

Ukrainian response to the COVID-19 pandemic: governmental interventions

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Abstract

In this article, the governmental response to the COVID-19 pandemic in Ukraine is described, starting from the first detected cases, up until the summer of 2020. Pandemic caught Ukraine's health care system in the midst of a reform. At the time of COVID-19 outbreak, the first steps of primary health care reform were already being implemented while the reform at the secondary health care level were about to started. However, changes of the political environment (due to the elections 2019), two changes of the Minister of Health (since the beginning of the pandemic), the absence of the general plan of action followed by the inconsistent political decisions, and the uncertainty in financing mechanisms of the secondary health care facilities, made the COVID-19 pandemic challenging for Ukraine. The Ukrainian government had difficulties in devoting additional resources to medical facilities to protect medical professionals and provide treatment for patients. Instead, as a main intervention to combat COVID-19, the government implemented lockdown from 12 of March to 12th of May that only postponed the raise of infections, preserved lives. While the pandemic still had a highly negative impact on the economy, initial analysis indicate that lockdown could be considered effective from the economics point of view.

Introduction

Health system in Ukraine is in a midst of a challenging transition. The health care reform, which started in 2018 [1,2], aims to transform the old system into a new one that will provide universal health coverage with a guaranteed health benefit package. The creation of the National Health Service – a governmental body – was a result of that initiative [3]. However, recent changes in the government, the absence of consistent political will and a lack of good governance did not ensure confidence in

the reform and general policy direction [4]. Two Health Ministers and Prime Minister were replaced during the early months of the pandemic in Ukraine. This situation affected the response to the COVID-19 pandemic in 2020. The medical society, policy makers, and health care providers faced circumstances, which overwhelmed the already unstable position of the health care system in transition.

The Center for Public Health of the Ministry of Health of Ukraine, established in 2016, plays the main role in preserving and strengthening the population's

health, monitoring diseases, epidemiological surveillance and biological safety, disease prevention on individual and population levels, epidemic control, and strategic management in the field of public health [5]. At the time of 2020 pandemic, the Center for Public Health took over all the above-mentioned functions to monitor and prevent the spread of the coronavirus in Ukraine through regional centers established in each region. At the same time, the main task of the Ministry of Health was to establish policy to combat the spread of the disease.

Pandemic situation

The first COVID-19 patient in Ukraine was diagnosed on 3 March 2020 – a man who had returned with his wife from Italy to Chernivtsi, Ukraine. The city of Chernivtsi was the site of the first epidemiological outbreak, and at the end of May more than 3,000 patients had been reported there. The Bukovina region became the largest epicenter of the epidemic in Ukraine.

As of 30 June, Ukraine reported a total of 44,998 confirmed COVID-19 cases: 1039 cases per 1 million inhabitants; by age groups, the main number of patients (72%) were aged – 30–69 (fig. 1). The number of confirmed cases includes: 19,548 recoveries, 24,277 active cases (92 being serious or critical), and 1173 deaths associated with the disease (32 deaths per 1 million inhabitants). According to the government’s daily coronavirus report, 4,848 people were hospitalized, and 97 of them were on artificial lung ventilation. A total of 12,013 people needed hospitalization during the pandemic, and 396 needed to be on artificial lung ventilation. The disease

