Fire Eye", with a capacity of 2,000 coronavirus tests per day. Currently, Serbia testing between 3,000 and 3,500 people a day, and thanks to new labs in Belgrade and in Nis, the last is under construction. A final intention is with the support of Chinese companies BGI and Zi Jin those capacities to be doubled⁹⁷.

Moreover, the Serbian government decided at its session, based on the current epidemiological situation and the opinion of experts, to alleviate certain measures that had been imposed to prevent the spread of coronavirus starting from April 21:

- citizens older than 65 allowed to go out for a half an hour walk, with some limitations;
- shops that offer services, such as car mechanics and tire shops, shoemakers, tailors, dry cleaning, driving schools, as well as retail trade shops - bookstores, dealers in motor vehicles, bicycles, nautical, technical goods and building materials allowed to open;
- green markets (both those in open and closed spaces), with the obligatory application of all protective measures allowed to open;
- construction sector (building construction and civil engineering) starts working at full capacity;
- all employers are obliged to provide workers with protective equipment (masks, gloves and disinfectants) and work must be done by respecting social distancing;
- employers are obliged to develop a special plan of work during the state of emergency;
- activities that involve close physical contact and therefore hairdressing salons, beauty salons, gyms and fitness centres will remain closed.

⁹⁶ (<https://www.srbija.gov.rs/vest/en/154460/brnabic-welcomes-flight-with-medical-supplies.php>, 2020)

⁹⁷ (<https://www.srbija.gov.rs/vest/en/154559/capacity-of-new-laboratory-2000-coronavirus-tests-a-day.php>, 2020)

It is important to emphasize once again that work in facilities and areas of business activity that are permitted to resume as of 21 April are done only by respecting all protection measures and the use of disinfectants and protective equipment - masks and gloves⁹⁸.

Economy measures

The Republic of Serbia continues with recognized tax policy measures announced on April 2 as part of plans to boost the economy in response to the coronavirus (COVID-19) pandemic.

The proposed tax policy measures related to the deferral of tax payments and would concern an obligation for repayment of deferred taxes in instalments, not earlier than the beginning of the fiscal year 2021.

These include proposals for:

- Deferral of payments of salary tax and social security contributions for the private sector until the beginning of the fiscal year 2021 with a possibility of an additional extension. Deferred tax obligations would need to be paid over a period of not more than 24 months, in monthly instalments without any late-payment interest.

- Deferral of payments of advance corporate income tax for the second quarter of 2020.

- Value added tax (VAT) exemption for a donation of goods with a goal of motivating donations to institutions that are involved in the implementation of measures for protection from COVID-19.

These proposed measures applied for all companies, regardless of size or economic strength⁹⁹.

⁹⁸ (<https://www.srbija.gov.rs/vest/en/154598/relaxation-of-coronavirus-restrictive-measures.php>, 2020)

⁹⁹ (<https://home.kpmg/us/en/home/insights/2020/04/tnf-serbia-tax-economic-relief-measures-covid-19.html>, 2020)

Annex 25 North Macedonia

For the first time since announcement of independence, Northern Macedonia has declared a state of emergency. It was introduced on 18 MAR, and the first case of coronavirus was 26 FEB. At this time, the official authority is appointed by the president as a temporal government and parliament is dissolved. The appointed date for holding parliamentary elections -12.04. has been canceled. The Appointed National Crisis Staff is led by the Prime Minister (Oliver Spasovsky).

With the announcement of the global pandemic, as of 14.03. the Government has decided to close all major shopping malls, with the exception of supermarkets, grocery stores and pharmacies. The operation of cafes, bars, clubs, casinos and sports betting halls is completely forbidden. All catering establishments that prepare and sell food can work, but without visitors, and sell alternatively, that is, sell online and deliver outside the diner.

Initially, the state of emergency was declared for a period of 30 days. This allows the government to adopt and implement disease control regulations in the absence of parliament. In addition to the recommendations of the World Health Organization for Social Distance and Hygiene, the Government has undertaken as follows:

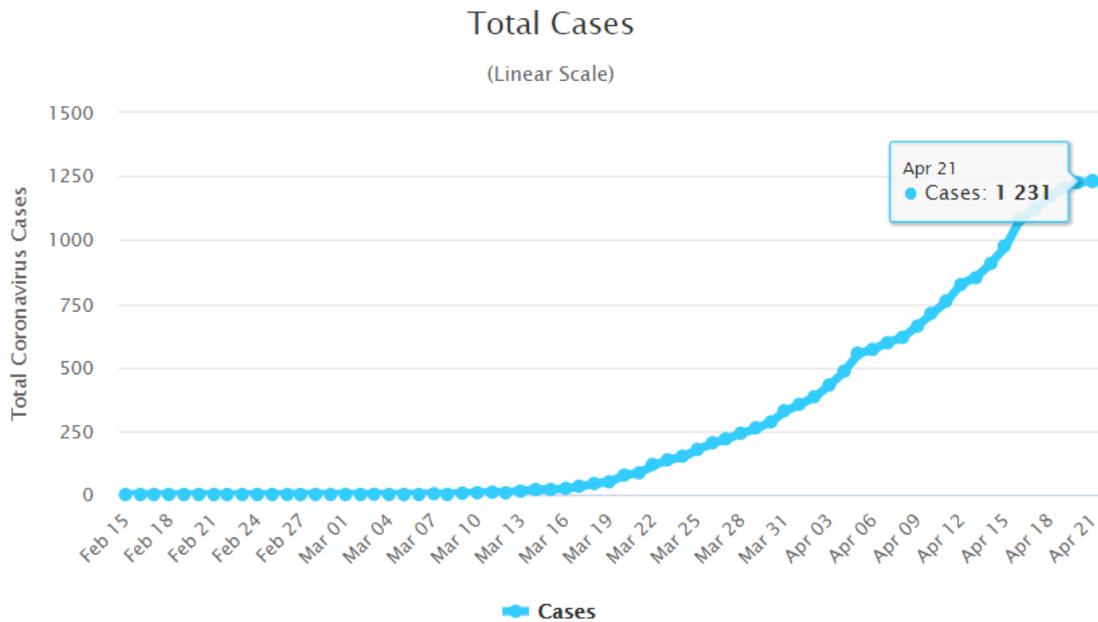
- As of 18 March, with the introduction of the state of emergency, North Macedonia has completely closed its border points for foreign nationals.
- From 18.03. Skopje International Airport closed. Exceptions are made for state, military, medical and cargo flights;
- From 18.03. the Government has frozen the prices of basic food and disinfectants, as well as the prices of medical equipment and supplies, equal to the price from 11 March 2020, when the World Health Organization (WHO) announced the start of the pandemic;
- From 22.03. curfew was introduced. In order to prevent the further spread of the virus throughout the country, the movement of the population is prohibited as follows:
 - o For all citizens - from 21:00 to 05:00;
 - o For persons under 18 - from 21:00 to 12:00;
 - o For persons over 65 - from 11:00 to 05:00.
- During the curfew, areas and streets in the affected municipalities are disinfected.
- On 23.03. the Government of North Macedonia has adopted a new decree that will transport Macedonian citizens arriving at border entry points into the country to mandatory quarantine sites;
- As of 23.03. the government also decided to abolish the duty rate on 13 medical products, including ethyl alcohol, toilet soaps, skin washing and cleaning products, products for washing and cleaning, plastic clothing, surgical masks, plastic filter masks, special glasses and more.
- On 27.03. North Macedonia has announced the use of NATO's Next-Generation Incident Command System (NICS *) to coordinate its national response to the COVID-19 crisis and to provide the public with up-to-date information on the pandemic and national action. The article states that NCIS enables all institutions in the country, including the Red Cross, to coordinate their actions.
- On 30.03. The Government of Northern Macedonia has formally requested the EADRCC to obtain protective suits, goggles and face masks.
- From 01.04. Crisis Staff announced the use of a mobile application to monitor people quarantined.

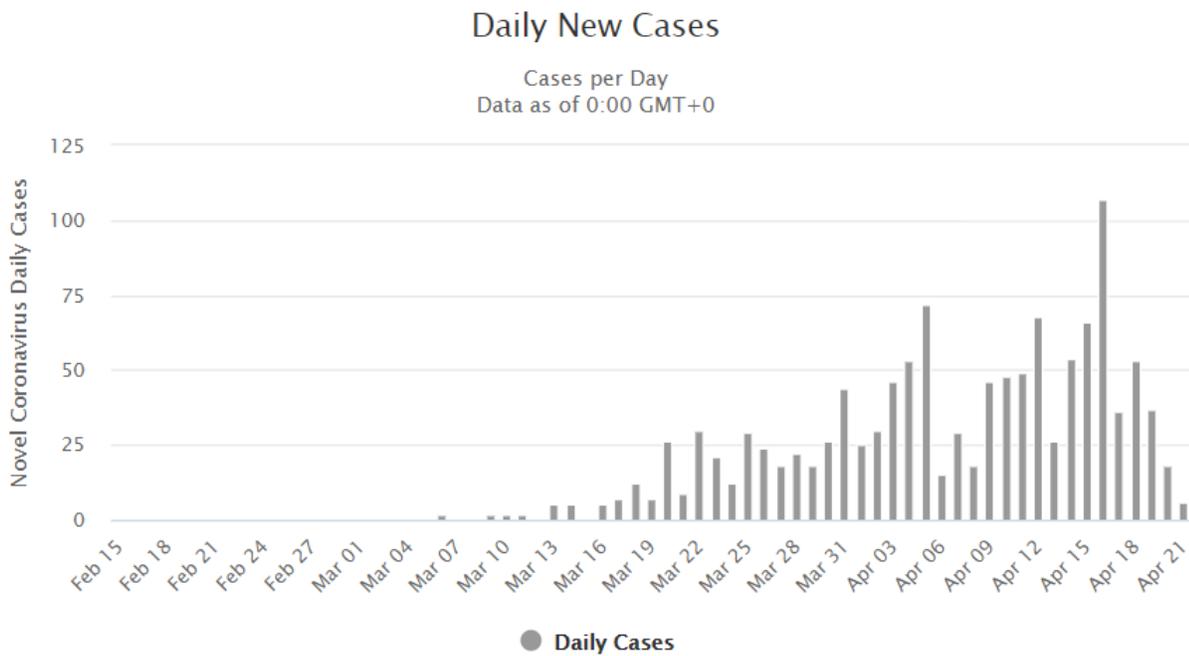
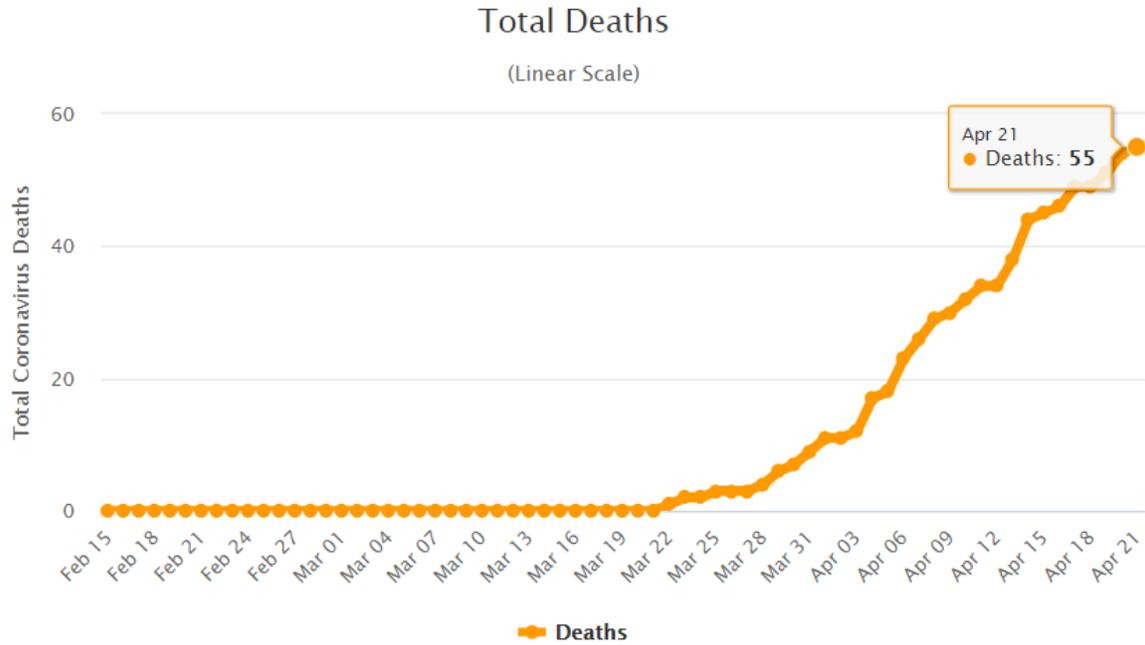
- Since 16.04. The Government will continue to operate through an online connection. The Prime Minister of Northern Macedonia, the Deputy Prime Minister and Minister of Health are quarantined after a visit to Kumanovo and after that it was announced that the mayor of Kumanovo (the second largest city in northern Macedonia) was diagnosed with a COVID-19.