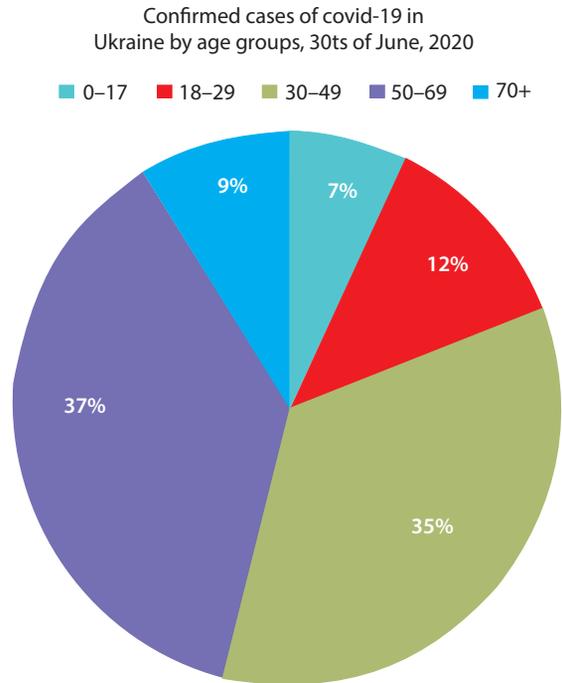


Figure 1. Confirmed cases of COVID-19 in Ukraine by age group as of 30 June, 2020

Source: analyses of the data from the Public Health Centre of Ukraine website: <https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciynizakhvoryuvannya/koronaviru-sna-infekciya-covid-19>, accessed date: 01 July, 2020.

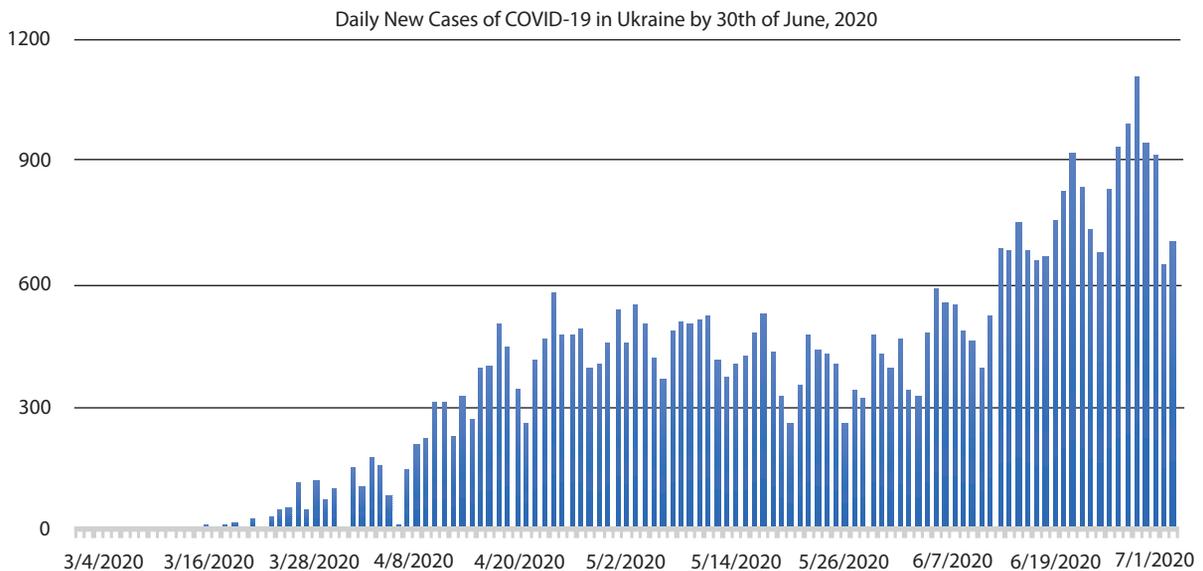


Figure 2. Daily New Cases of COVID-19 in Ukraine by 30 June, 2020

Source: analyses of the data from the website: <https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciynizakhvoryuvannya/koronavirusna-infekciya-covid-19>, accessed date: 01 July, 2020