- The state of emergency is extended until 16.05.

- The Ministry of Health is tasked with drawing up a new law, which will legally regulate the measures, as well as to settle the question of how many masks manufacturers should make for the needs of state institutions.

Age		0-9 years	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60 + years
Cases	1259	43	46	140	217	213	231	227
% of all cases	100	3,85	4,12	12,53	19,43	19,07	20,68	20,32
Deads	55	0	0	1	1	6	9	39
% of all deads	100	0	0	1,79	1,79	10,71	16,07	69,64
22 APR 2020 / Population: 2.077 milion								





Economic measures.

With the declared state of emergency, businesses continue to work, with employees being issued a work and home permit after curfew.

Economic analyzes show a slowdown and negative growth in the second quarter. As a

measure, the Government shall adopt the following measures:

- Northern Macedonia plans to take loan for almost EUR 600 million to guarantee budget liquidity and maintain employment during the crisis;
- State workers and politicians will receive minimum wage in April and May.
- The Government will pay minimum wages for April and May to employees of companies affected by the epidemic, as well as to sports and arts workers.
- The state will also cover 50% of the social security benefits of the people from the affected companies.
- Workers fired as a result of the crisis will receive monthly compensation equal to 50% of their average salary over the past 24 months.

Until 14.04., 8000 tests were performed. Which is about 4000 per 1 milion population. Over 65% of the deceased are over 60 years of age.

Citizens can obtain up-to-date information on pandemic measures, prohibitions and developments from the following sites;

1. The Governement: <https://koronavirus.gov.mk/en/media-center> ;
2. Ministry of Health: <http://zdravstvo.gov.mk/korona-virus/>,
3. National Crisis Management Center: <http://nicspublic.cuk.gov.mk/index.php/pocetna?lang=mk> .

Conclusions:

1. The Government of North Macedonia shall monitor and implement the recommended measures proposed by the WHO. At the same time with tougher measures - curfew and traffic restriction, the government has shown a firm determination to curb the spread of the infection.

2. At the time of the pandemic, North Macedonia became the 30th NATO member (27.03.2020). Three days later, they made a formal request for help to the EADRCC, and with the use of the NICS software application, the governors declared their determination for future integration in Alliance.

3. With the testing of 4,000 people for every one million, Northern Macedonia performs nearly 2 times as much high rate on a daily basis than the Republic of Bulgaria. It should be remembered that mass testing is one of the main pillars of South Korea's successful fight against infection.

4. Although this pandemic is developing at a time when North Macedonia lacks titular authority, the Serviceman Government is making successful efforts to stabilize the country. Although it seems populist, the decision to receive a minimum wage from all civil servants during a state of emergency is a move that will play a role in the upcoming parliamentary elections.

5. Introduced quarantine is one of the best measures of the government in which the risk of spreading the virus is minimized. The state has made every effort to ensure that its citizens return home, and that during the Easter holidays they do not go out except when absolutely necessary.

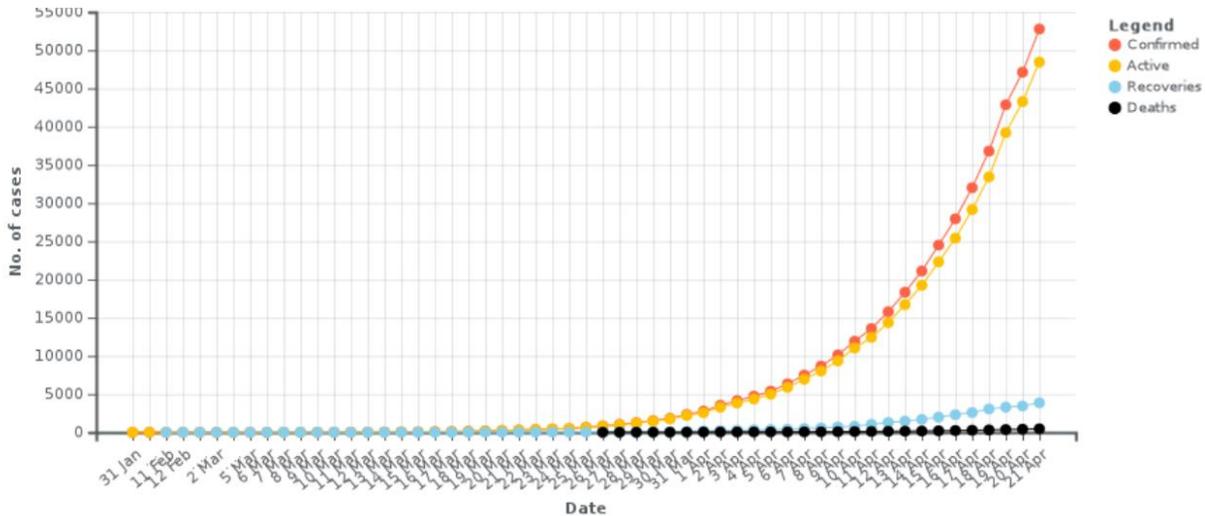
Although there is a tendency to reduce the infected in the county, attention should be paid to those places where there are conditions for increasing their numbers, such as the municipalities of Kumanovo and Prilep

Annex 25 Albania

Situation in the country from the outbreak till 22 April

The first cases of a coronavirus pandemic were confirmed in Russia on January 31, 2020. Early prevention measures were taken included restricting border traffic with China and extensive testing. Following measures, after the spread of the disease from Italy on March 2, included cancellation of events, closure of schools, theaters and museums, closure of the border and declaration of a non-working period. By the end of March, blockages had been imposed in most of the federal districts, including Moscow.

The number of cases of contamination with coronavirus in Russia as of 22 April has reached a total of 57999 people, 513 deaths and 4420 recovered, making the country 10th in the world.



Overall measures undertaken by the government to reduce the effects of the pandemic

As of December 31, 2019, the Ministry of Health of the Russian Federation has been established cooperation with China and the World Health Organization (WHO) through the Ministry of Foreign Affairs of Russia. The expert from the Russian Public Health Service Rospotrebnadzor was included in the Emergency Committee as part of the WHO International Health Regulations (2005). A set of measures has been prepared within the framework of the National Plan for Prevention of the Introduction and Spread of the New Coronavirus Infection in the Russian Federation, the same approved by the Prime Minister of the Russian Federation. At the end of January, the Chief State Sanitary Officer of the Russian Federation issued a set of several sequential instructions for the implementation of measures to prevent the spread of coronavirus infection, as well as additional sanitary and anti-epidemic (preventive) measures to prevent the

introduction and spread of the infection. In January, Russia closed its land border with China after it became clear that the epidemic had emerged.

Since the beginning of February, the Russian Federation has begun to impose active measures, with the preparation of a separate terminal for arriving flights from China under the control of Rospotrebnadzor at Sheremetyevo Moscow Airport. A laboratory examination of all those arriving passengers from China was organized, as well as measures for their further quarantine and home surveillance.

At all border crossing points of the Russian Federation, enhanced double-checking of persons arriving from regions with registered COVID-19 cases begins, using portable thermal imaging devices for this purpose. In the period from 31 December 2019 to 02 February 2020, 380 121 arrivals from the People's Republic of China were examined, of which 128 people were detected with suspicions of infectious diseases. In all cases, a complete set of measures have been taken to prevent complications from infection.

By the end of February 2020, the Russian government has banned the entry of Chinese nationals, except for transit. During the same period following the meeting of the COVID-19 Operational Headquarters for the Prevention of Imports and Dissemination in the Territory of the Russian Federation, it was decided to extend all restrictions from 1 March to 1 April 2020, including the restrictions for international activities and extended vacations for students from the People's Republic of China. By the beginning of March, there were only 2 cases of COVID-19 registered in the Russian Federation, by the middle of the month cases were increasing over 100. The Ministry of Health and the corresponding health service of the Russian Federation were raised in a state of high readiness. The Government of the Russian Federation forbids the entry of all foreign nationals until May 1, except for diplomats, aircraft crews, and permanent residents of the Russian Federation or transit passengers. An order has been issued by the Russian Ministry of Health to set up resuscitation counseling centers at the federal level to assist medical decision-makers. Similar centers have been set up in each region to assist district doctors in consultation. As of March 20, the dynamics of cases in the country increased, with over 400 cases registered. Amid a growing wave of the epidemic in Russia, Russian President Vladimir Putin after a phone call with Italian Prime Minister Giuseppe Conte sending Russian military medical aid teams to Italy.