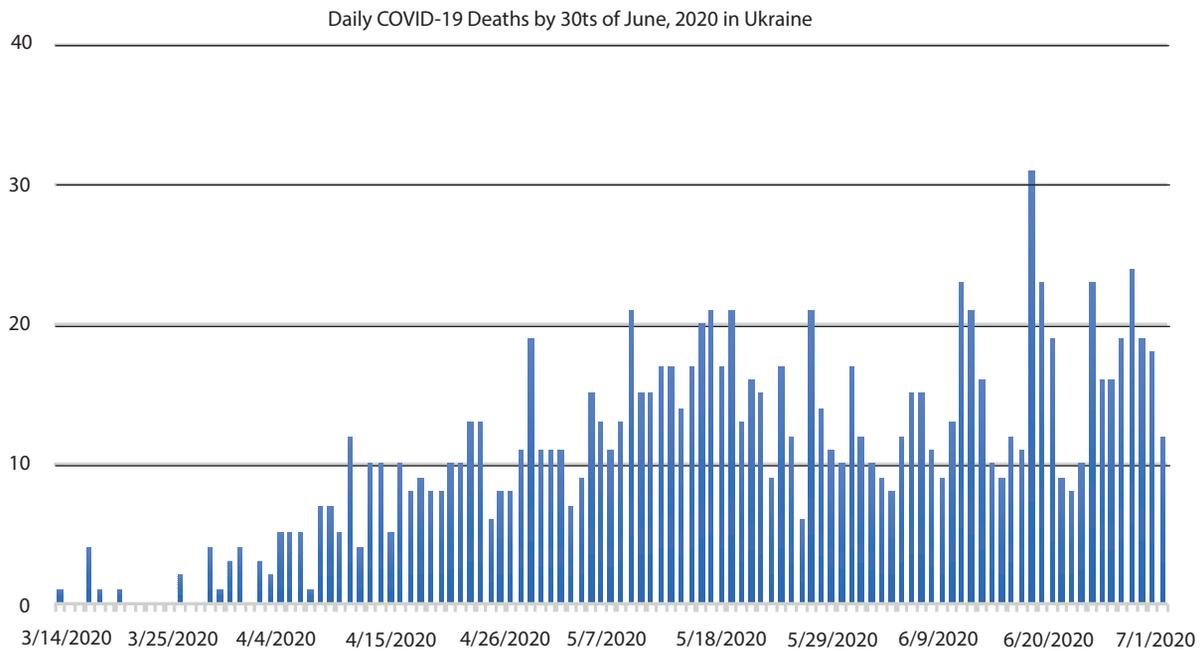


Figure 3. Daily COVID-19 Deaths of by 30 June, 2020 in Ukraine

Source: analyses of the data from the Public Health Centre of Ukraine website: <https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciynizakhvoryuvannya/koronaviru-sna-infekciya-covid-19>, accessed date: 01 July, 2020.

was confirmed among 3,270 children and 6,765 health care workers – of whom 4,094 had recovered and (as of 1 May, 2020) 16 had died. 32,985 patients were in outpatient treatment [6–8]. The number of daily new cases and deaths due to COVID-19 was constantly growing (fig. 2 and 3). The lifting of lockdown was considered as a necessity for the economy reflecting a change in the attitude of the public.

Institutions that provide recommendations for responses

With the beginning of the pandemic – following WHO recommendations – Ukraine started a massive information campaign on prevention and treatment of COVID-19. The latest updates were translated and posted on the official World Health Organization Ukraine Facebook account and other media of the country. WHO and EU also provided protective equipment for Ukrainian medical professionals [9]. The gap in knowledge of medical doctors was covered by SDC Ukrainian-Swiss project “Medical education development”. On April, this initiative, in a collaboration with the Public Health Center of Ukraine, started online course for medical doctors with latest information on prevention and treatment of COVID-19.

The Center for Public Health at the Ministry of Health of Ukraine, together with representative offices in each of the regions, the Ministry of Health, and the National Health Service of Ukraine, developed recommendations for COVID-19 prevention [10]. The Ministry of Health has developed an algorithm for organizing pre-

ventive measures and medical care provision to patients with COVID-19. This document describes: the algorithm for detecting COVID-19; work standards for emergency medical professionals and epidemiologists; rules for the use of personal protective equipment; health care provision rules for patients at home with COVID-19; and criteria for the hospitalization of acute and moderate cases. The clinical path for patients was also approved. Health care professional who identified a person with symptoms corresponding to COVID-19 must abide by the following algorithm [7]:

- register the case and inform the medical institution for further clinical examination of the patient;
- inform by telephone the laboratory center of the Ministry of Health of Ukraine about the suspicion of the disease within two hours;
- if the patient is admitted to a hospital, the necessary materials for analysis should be taken and be sent to the laboratory.

According to these algorithms, patients with a mild form of the disease who are not at risk of complications, as well as patients who are recovering and no longer need round-the-clock medical supervision, are recommended to be treated on an outpatient basis, i.e., at home.

Laboratory tests are performed if a patient has symptoms of the disease, or for patients with suspected pneumonia. The primary coronavirus test should be confirmed by a second PCR test. As of 30 June, 666,147 samples (15,227 per 1 million population) had been tested. This demonstrates a relatively low testing rate compared to

other countries with a similar population size. For example, in Poland at the same time 1,521,496 tests had been performed (40,198 per 1 million population) [8].

The difficulties of testing in Ukraine also long waiting time for the results. According to the procedure, the result of PCR testing should be provided no more than 4 days after the test was made. However, in reality (depends on a region) the waiting time for test results is often up to 8 days. Testing speed in Ukraine depends on the number of laboratories in the region and their capacities. At first, only 11 governmental laboratories were equipped well enough to carry out PCR testing for COVID-19. However, the number of laboratories authorised by the Ministry of Health to perform testing raised quickly. As of early April, the number of laboratories capable of doing tests has increased to 37. In addition, 547 mobile teams testing Ukrainians have been deployed near hospitals. Still, the received data showed the morbidity of 5–7 days earlier [11].

Throughout the pandemic, the Ukrainian health care system had difficulties with adequate provision of personal protective equipment and financial incentives for medical staff. A statutory provision was adopted to increase the salary of medical staff working in COVID-19 hospitals by 300%, though it was postponed by local governments that could not fully ensure the implementation of this provision [12].

Primary care workers were monitoring those who have been in contact with COVID-19 patients. In addition, the monitoring of health care workers who have been in contact with coronavirus patients have been intensified. Monitoring was carried out until 2 weeks after the last contact. If respiratory disease is detected, nurses were taking measures appropriate for a person with COVID-19. Outpatient (home) treatment was strictly prohibited if the patient was at risk of complications or has symptoms that are moderate to severe. Such symptoms included: asthma; difficulty breathing; increase in respiratory rate more than the physiological norm; hemoptysis; gastrointestinal symptoms (nausea, vomiting, diarrhea); or changes in mental state (confusion, inhibition of the consciousness). Since the respiratory complications with COVID-19 usually develop in the second week of the disease, health professionals were advised to actively monitor patients during this period.

Relevant state regulations have been approved by the order of the Ministry of Health of Ukraine, entitled *Organization of medical care for patients with coronavirus disease (COVID-19)*. They are based on the recommendations of the World Health Organization, updated after the spread of the disease outside China, and are adapted to the needs of the health care system of Ukraine.

Response of the authorities to the pandemic in Ukraine.

The society and authorities were not fully aware of the possible epidemiological threat on the scale of the COVID-19 pandemic and its high mortality rate [13, 14]. Health care systems were not prepared for high numbers of patients needing treatment and emergency care. This was observed in all countries with high numbers of pan-

demic victims and Ukraine is no exception. There was no clear and concise plan of action by the Ministry of Health of Ukraine. The actions taken by the Cabinet of Ministers and the Ministry of Health were changing dynamically. Decisions were made ad hoc, depending on the development of the epidemic situation in a given region. For example, the biggest challenge for the country was providing enough protective equipment for the population, and – in the first place – for health care providers. The inability of the government at the time of the outbreak of the pandemic to control prices and provide basic protective equipment to medical centers has led to high rates of COVID-19 morbidity among healthcare workers. The proportion of medical workers within daily cases in April–May 2020 oscillated around 20% [7]. While appropriate protective equipment was purchased (in accordance with the decree of the central authorities), for unknown reasons, it was not provided health care facilities in all regions. In these circumstances, non-governmental organizations took leading role in provision of essential protective equipment to the healthcare facilities [15, 16].