On March 31, the Federal Assembly approved a law allowing the executive cabinet to declare a state of emergency on its own. Previously, only a committee headed by the Minister of Emergency Management could exercise its rights. The period from 28.03 to 05.04 was declared by the Russian President to be non-working, and it was agreed that the wages of the workers remained. On April 2, the president extended the non-working period to April 30.

On April 16, the president announced that the parade and its attendant events would be canceled.

Economic measures

Under the conditions of declining consumption and the emerging economic crisis, the government is preparing a new business support program with the help of the country's central bank. Part of the measures under consideration is a half-year deferral for small and medium-sized business insurance payments, tax restructuring and the possibility of extending credit and mortgage holidays. Russia continues to avoid measures such as the closure of transport links and transport between regions, with the argument that this model does not work because it would cover even regions where there are isolated cases of contamination. Confirmed cases have increased by 1,175 people on April 8 - the first day with over 1,000 new infected.

The coronavirus crisis is having a serious impact on the Russian economy.

The price of oil, which is the country's main export product, fell to its lowest level in 18 years at the end of March. A barrel of the European Brent variety costs less than \$ 22, quotes of the Russian variety Ural are less than \$ 17. Saudi Arabia has responded by offering European refineries, which are major buyers of Russian oil, dumping prices like never before, a Brent barrel worth \$ 10 cheaper than official quotes.

The most serious problem for the Russian economy is the depreciation of the ruble, which is a consequence of rapidly decreasing oil prices.

One ton of Russian wheat already costs more than one ton of Russian oil. The ruble is heavily devalued, and the Russians are expecting a considerable appreciation of all goods. The weaker Russian currency always encourages exports, but Russia has only three product groups that are competitive on the world market, such as raw materials, weapons and agricultural commodities.

Demand for energy and metals has declined worldwide, and arms purchases are being delayed because of the coronavirus epidemic.

Russia could export more cereals, but the government fears a shortage in the domestic market. As of April 1, restrictions and quotas have been imposed on exports of wheat, rye, maize and barley, which will remain in force for the first time in the next three months. In this situation, Russia cannot benefit from the unique situation that one ton of Russian wheat currently costs more than one ton of Russian oil.

Conclusions:

The cases of coronavirus in Russia for the period from April 12 to April 22 are rising sharply. The epidemic has been deteriorating and the number of people infected has increased by 16-18% daily in recent days. Thus, the number of those infected during the reporting period increased on average by about 3 times.

The number of cases of contamination with coronavirus in Russia as of 22 April has reached a total of 57999 people, 513 deaths and 4420 recovered, making the country 10th in the world.

The epicenter of the epidemic is the capital city of Moskva, where more than half of the cases of Covid-19 are settled. The peak of the coronavirus in Moscow is expected in the next 2- 3

weeks. Local authorities have warned that the epidemic is spreading in the Russian regions 2-3 weeks later than in the capital. Moscow remains under strict quarantine.

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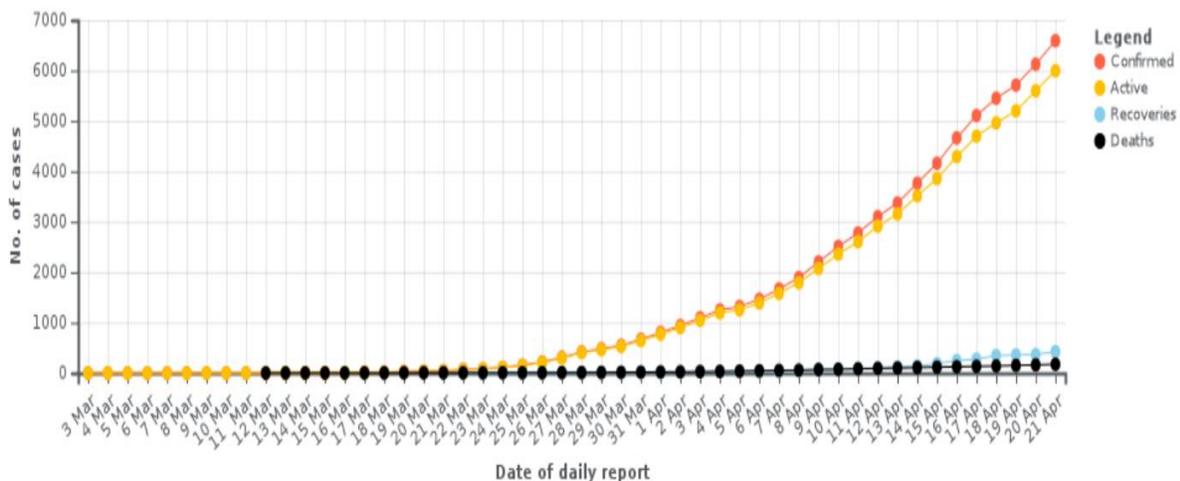
Annex 27 Ukraine

The first data on the spread of the COVID-19 pandemic in Ukraine were confirmed on 3 March 2020, after the hospitalization of the first case in the area. A suspected was a man traveling from Italy to Romania by plane and then arriving in Ukraine by car.

Previously, the Ukrainian government was criticized for not providing more information on possible cases of coronavirus.

In the period between 12 and 22 April, cases of coronavirus in Ukraine are growing exponentially. During the reporting period, the number of infected persons has increased on average by 2 times.

The total number of cases in Ukraine, as of April 22 reached 6592, of which 358 are children and 1031 are medics, the deaths are 174 and the recovered are 424.



According to the health ministry, a new increase in cases is expected 5 to 10 days after Easter because of the mass congregation of worshippers in some temples.

The number of cases of contamination with coronavirus in Ukraine as of April 22 reached a total of 6592, the dead were 174 and the cured were 424.

The Ukrainian authorities supposed, that the increased number of new cases are due to gathering together of a vast amount of people in Churches, worship the spring holyday on 12 April. The Ukrainian Minister of Health maxim Stepanov said, that the symptoms of disease get clear 4 or 5 days after the contamination, which meshes with the 12 April worship celebrations.

Overall measures undertaken by the government to reduce the effects of the pandemic

On February 20, Ukraine evacuated both Ukrainian citizens and foreigners from Wuhan, China, the epicenter of the coronavirus outbreak. When their flight landed on Ukrainian territory, no information was provided to the public as to where the evacuees would spend 14 days in

quarantine. This leads to tensions in New Sanjari, the city where they were eventually monitored at a local sanatorium. While the evacuees were traveling to the city, locals blocked road junctions and stoned buses.

As of March 20, an emergency was declared in the Kyiv region, Chernivtsi region, Zhytomyr region, Dnipropetrovsk region, Ivano-Frankivsk region and the city of Kiev.

On March 25, the number of reported cases increased over 100, newly registered cases last day was 29. On the same day, the government introduced a 30-day emergency regime across Ukraine, scheduled to end on April 24, 2020.

Since March 12, schools have been closed and all activities canceled to prevent the spread of the disease in Ukraine.

Ukrainian airlines cancel some flights to 16 countries because of coronavirus.

A number of other measures have been introduced, banning the carriage of more than 10 passengers at one time on public transport from 18 March to 24 April. There is a ban on transportation of passengers by metro in Kiev, Kharkov and Dnieper.

Starting on March 17, food, trade, entertainment, fitness clubs and cultural establishments have been temporarily suspended.

Medical institutions, hospitals and clinics defer planned hospitalization and minor electoral surgeries and procedures and deal only with emergencies. The Ministry of Health has issued orders to prepare and rebuild hospitals and clinics for the treatment of seriously infected patients.

18 March 2020 President of Ukraine Volodymyr Zelensky has signed the law "On Amending Certain Legislative Acts of Ukraine aimed at Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)"

24 March 2020 President of Ukraine Volodymyr Zelensky, at a meeting with newly appointed Ambassador of the People's Republic of China to Ukraine Fan Xianrong, asked the Chinese government to provide Ukraine with additional assistance to combat the spread of COVID-19 coronavirus: test systems, medical equipment and medicines are needed.

25 March 2020 quarantine is extended till 24 April 2020 and the extraordinary case was announced

28 March 2020: Ukraine closes the borders and bans all the cross-border transport communications

6 April, a decision on the Cabinet's implementation of strict restrictive measures is in force. Police in Kiev have begun using unmanned aerial vehicles to track down quarantine violators.

Economic measures

Employment-related measures

- A set of legal norms aimed at protecting the rights of individuals and legal entities during quarantine and restrictive measures related to the spread of coronavirus disease (COVID-19), namely: the possibility of working at home for employees, (including government employees) and providing vacation by agreement; granting the right to owners to change the operating modes of bodies, institutions, enterprises, organizations, in particular, receiving and servicing individuals and legal entities with mandatory informing the population about this through websites and other communication tools; a ban on the cancellation of a certificate of registration of an internally displaced person (for the quarantine period and 30 days after its cancellation); attribution of the legal fact of quarantine introduction to force majeure circumstances; extension of terms for receiving and providing administrative and other services.

- The law includes an instruction to the government to establish additional weekly wage supplements to medical and other workers directly involved in the elimination of coronavirus infection (COVID-19) in the amount of up to 200% of wages for the period of implementation of measures to prevent the occurrence and spread of the disease, until the completion of these activities, as well as additional payments to certain categories of workers, providing the main areas of life;

- From 1 April 2020, the government will be ready to pay additional UAH 1,000 (\$35) to those having a pension of less than UAH 5,000 (\$180), from 1 May 2020, pensions will be indexed.

- On 30 March 2020 government of Ukraine approved law which introduce the concept of a remote work and compensation to the employees who lost their work due to the coronavirus infection

- Deadline for the preparation of personal tax returns was extended till July, 1 2020.

Economic stimulus measures

- The law forbids the banks from charging any penalties, fines, increased interest rates on consumer loans

- Implementation of the law on mandatory installation of cash registers for businesses is postponed for three months till January 1, 2021

- Until June 30, 2020, it is prohibited to carry out state supervision (control) on the economic activity (except for the supervision of high-risk entities, in the area of compliance with the requirements of establishment of state regulated prices and sanitary issues) and epidemic well-being).

- Limits for single tax payers raised.

Other measures and sources

- The changes also affect the Criminal Code of Ukraine. It is supposed to introduce administrative responsibility for the unauthorized abandonment of the place of observation or quarantine by a person who may be infected with a coronavirus, as well as increasing criminal

liability for violation of sanitary rules and norms for the prevention of infectious diseases. Establishment of administrative responsibility for non-disclosure of information on public procurements carried out under this law.

- Article 325 of the Criminal Code of Ukraine is interpreted in such a way that a penalty of 1,000 to 3,000 tax-free minimum incomes of citizens will be imposed for violation of the rules and norms established with the aim of preventing epidemic and infectious diseases, as well as mass non-communicable diseases, arrest for a period of six months, restriction or imprisonment for three years, if such actions led or could lead to the spread of the disease. COVID-19 coronavirus will be added to the list of such diseases.

- Exemption from liability for late filing and disclosure of financial statements (including consolidated and audited reports) if such report is filed and made public within the quarantine or 90 calendar days from the day following the end of such quarantine, but no later than 31 December 2020

Conclusions:

The dynamics of the coronavirus epidemic in Ukraine are changing at an increasing rate.

The abolishment of preventive measures and getting together a vast majority of people nevertheless the reasons, would be reason for increased number of new cases in the country.

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Annex 28 Moldova

During the WHO statement on 12 January on the emergence of the COVID-19 virus and the threat of a global pandemic, the situation in Moldova is completely calm and no cases of infected people are registered.

However, following the WHO recommendations and the example of already infected countries, the Moldovan government is taking various measures to limit the risk of infection.

On January 27, the Ministry of Health, Labor and Social Welfare convened an emergency meeting of the Emergency Committee. The meeting was attended by representatives from other ministries such as the Ministry of Foreign Affairs, the Ministry of the Interior, the Ministry of Finance, the Border Police, the Customs, the NFP, the Food Agency and the Public Health Agency. The meeting discussed the measures that should be taken in Moldova.

On February 2, an extraordinary National Public Health Committee was established. The Commission reviewed and analyzed the information available from the Ministry of Health, Labor and Social Welfare on the new Crown virus and considered that the situation was very serious, leading to the announcement of a global pandemic. The Commission has decided to monitor the epidemiological situation in the country and around the world and, if necessary, to declare a code to increase the risk of infection.

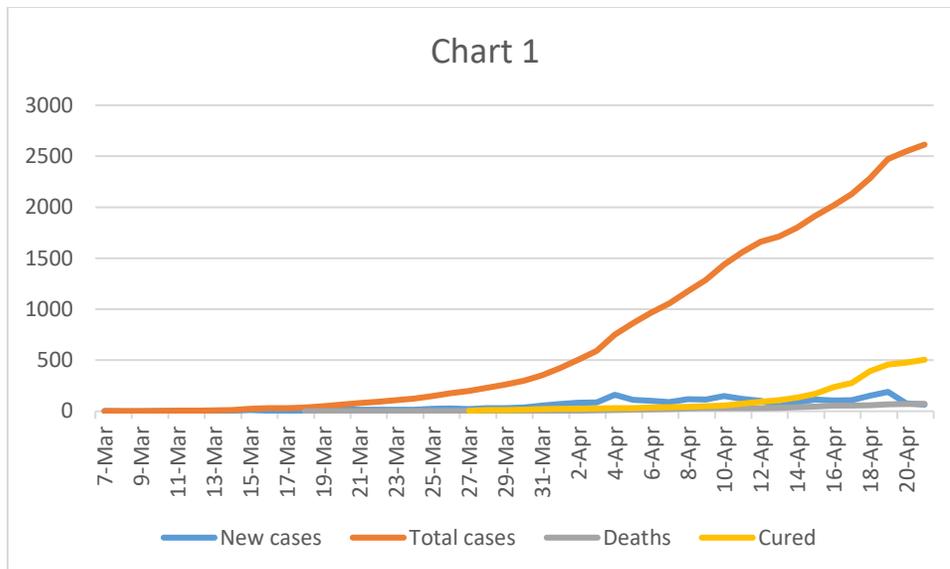
1. Review of the development of the infection

There are currently 2614 confirmed cases of infected. Mortality is quite low - 73. The cured are now on a very high level - 505.

The table shows the distribution of cases of infected by age:

Population Age	% 0-9 y	%10-19	%20-29	%30-39	%40-49	%50-59	%60-69	%70-79	%80+
Total: 3,473,242	2	4	14	15	17	24	18	10	
Death rate	-	-	2	2	6	17	35	37	

Chart 1 shows the development of the contagion in Moldova from the date of the first case on 03/07/2020 to 22/04/2020.



The graph clearly shows that there is slight decrease in the slope of the number of infected, but the peak has not yet been reached. Very is a big drop of the amount of the new cases.

2. Measures taken by the Government to prevent infection

On February 25, Moldova announces the following measures to address the danger of the Crown virus:

- Crossing the borders of Moldova are checked and, in the presence of symptoms, placed in isolation;
- A thermal camera for checking passengers was installed at the airport in the capital;
- Provides supplies of necessary medications and tests for the virus;
- Public appeals are made to the population to comply with the necessary hygiene requirements, to assist with inspections, and to contact competent authorities in the presence of symptoms.

A yellow code was announced on March 8th.

On March 10, the entry of foreigners by plane is prohibited.

On March 11, 2020, the Ministry of Education, Culture and Science of Moldova issued an order for the closure of all educational institutions from March 12 - 23. Quarantines include kindergartens, schools, colleges and universities across the country. The implementation of the order is monitored by the local authorities and the management of the educational institutions. The Ministry of Education bans the holding of mass events in theaters, concert halls, museums, libraries, cultural centers and creative centers. The ban applies to events involving more than 50 people.

As of midnight on March 17, 2020, the country has suspended its flights to all countries due to the threat of the spread of the Crown virus.

A state of emergency has been declared throughout the country.

On March 20, an online platform was created to receive real-time information on the development of the infection.

3. Economic measures taken by Moldova

On March 19, the Treasury proposed initial VAT measures on goods to help businesses deal with the effects of the pandemic.

On April 1, VAT on hospital services is reduced from 20% to 15%.

It is also envisaged to reduce the VAT on tourism services, especially hotel, restaurant and catering services, to stimulate and facilitate business.

The state also suspends all VAT tax checks indefinitely.

The purpose of the measures is to relieve business in this situation of economic stagnation in order to preserve the viability of companies and protect them from bankruptcy, which would hamper the economic recovery after the end of the state of emergency and the pandemic.

3. Interesting facts about Moldova

Moldova has a well-established wine industry. The vineyards occupy approximately 147,000 hectares of land in the country, most of them for commercial production. Milestii Mici in Moldova is the largest wine cellar in the world, which holds over 2 million bottles of wine.

With a GDP per capita of only \$ 1, 843.2 USD as of 2015, Moldova is the poorest nation in Europe.

Alexander Pushkin, the famous Russian writer, poet and playwright, spent three years (1820 to 1823) in exile in Moldova. The little house he lived in has been turned into a museum and open to the public. Shows his personal effects and furnishings. Classics like "The Caucasian Prisoner" were written by Pushkin during his stay in a Moldovan house.

4. Assumptions and assumptions

At present, it is difficult to make any assumptions about the situation in Moldova. There is no indication of a change in the Crown virus situation. The infection rate is stable and relatively high. There is no indication of an increase in the number of well-healed people, but the low mortality rate is comforting.

The recommendations are to continue to monitor the information received from this country.

Data, research and analysis for this country are much less expensive than Australia, and this is probably due to Moldova's lower importance in terms of population and GDP.

5. Conclusion

As with Australia, here it can be said that, compared to other countries where the situation is much more serious, things are quite calm in Moldova. The incidence is Australia-wide. Here again, the question can be asked whether the development of the infection is the result of the measures taken and what is the factor that determines the mortality rate.

It is of particular importance to take adequate measures to support the population and business to ensure their survival during the crisis period. The measures taken to limit the infection should not be too restrictive and inconsistent with the real danger. This can do more harm than the virus itself. Particular attention should be paid to the mental health of the population, because in such extreme conditions it is particularly vulnerable. A comprehensive approach to crisis management must therefore be applied and expertise of many different fields of expertise needs to be used to this end. Otherwise, we risk creating significant imbalances and distortions in different areas of our society. Something that will do harm that we won't be able to recover for a very long time

Annex 29 USA

1. Defining Patient 0.

Since the novel coronavirus was first detected in the U.S. on Jan. 20, in a 35-year-old man from Washington who had returned from Wuhan, China it has spread to at least 844,440 people in the country as of 22.04.2020. As of April 21, the U.S. death rate was 129 per million populations and 10th in relation to other countries reporting.

2. The total number of infected, deaths, new cases and recoveries is as follows.

Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop
World	2,629,378	+73,618	183,520	+6,061	716,580	1,729,278	56,678	337	23.5		
USA	844,440	+25,696	47,227	+1,909	83,759	713,454	14,014	2,551	143	4,305,949	13,009

3. Trends.

The number of new cases in the last two weeks has fallen slightly from 33 748 on 04/07/2020 to 25 696 on 04/22/2020 but I think it is too early to consider this as a lasting positive trends

The number of daily new deaths are fluctuated between 2219 on 04/07/2020, 2618 on 04/15/2020, 1561 on 04/19/2020 and slightly increases to 2804 on 04/21/2020.

On April 21, the Institute for Health Metrics and Evaluation estimated a total of about 60,000 deaths in the United States due to coronavirus by August.

4. Measures taken.

During the weeks of April 6 and April 13, the U.S. conducted about 150,000 tests per day, while experts recommended at least 500,000 per day prior to ending social distancing. Building up both testing and surveillance capacity are important to re-opening the economy; the purpose of social distancing is to buy time for such capacity-building.

On April 15, Trump cited government data showing the U.S. was "past the peak" of the epidemic and was "in a very strong position to finalize guidelines for states on reopening the country". He announced a temporary halt on funding to the WHO over its handling of the coronavirus outbreak, pending a review. The next day, April 16, the administration unveiled new federal guidelines called "Opening Up America Again," for a **three-phased approach to restoring normal commerce and services**, but only for places with strong testing and seeing a decrease in COVID-19 cases. At the same time most state education leaders say their buildings will have to remain closed until at least late summer or fall.

Amid protests against imposed restrictions, some governors are implementing plans to at least partially reopen their states even though they haven't met guidelines set out by the White House to do so.

On 21.04.2020 president Trump said he will issue an executive order suspending immigration to protect American workers from foreign competition.

5. Measures that could be implemented effectively in Bulgaria.

A sharp increase in the number of daily tests will allow the early detection of infected people, even those who are asymptomatic but carriers of the infection. Establishing reliable testing and monitoring capacity is crucial to rebuilding the economy and returning to normal life.