When the WHO announced the pandemic, lockdown was introduced in the country with strict limitations. From an epidemiological point of view, it was farsighted and probably prevented the rapid spread of the disease. However, the long lockdown without proper economic interventions paralyzed many areas of the economy [17]. The lockdown also limited human rights of Ukrainians – most significantly, the right to attend public places and the right to education and medical assistance. Ukraine implemented the same preventive measures as other European countries under high threat of coronavirus. Adults were prohibited from walking outdoors in couples or larger groups. Children younger than 14 were not allowed outside without adults, and only those with special permission (like medical doctors or nurses) could use public transport with a limit of 10 people per vehicle. Public transport (trains but also flights) between cities did not operate, which made it impossible to get from one city to another. These restrictions were justified by reference the provisions of the Constitution of Ukraine, where health and life are considered the highest social value. However, concerns were risen regarding other aspects of human rights which might be unnecessarily violated, and this was highlighted in the recommendations in *Human rights at the time of COVID-19 – a Guidance Note* [18].

A significant challenge for Ukrainian response to COVID-19 was public communication, lack of good quality information available to the public and prevalence of misinformation. There was almost no communication link between the central government, local authorities, and the population. This led the public to perceive the interventions as chaotic and lacking in justification. Difficulties also arose in communication between doctors and the local authorities, which were mainly responsible for the organization and readiness of institutions to provide medical care.

A detailed chronology of the decisions of the Ukrainian government is presented in Table 1. Decisions made by the Ukrainian government did not follow the para-

Table 1. Chronology of key events and first responses of the Ukrainian government at the beginning of the coronavirus epidemic in Ukraine