Annex 30 Canada

1. Defining Patient 0.

The disease first arrived in Canada on January 25, 2020, after a man returned to Toronto from travel in China, including Wuhan; the case was confirmed on January 27. As of April 23, 2020, there have been 41414 confirmed cases in Canada, 13617 recoveries and 2133 deaths. The Government of Canada has released modelling anticipating 11,000–22,000 deaths over the course of the pandemic, assuming "stronger epidemic control".

2. The total number of infected, deaths, new cases and recoveries is as follows:

Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop
Canada	41,791	+1,601	2,141	+167	13,986	25,664	557	1,107	57	620,101	16,430

3. Trends.

More than 2,000 people have now died across Canada as a result of the pandemic, marking a grim milestone in the country's battle against COVID-19. Across Canada, there are currently around 24,000 active cases of COVID-19. Almost 14,000 patients have recovered.

Although Canada reported its first case of COVID-19 related to travel in Wuhan in late January 2020, it was not until the first week of March that cases in Canada began to rapidly rise.

As of April 22, 2020, there had been 612,192 people in Canada tested for COVID-19, with 40,179 confirmed cases. People aged 50 to 59 years have accounted for around 17 percent of all COVID-19 cases in Canada, with those aged 19 years and younger only accounting for five percent.

The troubles continue for Canada's most populous province as it struggles to get a handle on its COVID-19 outbreak. On Thursday, Ontario reported 634 new cases, the highest daily total during the pandemic. The province has been increasing its testing capacity, which is now at around 10,000 per day.

4. Measures taken.

On April 15, Trudeau warned against premature reopening of the economy, stating that "in order to get to that point, we need to continue doing what we are doing now for many more weeks".

On April 15, Trudeau announced that the federal government planned to provide additional pay to long-term care workers.

On April 23, The federal government approves requests from Ontario and Quebec to send military personnel to help at long-term care homes.

5. Measures that could be implemented effectively in Bulgaria.

Although the necessary legal changes have been made so far, the Bulgarian army has not been used to deal with the challenges caused by the COVID 19. That's why should be consider how the existing capabilities of BA could be used in order to mitigate the potential health, economic and social impact of COVID 19

Annex 31 Brazil Initial Stage¹⁰⁰:

- January 28, the Ministry of Health (Ministério da Saúde) raised the emergency alert to level 2 of 3, considering an "imminent threat" for Brazil, as a suspected case was being investigated in Belo Horizonte, Minas Gerais.
- January 29, the Ministry announced it was investigating two other suspected cases, in Porto Alegre and Curitiba. No further information was given about the patients in Porto Alegre and Curitiba. However, it was informed that the Belo Horizonte patient was a student that had recently visited Wuhan, China, point of origin of the outbreak.
- February 3, the Minister of Health Luiz Henrique Mandetta said that the Brazilian government would declare a Public Health Emergency of International Concern, even without confirmed cases in the country. He also said the government would assist on the return of Brazilians from Wuhan.
- February 4, the Ministry confirmed that around 30 Brazilians were in Wuhan, and that they would return to the country on 8 February. It was also announced that they would be quarantined for 18 days in Anápolis, Goiás.
- February 5, the Brazilian government sent two planes to evacuate 34 Brazilians from Wuhan. They and the flight crew were quarantined at a Brazilian Air Force base in Anápolis, and discharged, along with the doctors and health professionals who had contact with them, on 23 February, four days earlier than predicted, as routine tests repeatedly showed negative results for COVID-19.
- February 25, the first case of COVID-19 in Brazil and in South America, was reported by the Health Department of São Paulo.
 - **Escalation¹⁰¹**
- February 29, a second case was confirmed in the country.
- March 13 - the first patient of COVID-19 in the country recovered.
- March 17 - the first coronavirus-related death was confirmed in the country. Later that day, the Ministry of Health reported 291 confirmed cases in the country.
- March 20, the health departments of the Brazilian states had reported almost a thousand confirmed cases. COVID-19 cases were confirmed in 23 states (of 26) and the Federal District.
- March 21, the local government of the State of São Paulo declares a state-wide quarantine starting on 24 March. The measure determined the closure of all commerce and non-essential services from that date until April 7. All Brazilian states reports at least one confirmed case of COVID-19, with the last being Roraima.
- March 26, a month after the first case of coronavirus (causing COVID-19 disease) in Brazil, confirmed on 26 February, the Ministry of Health reports 2,915 infected and 77 deaths.
- March 28, Brazil totals more than 100 confirmed deaths from COVID-19. The Ministry of Health reported on Saturday (28) that Brazil has so far registered 114 deaths and 3,904 confirmed cases of coronavirus. The mortality of COVID-19 in the country is 2.9%, according to the balance released by the folder. The survey also points out that, in the country, men die more from coronavirus than women—61.4% (H) against 38.6% (M). Approximately

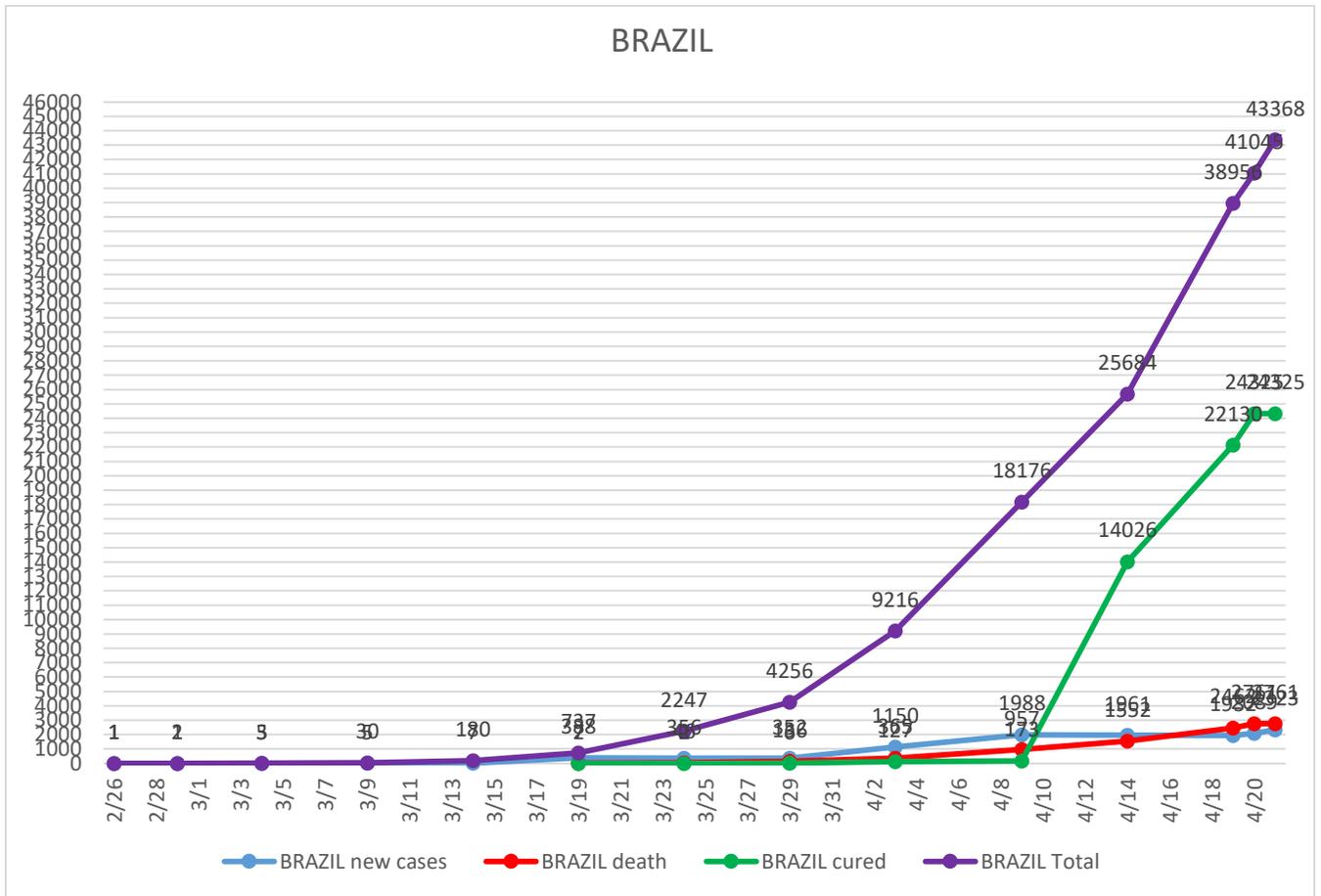
¹⁰⁰ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

¹⁰¹ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

90% of deaths are people over 60 years of age. In 84% of deaths, patients had at least one risk factor. The most common, according to the Ministry, is heart disease, followed by diabetes and pneumopathy.

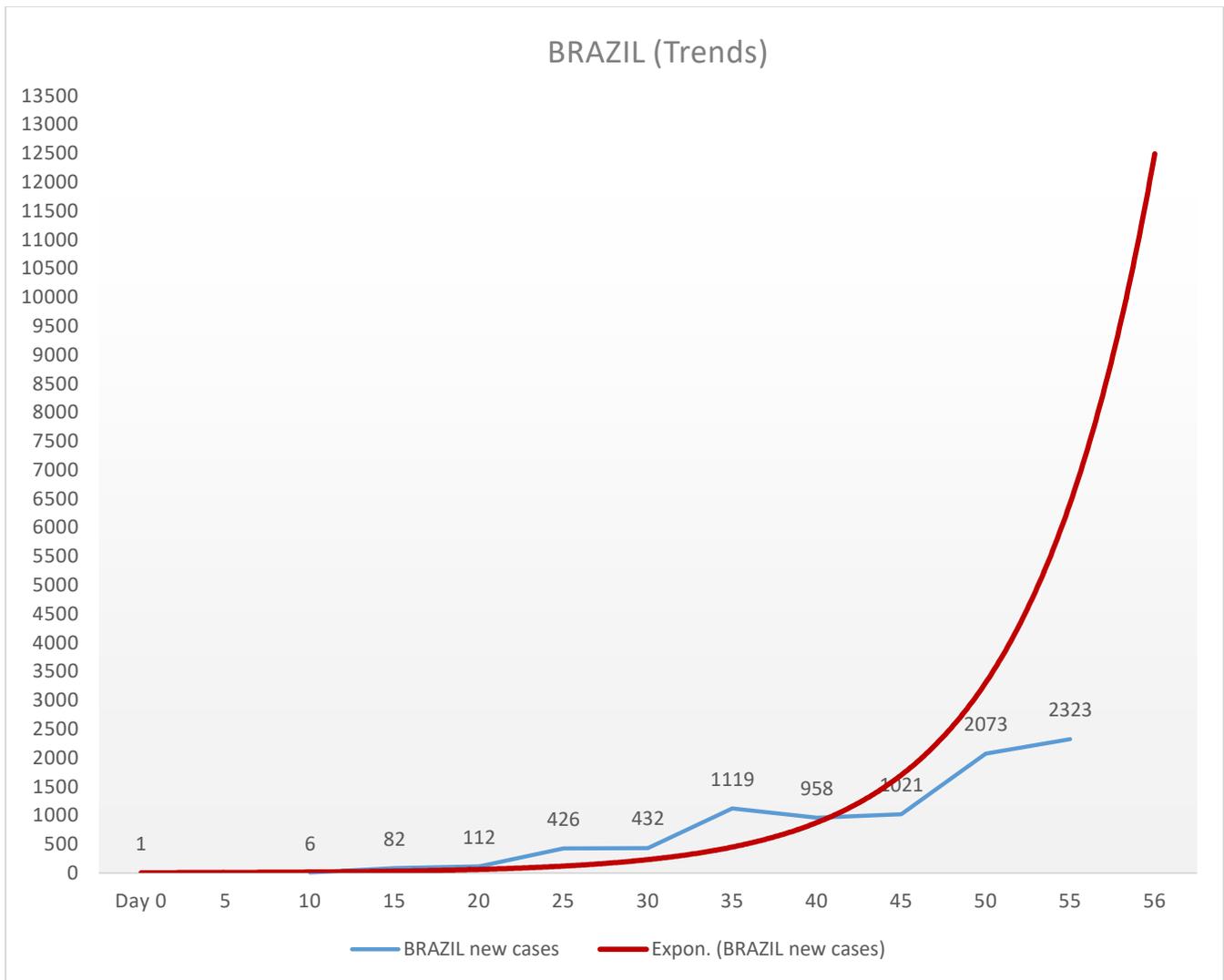
- **Patient 0** - The coronavirus pandemic was confirmed to have spread to Brazil on 25 February 2020, after a 61-year-old man from São Paulo who had returned from Lombardy, Italy tested positive for the virus.¹⁰²

- **Total number of infected, deaths, new cases and recovered** are presented on the graph below¹⁰³



¹⁰² https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

¹⁰³ <https://www.worldometers.info/coronavirus/>



- **Peak – has not been reached yet. The number of new cases increases exponentially.**

- **Preventive measures¹⁰⁴**

- On 17 March, Brazilian authorities partially closed their border with Venezuela. Health Minister Luiz Henrique Mandetta had urged closure of the border due to Venezuela's collapsing health system.

- On 18 March, Rio de Janeiro and five other municipalities—São Gonçalo, Guapimirim, Niterói, Nova Iguaçu, and Mesquita—in the state of Rio de Janeiro have declared an emergency state to help contain the coronavirus. Declared emergency situations in the area of public health.

- The following day, the government of Rio Grande do Sul declared a public calamity situation. Among the measures adopted are the prohibition of interstate travel and the restriction of items purchased in the markets.

¹⁰⁴ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

- On 20 March, it was the government of Rio Grande do Norte that declared a public calamity situation. Government declarations about the disease on the Palácio do Planalto. Government of Rio Grande do Norte decrees public calamity because of the coronavirus. The measure becomes effective on Friday (20), after being published in the Official Gazette of the State.

- On 21 March, In SP, cases of coronavirus rise almost 40% in two hours. Deaths also increased in the period. Cities in the Campinas region declared an emergency situation due to the pandemic of the new coronavirus. In addition to the metropolis, Hortolândia, Holambra, Indaiatuba, Itapira, Jaguariúna, Mogi Guaçu, Mogi Mirim, Paulínia, Sumaré and Águas de Lindoia issued decrees with special measures to contain the progress of COVID-19 cases. Valinhos and Vinhedo determined a state of public calamity. Americana is in a state of attention.

f. Economic measures and how to back on normal situations with explanation not just a facts.¹⁰⁵

Economists expect an economic stagnation for the country in 2020. As such, on 16 March, the Ministry of Economy announced a stimulus package of R\$147.3 billion (US\$29 billion) to help the economy against the effects of the pandemic. The Brazilian government is also in negotiations with the New Development Bank to receive an aid package for its COVID-19 efforts.

On 21 March, Economy Minister Paulo Guedes announced a series of aid measures to reduce the impact on the economy that will be caused by COVID-19. A scholarship for self-employed professionals, in the amount of R\$200, is being prepared, in addition to the payment guarantee for workers who have reduced working hours.

On 23 March, government announces package of R\$85.8 billion for states and municipalities. Amount involves transfers to the health area, recomposition of transfers of constitutional funds and suspension of the maturity of debts of the states with the Union.

g. Additional facts, researches, prognoses- N/A

h. Assumptions¹⁰⁶

- On 19 March, Scientists predict up to 2 million deaths in Brazil in the worst scenario without measures to contain the virus. They point out that a policy of social distancing is one of the most effective measures without a vaccine.

- On 20 March, experts from Italy warned that the Coronavirus growth curve in Brazil would repeat that of European countries. Observatory with physicists from University of São Paulo USP, Unicamp, Unesp, UnB, UFABC, Berkley (US) and Oldenburg (Germany) shows that the number of infected people, considering data from March 19, had been doubling every 54 hours, and that the case total would exceed 3,000 on the 24th.

- On 21 March, researchers are mobilizing to increase test availability in Brazil. The expectation is that with just a drop of blood from the patient it will be possible to know if he has the new coronavirus and at what stage; the idea is that experiments are ready for the current

¹⁰⁵ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

¹⁰⁶ https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Brazil

wave of COVID-19 and action mobilizes some of the main Brazilian universities. The Health Minister has said the numbers will increase exponentially until the end of June.

- On 23 March, Research predicts a negative GDP of up to 4.4% with the effect of the coronavirus.

i. Conclusions

Measures taken have been focused on the health system collapse protection and economy and business stabilization.

The situation, as today, shows ineffectiveness of measures.

The situation underestimate initially and late and reactive measures result in a not controlled COVID 19 spread in Brazil huge numbers of infected people and deaths.

Annex 32 Australia

Following the announcement on 12/01/2020 by the World Health Organization of the emergence of a new crown virus infection, codenamed COVID-19 and originating from the Chinese city of Wuhan, a number of measures have been launched by the Australian authorities to prevent the spread of the infection on the territory of the country.

As early as 23/01/2020, the State Biological Protection Authorities began continuous screening of Wuhan-Sydney flights. Passengers were given information leaflets and required to report to the relevant airport staff if they had a fever or were suspected of being carriers of the disease.

Very soon after the measures were taken, on 25.01.2020, the first case of a carrier of the virus was reported. This is a Chinese national who arrived on 01/01/2020 from Guangzhou. This also shows the timeliness of the measures taken, as it turns out that the infection was already on the territory of the country before they started.

However, thanks to the measures, three more cases of contamination at the Sydney airport were detected the same day.

Seeking to remedy the effects of the delayed measures, Australia has imposed a ban on entry into the country of foreigners from mainland China on 01.02.2020, and Australian citizens arriving from abroad are subject to a 14-day quarantine. Subsequently, with the development of the pandemic worldwide, such bans were imposed on Iran, South Korea and Italy.

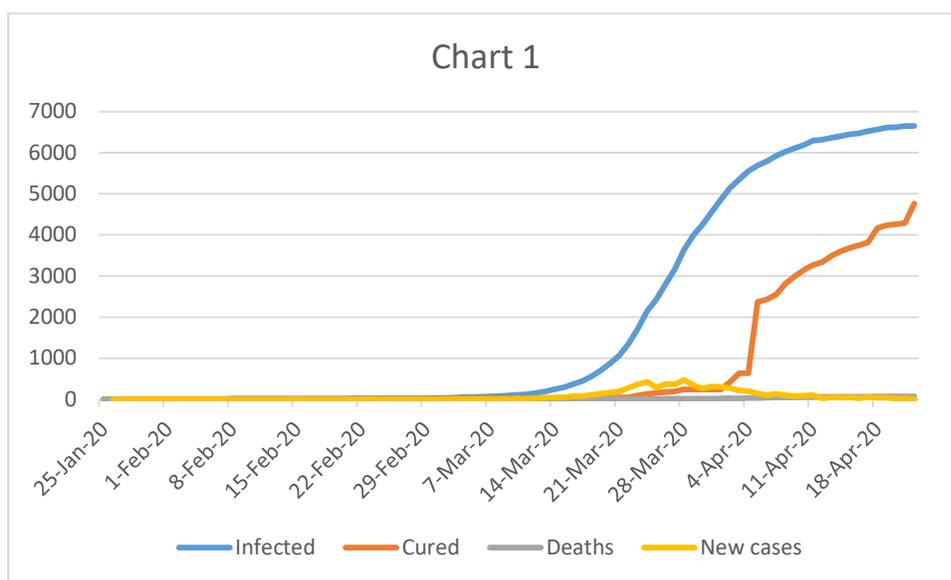
1. Review of the development of the infection

To date, the number of people infected in the country is 6,649, and the death toll is very low - 74. The number of people cured is impressive - 4761, which is still growing and at present the active cases are already 1814.

The distribution of infected and fatalities can be seen in the table below. The number of deaths is too small to be able to model the mortality of the virus, depending on the age of the deceased. Data on the distribution of deaths and infected by age are presented in the following table:

Population Age	% 0-9 y	%10-19	%20-29	%30-39	%40-49	%50-59	%60-69	%70-79	%80+
Total:25 400 000	-	5	15	25	18	17	15	3	2
Death rate	-	-	-	-	-	0.5	12	30	57.5

The Chart 1 shows the number of infected, cured and fatal cases since the start of the infection in Australia.



As you can see from the chart, we have a jump in the infected around March 21, followed by a jump in the number of cured on April 4. It can be seen that the curve of the number of infected people is starting to decrease in steepness at the moment. The peak of the new cases was around March 20, and we are currently experiencing a downward trend.

As I noted above, the number of deaths is negligible so that some reliable model can be created so far and the scale is not even visible on the graph.

2. Measures taken by the Government to prevent infection.

As it was said in the beginning, on January 25 a ban on entry of passengers from certain destinations was imposed. As the epidemic progresses and the World Health Organization recommends, the Australian Government has launched a number of additional measures.

On 13.03.2020, a National Cabinet (form of Military Cabinet) was formed at a meeting of the Council of Australian Governments. This is the first time such a body has been created since World War II and the first time such a crisis cabinet has involved national and regional leaders. The cabinet meets weekly for the epidemic period.