Date, 2020	Event
Until 03.03.	The Government and the Minister of Health assure through the mass media that the Ukrainian health care system is prepared for the outbreak. In the regions, medical institutions for providing medical services for COVID-19 patients are selected. A flight back for Ukrainians who were in China is organized in February. These travelers are offered a quarantine in sanatorium. Their screening (temperature etc.) has not been implemented on practice. The Cabinet of Ministers of Ukraine restores the position of the Chief State Sanitary Doctor (which had previously been abolished) to take control of the fight against the epidemic. The World Health Organization warns the government of a possible shortage of personal protective equipment.
03.03.	The first COVID-19 patient in Ukraine is diagnosed.
04.03.	Dismissal of the Cabinet of Ministers of Ukraine, including the Prime Minister and the Minister of Health. First change of the Minister of health in during the epidemic.
05.03.	The Chief State Sanitary Doctor announces a prohibition on mass events and stops all direct educational activity in all educational institutions.
12.03.	Official announcement of the pandemic by the WHO. The Ukrainian government imposes lockdown, starting with closing the border and restricting mass events. The first restrictions were the banning of mass events for more than 200 people and suspension of offline educational activities. The government prohibited the export of personal protective equipment: medical masks, respirators, protective suits, gloves, and goggles.
13.03.	The first fatal case. The government decides to close the borders to foreigners and to terminate flights.
17.03.	14 confirmed cases and 2 fatalities. The Ukrainian Parliament adopts a special legal strategy to combat COVID-19, including penalties for violating quarantine.
18.03.	Movement in public transport is limited: restriction on the number of passengers, a requirement to wear masks. Subsequent ban on intercity railway and bus connections and city subways.
20.03.	Person with the first recorded case recovers.
25.03.	A state of emergency was imposed throughout the country. Lockdown was extended until 24 April (it was initially planned until 26 March) [7]: <ul style="list-style-type: none"> • business establishments, except for grocery stores, were closed; • gas stations and banks were closed; • the subway in Kyiv, Kharkiv, Dnipro was stopped; • long-distance and interregional automobile, railway, and air communication was suspended; • Limits on the simultaneous presence of more than 10 passengers in public transport were introduced together with certain hours reserved for the elderly.
28.03.	Ukraine completely closes the border for regular transportation services, including air travel.
29.03.	The second Minister of Health is dismissed and a new one is appointed. However the Chief Sanitary doctor remains the same (since the end of 2019 he functions as deputy Minister without changes).
02.04.	Restrictions were increased, which came into force on 6 April, namely [7]: <ul style="list-style-type: none"> • protective masks had to be worn in public places; • being outside in groups of more than two people was disallowed, except in cases of business necessity and accompaniment of children; • children under 14 could not go out in public without being accompanied by parents or guardians; • parks, squares, and recreation areas could not be visited, except for walking pets by one person or in case of business necessity; • outdoor places for sports or playgrounds could not be utilized; • palliative care and social protection institutions could not be visited; • the residences of refugees and stateless persons could not be visited; • identity documents had to be carried when on the street; • places of observation could not be left without permission.
27.04.	In order to counteract the spread of COVID-19 in Ukraine, the mobile application “Action at Home” was launched. The application is intended for tracing contact with the person and observation of obligatory self-isolation. According to the law, persons crossing the state border of Ukraine can choose one of two options (Resolution of Cabinet of Ministers of Ukraine №11, March 11, 2020): <ol style="list-style-type: none"> 1. Hospitalization to specialized observers (isolators). 2. 14-day self-isolation at the place of residence. Persons who have agreed to undergo it using the application “Action at home” is mandatory. Functionality of the application “Action at home”: <ul style="list-style-type: none"> • Confirmation of the place of self-isolation with determination of geolocation; • Photo confirmation of stay at the place of self-isolation; • Emergency call to the hotline of the Ministry of Health of Ukraine; • Planned functionality to monitor the development of symptoms.
11.05.	The government announced plans for a gradual 5-stage lifting of restrictions.
12.05.	Stage 1 – Control the distribution and availability of medical resources. This stage of gradual lockdown lifting will begin after a 10-days period when the percentage of detected cases among all tested does not change or remains within a 5% difference. Restrictions lifted: visits to parks, squares, recreation areas, forest, and coastal areas (except for playgrounds), part of the beauty industry, wholesale and retail of non-food products, cafes (takeaway service), car washes, bicycle rental, notaries, and lawyers.

22.05.	Stage 2 – Reducing the number of cases that burden the healthcare system. This occurs when for 10 consecutive days the percentage of detected cases among all tested decreases daily, and the daily number of people who have recovered increases constantly. Some restrictions lifted: in particular, catering establishments (takeaway service) and hotels.
01.06.	<p>Stage 3 – The medical system is relieved of patients. Implemented when for 10 consecutive days, the number of people who have recovered is twice or more than the number of new cases. At the same time, restrictions on sports and children’s playgrounds, sports halls, the subway and all land public transport, shopping malls, public transport, shopping malls (excluding entertainment areas and playgrounds) are lifted in Ukraine. As noted in Figures 1 and 3, the number of new cases was not decreasing but is gradually increasing.</p> <p>Stage 4 – full control over the COVID-19 pandemic. When for 10 consecutive days the number of new unrelated cases of the disease is less than 5 per day per region. Cultural institutions and educational institutions will resume work.</p> <p>Stage 5 – termination of internal transmission of the virus. This will occur when only a few cases are recorded in Ukraine, related exclusively to the import of the disease. Then all remaining lockdown restrictions will be lifted, in addition to those imposed by local authorities in certain administrative-territorial units*.</p>

* The president of Ukraine and chief sanitary doctor were drinking coffee in the cafe and were fined as they violated the rules of the lockdown.