At its first meeting, the Cabinet announced that since March 15 it has canceled all events involving the gathering of more than 500 people. Training, jobs, public transport and airports were not included in this ban.

On March 15th, mandatory self-isolation for 14 days was announced for all returning to the country. Violation of quarantine is subject to a fine of between \$ 10,000 and \$ 50,000. Cruise ships were forbidden to dock on the Australian coast for a period of 30 days.

An emergency biological situation in Australia was declared on 18 March following the threat of a pandemic with COVID-19. Under Australian law, this emergency gives the country an emergency power, including imposing restrictions on the movement of people within the country.

On March 19, it was announced that Australia was closing its borders to all foreign nationals.

Measures for social distance of 2 meters were imposed as of 21 March.

On March 22, the states of New South Wales and Victoria closed all non-essential services, and Western and Southern Australia closed their borders.

On the same date, the prime minister announced the closure of all sites where large quantities of people are being collected. Some cafes and restaurants remained open. Schools remained open, but parents were given the option of leaving their children at home.

On March 25, a National COVID-19 Coordination Commission was set up as the main pandemic control body. The functions of the committee include public-private partnership advice and coordination of efforts to deal with the consequences.

On March 29, a government press conference was held announcing that the ban on gathering more than 2 people in public. Elderly people over 70 and those with chronic illnesses over 60 were advised not to go home.

It was declared permissible for people to leave their homes only in the case of necessities or school purposes.

3. Economic measures taken by Australia

On March 30, the government announced a \$ 130 billion supportive package to save jobs in the country. With it, the overall stimulus financial package is worth \$ 320 billion, representing 16.4% of GDP.

These government actions are aimed at supporting workers and businesses and include:

1) Aid for citizens and households:

This includes paying salaries to employees to keep them employed if they meet certain conditions. The amount of assistance is \$ 1,500 over two weeks. Other residents will be paid \$ 550 in two weeks.

Additional \$ 750 assistance is also provided for socially disadvantaged, veterans, and other welfare recipients.

It also envisages the possibility of using the funds from the citizens' pension funds, as well as deferring the payment of taxes for a certain period.

Compulsory social security levels were reduced by a total of 0.75%.

2) Business Aid:

As mentioned in the previous measure, financial support was provided for companies to maintain employment.

A \$ 100,000 grant was provided to small and medium-sized businesses for a company to pay rent, bills and other expenses.

It has also increased the maximum of depreciation from \$ 30,000 to \$ 150,000 a year, which will significantly reduce the taxes owed to businesses.

An investment plan for the next 15 months has also been drawn up to support businesses and thus support economic growth.

Another form of business support is the financial support provided to encourage retention of trainees and trainees in companies.

3) Providing access to credit products:

In order to promote and facilitate access to credit, the Australian Government has secured 50% of the loans. This will provide more lending for the operation of businesses and will encourage lending institutions to lend more and more easily. This is of particular importance in the current situation of distorted credit flows and will relieve businesses of the difficulties they face.

On 03/04/2020 the University of Sydney conducted research on the spread of the virus in Australia. As a result, a mathematical model was created to predict the peak of the infection. According to the study, if 90% of residents continue to comply with the requirements for social distance, the peak of the disease will be reached around April 17 and will amount to 8-10 thousand cases of infection.

If 80% of people adhere to the measures, then infection control could be reached after 3 months.

4. Interesting facts about Australia:

- 1) On the island of Tasmania you can breathe the cleanest air in the world.
- 2) It is illegal in Victoria to change a light bulb unless you are a licensed electrician.
- 3) The largest private property in Australia has an area of Belgium.
- 4) Saudi Arabia imports camels from Australia.
- 5) There are 3 times more sheep in Australia than humans.

5. Assumptions and assumptions

The measures taken by the Australian authorities appear to be doing well. The increase in the number of infected is significantly delayed, with a sharp decrease in the slope of the graph.

There are two optimistic facts in the Australian situation - the high number of cured and the small number of deaths. This raises the question of the level of danger posed by the virus to Australians amid data coming from Italy, Spain and the US. It would be good to explain why in Australia the situation is not at all alarming and in other countries it is such a tragedy.

The other question that arises is to what extent the measures taken are at all necessary if the danger of this virus is so small, based on the data we have so far and whether they are justified given the economic consequences they cause.

It is of particular importance to take adequate measures to support the population and business to ensure their survival during the crisis period. The measures taken to limit the infection should not be too restrictive and inconsistent with the real danger. This can do more harm than the virus itself. Particular attention should be paid to the mental health of the population, because in such extreme conditions it is particularly vulnerable. A comprehensive approach to crisis management must therefore be applied and expertise of many different fields of expertise needs to be used to this end. Otherwise, we risk creating significant imbalances and distortions in different areas of our society. Something that will do harm that we won't be able to recover for a very long time.

AFRICA UPDATE 22 APR 2020

Coronavirus disease 2019 (COVID-19) cases continue to rise rapidly across the African continent. No new country/territory/area reported cases of COVID-19 in the past 2 weeks. To date, 45 (96%) out of 47 Member States of the African Region have reported COVID-19 cases. Comoros and Lesotho are the only Member States with no reported cases to date. Over the past two weeks, there has been a 51% increase in the number of cases and a 60% increase in the number of deaths reported in the African Region. As of 22 April 2020, a cumulative total of 22 625 confirmed COVID-19 cases with 1 136 deaths (case fatality ratio CFR:5.02%) have been reported across the 45 affected countries in the region. The most affected countries in the WHO African Region are: Egypt (3 333 cases), South Africa (3 300 cases), Morocco (3 046 cases), Algeria (2 718 cases), Cameroon (1 017 cases), Ghana (1 042) and so on.

A decreasing trend was observed in Algeria and Cameroon, while an increasing trend occurred in Cote d'Ivoire, Ghana, Niger and South Africa. Information on sex and age is currently available for 2 428 (23%) and 1 892 (18%) cases, respectively. The male to female ratio among the confirmed cases is 1.7, and the median age is 41 years old (range: 0 - 105).

WHO Director-General, Dr Tedros Adhanom Ghebreyesus, in his media briefing yesterday, thanked health ministers from the G20 countries for their support, as well as the support received from the G77 (that comprises 135 countries) He reiterated that WHO is committed to supporting all countries to save lives. During a virtual meeting convened by WHO, national regulatory authorities and national ethics committees across Africa agreed to combine their expertise to expedite clinical trial reviews and approvals. WHO continues to secure vital supply chains, set-up logistical hubs, and deliver critical supplies.

From the analysis to date, it should be noted that, as a whole, African states are NOT currently discussing quarantine relief measures. Africa is generally focusing its efforts to curb the spread of the virus, claiming that the peak has not passed yet.

Annex 34 Last 100 Pandemics

No		Spanish flu	Asian Flu	Hong Kong flu	Severe acute respiratory syndrome (SARS)	Swine flu	Middle East respiratory syndrome (MERS)	Ebola	Severe acute respiratory syndrome (SARS) - Coronavirus	Seasonal flu
1.	Abbreviation	H1N1	H2N2	H3N2	SARS-CoV	H1N2	MERS-CoV	Ebola virus	SARS-CoV-2	A/H3N2, A/H1N1, B, ...
2.	Year	1918-1920	1957-1958	1968-1970	2002	2009-2010	2012	2013-2016	2019	Всяка година
3.	Place	France	China	Hong Kong	China	Mexico	Jordan	Democratic Republic of the Congo	China	Appears in late autumn and winter throughout the world
4.	Origin	Birds	Wild ducks	Mutated form of Asian flu	Asian cats (Paradoxurus hermaphrodites)	Прякото предаване на свински грип от свине към хора понякога е възможно, но не е причината за заразяване на хората	Bats Sick camels	Humans become infected by direct contact with bats or by contact with live or dead bats infected animals.	Genetically closely related to the SARS virus	-
5.	World's population in the year of the pandemic	1,8 billion	2,8 billion	3,5 billion	6,2 billion	6,9 billion	7,1 billion	7,1 billion	7,7 billion	-
6.	Infected people	500 million	500 million	500 million	8,098	1 billion	2000	27500	734 000 (30.03.2020)	1 billion – 1,5 billion (every year)

7.	% from the world population	30%	18%	13%	0,00013%	15%	0,000028%	0,00038	0,01% (30.03.2020)	-
8.	Deaths	50 million (10% from the infected)	3 million	1 million	774 (9,55% from the infected)	151,700– 575 400	670 (30% from the infected)	11,316 40% from the infected)	34 700 (30.03.2020) - 2-10 % СМЪРТНОСТ.	290,000– 650,000 every year
9.	Transmission	Air drops	Droplets and secretions from the respiratory tract of the infected individual	Droplets and secretions from the respiratory tract of the infected individual	Air droplets when people sneeze, cough or exhale	Droplets in the air from person to person and by contacting the person with objects contaminated with the virus and transferred to the eyes or nose.	Droplets and secretions from the respiratory tract of the infected individual	The infected people emit viruses with all of their bodily secretions (sweat, blood, lymph, saliva, urine, semen, faeces), after a certain period the virus is also separated from the cells destroyed by the epidermis, and then even touching the skin	Air droplets when people sneeze, cough or exhale	Through small droplets and secretions from the respiratory tract of the infected individual and indirectly by contacting objects that have respiratory secretions and viruses.

								can cause infection.		
10.	Incubation period	2-4 days	2 – 10 days	2 – 10 days	1 - 10 days	5-6 days	5-6 days	2 - 21 days	2 - 14 days	1 – 4 days
11.	The most vulnerable people	<p>Young and middle-aged people.</p> <p>Almost all the victims are under 65 years old and have a large number of young and healthy people.</p>	Dangerous for the elderly.	Dangerous for the elderly and children.	<p>People with pre-existing chronic conditions</p> <p>Elderly people with cardiovascular disease, diabetes, high blood pressure, chronic respiratory problems and cancer.</p>	<p>People over 65, children under 5 years of age.</p> <p>People with weak immune systems.</p> <p>Suffering from chronic heart disease, lungs, diabetes.</p>	<p>People with weakened immune systems or with chronic conditions such as diabetes or chronic respiratory distress.</p>	<p>Affects poor African countries (Guinea, Liberia and Sierra Leone)</p>	<p>People with pre-existing chronic conditions are prone to severe disease</p> <p>Younger people are less vulnerable</p> <p>Risk factors for severe course include age over 65 and smoking.</p>	<p>“Type A” mainly affects adults and young children.</p> <p>“Type B” affects students and young people of working age.</p> <p>At-risk groups are suffering from chronic heart disease, lungs, kidneys, pregnant liver, diabetic patients, immunodeficiency patients, people over 65, children under 5 years of age.</p>
12.	Symptoms	<p>Fever, fatigue at the beginning</p> <p>In the development of the disease -</p>	Chills, fever, muscle aches, headaches, loss of appetite.	Chills, fever, muscle aches, headaches, loss of appetite.	<p>In the beginning - chills, fever, muscle aches, headaches.</p> <p>After 2-4 days dry</p>	Temperature, coughing, sore throat, moisturizing eyes, muscle aches, shortness	<p>Fever Cough Bouts of shortness of breath,</p> <p>With pulmonary inflammati</p>	Feeling tired, fever, muscle and joint pain, headache and sore throat.	Fever, Fatigue, Dry cough, It's worse breathing, respiratory distress.	It starts suddenly, accompanied by severe muscle and joint pain, chills, fever, dry cough,

		skin blueness, the lungs are filled with fluids.			cough and shortness of breath develop	of breath, headache, weight loss, chills, sneezing, runny nose, dizziness, abdominal pain, lack of appetite and general fatigue.	on and renal failure, the disease cannot be controlled and the outcome is fatal.	These symptoms are often followed by vomiting, diarrhea and abdominal pain. Then there may be shortness of breath and chest pain, accompanied by swelling, headache and confusion. In some cases, internal and external bleeding may occur.	It can become ill without symptoms .	eyeball pain, and headache.
13.	Treatment	The same measures as today for coronavirus - social distance	The infection was only controlled after the vaccine	Effective vaccines have been developed since November 1968.	The spread of SARS was stopped due to the introduction of	Antiviral medicines can reduce the disease and cure the person faster.	Still working to find a vaccine	There is no officially approved specific treatment for Ebola	There is no specific treatment	Vaccines - as prevention, but not 100% effective. The use of antibiotics is

		measures, the only ones effective in the absence of a vaccine. Quarantine, isolation, masks, hand washing.	was created.		quarantine and excellent international cooperation ; Fortunately, doctors and scientists manage to destroy the SARS virus by isolating and quarantining the infected until the virus is completely wiped out of their body so that they cannot transmit it to other people.	Controlling the temperature, soothing the pain and maintaining the water balance		at this time. Patients are left to rest, given water. The goal is to maintain the vital activity of the body while it fights the virus, and it is generally believed that the patient's immune system will eventually deal with the virus. There is a developed vaccine for Ebola.		not recommended as there is no specific drug to counteract the flu virus. Alleviating the symptoms of infection - the numerous analgesics that are available to relieve pain. Strengthening the immune system can also contribute to faster recovery
14.	Consequences	This flu has a very grave impact on future generations - mothers	The virus, is usually "repeated" every 60 years.	It continues to circulate among the population today	There have been no confirmed cases since 2004. The association	Most people with the virus recover completely without medical help or	What is specific about this infection is that the second phase - lung	In 2014 and 2015, this infection erupted in a pandemic.	Access to Europe - will be totally rethought The problem is	When the flu is not accompanied by another disease, it usually goes away without complications

		<p>who carry the infection, often giving birth to children with secondary illnesses such as schizophrenia, diabetes and epilepsy.</p> <p>A huge drop in labor leads to high levels of pay.</p> <p>It slows down the progress of affected societies for several decades.</p> <p>Contributes to the creation of the world's first health agencies.</p>		<p>The US is one of the hardest hit</p>	<p>of doctors from around the world helps to suppress the pandemic.</p>	<p>antiviral medication</p>	<p>inflammation, kidney failure and blood poisoning - occurs very quickly.</p> <p>WHO coordinates the efforts of stakeholders, including conducting information campaigns, disseminating up-to-date prevention and treatment information, risk assessment, etc.</p>	<p>In the event of a cure, the virus continues to live for an additional 7 - 8 weeks in the reproductive system, making seminal fluid dangerous during this period even after the "complete" cure.</p>	<p>that if mortality exceeds some critical level, panic can occur with severe economic effects and growing divisions in society.</p> <p>Our health systems are probably underfunded for the current aging population.</p>	<p>and is not dangerous.</p>
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15.	Some specific characteristics	It has been identified as a unique deadly product of nature, evolution and close human-animal contact.	It mutates and 10 years later manifests itself as Hong Kong flu	<p>The epidemic has triggered major international mobilization coordinated by the WHO</p> <p>Considered the first pandemic of modern times, its spread has been aided by the increase in international air travel.</p> <p>Highly contagious</p>	<p>Even as doctors begin to realize that it is an unknown virus, they continue to retain information locally.</p> <ul style="list-style-type: none"> - China is acting very slowly. Initially, there is no information. - It passed several months before China begins sharing information with WHO. 	<p>A pandemic was declared on 11 June 2009 and canceled on 10 August 2010.</p> <p>It's called swine flu because it resembles one of several types of swine flu viruses</p>	Human-to-human transmission is more difficult than regular flu.	<p>It is less contagious than other viral diseases but has a very high mortality rate.</p> <p>The natural reservoir of the virus in nature is not yet known.</p> <p>There is still no documented airborne distribution in the natural environment.</p>	<p>China informed in a timely manner.</p> <p>Name of the disease: COVID-19 (Corona Virus Disease - 19)</p>	<p>It manifests itself seasonally, so the likelihood of getting sick from it is higher in the late autumn and winter.</p> <p>Attention should be paid to good physical activity, a balanced diet and sufficient time to sleep and rest. These are the prerequisites for maintaining a strong immune system that would fight all the viruses and bacteria that can infect our body.</p>
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Table 1

Table 1 presents information collected and grouped by indicators for the various epidemics and pandemics over the last 100 years. The aim is to compare the causes of the outbreak, its spread, its effects over the various periods, and how humanity has coped depends on the time it was, technological advancement and the measures had

taken. One of the things that emerges is the origin of the virus / disease - in the mass cases, China is source and spreads of the infection worldwide. Another link to these crises is the transmission of the infection from animals to people or the mutation of an animal virus.

The most deadliest is the Spanish flu. It erupted shortly after World War I, killing 3 times as many lives as the war itself, and the infected people are one-third of the world's population. China (which is the Entente's side) and Chinese workers who have been transported to France via Canada and the United States, and on their way left outbreaks of the disease. In just 25 weeks, the flu kills more than 50 million people - mostly young and middle-aged. Death came due to acute respiratory failure, and one in every ten of the infected died. National authorities applied solutions that are common with today's and the only effective ones in the absence of a vaccine - physical distance, quarantine, isolation, disinfection, wearing masks, washing hands. It is sure that If the nowadays transport activities (air and ground) had been existed, it would have been almost devastating to humanity.

Isolation and world division during the Cold War are linked to two major pandemics - the Asian and its comparable Hong Kong flu. Between 1958 and 1970, the death toll was 4 million (0.15% of the world's population). Everyone - from children to the elderly were affected and only the development of an effective vaccine has prevented many more victims. Another boon is the presence of the World Health Organization (WHO), established in 1948, successfully took on the role of an effective coordinator of efforts by all countries to fight the infection.

The twenty-first century is characterized by a much greater intensity of the spread of major pandemics that hit humanity. In the last 20 years, globalization, urbanization, the extraordinary dynamics of moving of people and goods have been the basis for the faster spread of viruses and infections against which man is not immuned. Swine flu affects nearly 15% of the Earth's population. It is difficult to calculate the exact death toll, but it certainly exceeds 200,000. The severe acute respiratory syndrome(SARS) has been limited due to the universal mobilization of the countries, despite the delay of the Chinese authorities in informing the global community of a new and deadly virus. Characterized by its high mortality rate, SARS kills every tenth of those infected, and it is the reason in COVID-19 threat the Chinese government to act instantly, inform the global community and facilitate coordinated action.

Middle Eastern Respiratory Syndrome (MERS) and Ebola, despite the low incidence rate, are characterized by extremely high mortality rates of 30-40%. While a vaccine has been developed for Ebola, it has not yet been developed for the MERS, and the WHO is actively working to limit it through information campaigns, dissemination of up-to-date prevention and treatment information, risk assessment, etc.

Despite the situation we are facing today, humanity shows that it is willing to learn its lessons from the recent past. Because Ebola has shown us that border closure would have an extremely negative economic impact, both for the countries concerned and their trading partners. The Spanish flu has shown us that an infection should never be underestimated, because it can have an impact on future generations, and the delayed reaction is detrimental to humanity. SARS has shown that the more economic relations globalize, the more drastic measures are needed to control the pandemic. Many diseases have led to millions of casualties due to lack of hygiene, poor education and lack of medical care. In recent years, the European Union has opened its borders to a large number of refugees coming from countries where hygiene, education and medical care are certainly not a national priority. European leaders will have the difficult task of deciding exactly how to deal with this already emerged problem, and this will cost a lot for the overall European budget, which will at the same time combat the effects of a future recession.

With the global pandemic announced on March 11, 2020, as a result of the spread of COVID-19, the WHO has launched unprecedented restrictions on human movement, production shutdowns and interruptions of global supply - all elements of globalization. And while it is not yet clear to the general public what consequences this isolation will bring to the world in which we are accustomed to live, there are some opinions of high level experts who regard these restrictions as unacceptably high. The WHO has acted as coordinator of universal efforts to combat the spread of the virus, but at the regional level, multilateral unions remain ineffective and even in the shadow of individual states' efforts to counter the infection. This has led to unnecessary duplication of efforts by individual countries in places where, for example, the coordinating role of the European Union could have led to a lot of financial and material savings. And we must not forget the secondary effects that the current pandemic can cause. Increasing panic can lead to growing divisions in society, and it can be at the root of a series of future crises and conflicts.

From the information in Table 1, one thing makes a strong impression - the close contact of humans with animals can lead to the spread of infections. This close contact, especially between humans and wildlife, is directly dependent on human activity leading to climate change. This will act as a trigger for future close contacts and the spread of epidemics and pandemics.

Despite several pandemics in recent years, technological advances have played an essential role in prompt and adequate intervention. Communication is instantaneous, enabling effective measures to be implemented almost simultaneously in different parts of the world. Also, thanks to communication, authorities, medical staff and people are in a constant relationship, which eliminates the impact of fake news and reducing the panic.

Developing a vaccine and building immunity will stop the spread of COVID-19, but will take time. Until then, a number of measures will have to be taken in the area of public health, economic stability of the population, and its unknown - whether and how COVID-19 will affect the future generation (Spanish flu had a very severe impact on future generations - mothers carriers of the infection, often gave birth to children with secondary illnesses such as schizophrenia, diabetes and epilepsy) and last but not least, the role of the media, and how the way information is transmitted affects a person and his or her ability to think adequately.

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