Source: Ministry of Health in Ukraine website: <https://moz.gov.ua/article/news/operativna-informacija-pro-poshirennya-koronavirusnoi-infekcii-2019-ncov->, accessed date: 30 May, 2020).

digm of rational health policy-making as they were a part of the political process and thus they encountered series of obstacles. These obstacles include the discrepancy between the time horizon of the pandemic, and the time horizon adopted by the participants of the political process. For politicians, the most attractive actions are those which effects can be seen quickly, and in this instance it was a quick pandemic response as very important for their next election campaigns [19]. The symptom and a cause of this was a fact that the head of the Ministry of Health changed twice during that early pandemic period.

Prior to the implementation of the above-mentioned 5-stage economic thaw, the government developed and proposed “New Standards of Living” which included a change in social behavior and the transition to a touchless economy. Changes in social behavior include:

1. Keeping a safe distance (avoiding crowds, ensuring compliance in the premises of social distance between people not less than 1.5 meters);
2. Permanent disinfection (disinfection of the surfaces in rooms for social interaction, placement of dispensers with disinfectants in a visible place);
3. Individual protection (use of protective masks and gloves in crowded places, providing employees with appropriate personal protective equipment).

There was also a switch to a touchless economy, which included [7]:

1. Online sales;
2. Distribution of non-cash payments;
3. Contactless delivery;
4. Special services in supermarkets;
5. Special services in cafes and restaurants.

It should also be noted that at the end of March, the conciliatory council of parliamentary fractions decided to establish an Anti-Crisis Headquarters to deal with the COVID-19 pandemic and economic difficulties. This proposal received the support of the Cabinet of Ministers of Ukraine, and was submitted to the Ukrainian Parliament where it was not approved. In this situation, with the support of local authorities and local entrepreneurs,

local (district and regional) Anti-Crisis Headquarters were established and they are still in operation, combatting the COVID-19 pandemic and its economic consequences.

Citizens violating lockdown measures in public places, including a supermarket or a shopping center, could be fined up to 17 thousand UAH (about 600 USD), while the owners of shopping centers or restaurants not complying with government requirements could be fined from 170 to 340 thousand UAH (about 6–12 thousand USD) [7].

It was observed that to ensure a proper pandemic response, these financial sanctions were not enough. Various interventions were identified as missing or requiring expansion, including: increasing the number of diagnostic tests, providing psychological support to help to deal with the pandemic, arranging appropriate training and transformation of educational and labor institutions, increasing research expenditure on population health threats, cooperation with research centers, undertaking work on the effective implementation of all types of modern health education in schools, including distance learning, motivating the public to behave appropriately during an epidemic, such as self-isolation, compliance with hygiene rules, keeping a distance, wearing gloves and using disinfectants [20]. The proposed concept of the touchless economy is considered as a good initiative, however its limitation is the fact that it largely remains on paper.

Conclusions

The institutions that supervise and create recommendations on interventions and the rules of fighting the spread and treatment of COVID- 19 in Ukraine include: WHO, the Center for Public Health at the Ministry of Health of Ukraine, together with representative offices in each of the regions, the Ministry of Health, and the National Health Service of Ukraine. The Ukraine’s health care system was not ready for the COVID-19 pandemic. The decisions made by policy makers at the beginning of the epidemic were chaotic and unsustainable. Despite all the

introduced restrictive measures, the number of new cases is consistently recorded at a fairly high level. The number of daily new cases and deaths due to COVID-19 is constantly growing. Compared to some other countries Ukraine did not have the peak of incidence and death rate [21]. While the pandemic still had a highly negative impact on the economy, it was suggested that lockdown could have been beneficial from the economics point of view and it is estimated that Ukraine would have lost more lives without the lockdown [22].

In Ukraine, since its independence, insufficient attention has been paid to health policy and health systems organization. No wonder it has found itself in a difficult situation during the COVID-19 pandemic. The recent reforms – as generating significant changes in the systems functioning while it was tackling the pandemic – even complicated the matter. All this was further amplified by changes in the government, the absence of a political will, and a lack of good governance in health care system.

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