



## **ANALYTICAL REPORT**

# **THE IMPACT OF DANGEROUS ENVIRONMENTAL AND TECHNOGENIC FACTORS ON THE HEALTH OF THE POPULATION OF EASTERN UKRAINE**

**KEY RESULTS AND RECOMMENDATIONS**

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### **KEY RESULTS AND RECOMMENDATIONS**

The full version of the original report in Ukrainian is available via QR-code:



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**Project 'Increasing resilience to disaster risk in eastern Ukraine'**

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This analytical report presents the results of research and analysis of the impact of hazardous environmental and technogenic factors on the health of the population of Eastern Ukraine (Donetsk and Luhansk oblasts).

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## RESEARCH SUMMARY

As a result of hostilities in eastern Ukraine, a significant number of infrastructure facilities have been destroyed, demolished and damaged, which are classified as potentially dangerous to the environment, public health and life-sustaining activity. Such environmental and technogenic threats in the area of the military conflict tend to grow and are potentially dangerous for the population of Donetsk and Luhansk oblasts, controlled by the government of Ukraine. They have already resulted in critical changes in the environment.

In this report, the authors analyze the current issues of the health care system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, caused or aggravated by the armed conflict in eastern Ukraine, as well as environmental and technogenic hazards in this area.

The research has revealed the issues of the environmental monitoring system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, as well as the main difficulties and positive results of implementing the medical reform.

The experts have found that due to the irrelevance, irregularity, inconsistency of available medical statistics, lack of access of medical specialists to the electronic health care system, which accumulates data on morbidity and medical care provided, impossibility to assess the impact of the sources of pollution remaining in the temporarily occupied territories of Donetsk and Luhansk oblasts, large-scale migration processes in the region, it is incorrect to establish correlations and dependencies between the environment and morbidity and mortality in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine.

It is concluded that:

- the environmental monitoring to be carried out in Donetsk and Luhansk oblasts using automated observation stations and information technology with the involvement of domestic experts and international organizations in order to obtain relevant and complete data on the environmental situation;
- methods to be developed for assessing environmental and technogenic risks, avoiding, controlling or minimizing the effects of risks;
- regulating an electronic medical reporting system, harmonizing the data format at all levels of reporting, providing free and uninterrupted access to the

- electronic database of relevant medical information to healthcare workers and medical statistics specialists to assess and forecast public health;
- are extremely relevant and enable to clearly reveal the impact of environmental and technogenic factors on the public health in the territories of eastern Ukraine, controlled by the government of Ukraine, as well as to support motivating and implementing priority protective measures.

Recommendations have been developed for central authorities and local communities to address the main issues of environmental monitoring, public health, as well as to reveal the impact of the polluted environment on the health of the population in Donetsk and Luhansk oblasts, controlled by the government of Ukraine.

## METHODOLOGY

The research within the project mainly focuses on: the condition of technogenic facilities, water bodies, atmospheric air; public health indicators; the situation with the health care system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine.

The analysis was based on the sources as follows:

- regulations, governing provision of medical care;
- information from the official websites of state, regional, district and local administrations;
- statistical data on the condition of the environment and morbidity of the population in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine;
- responses of public authorities to requests for public information.

The report is based on the information obtained from a series of meetings with industry experts and representatives of national and regional authorities (field consultations), namely:

- the Ministry of Health of Ukraine (MOH);
- the Ministry of Reintegration of the Temporarily Occupied Territories of Ukraine;
- the State Institution *Public Health Center* of the Ministry of Health of Ukraine;
- the Department of Health of the Donetsk Regional State Administration;
- the Department of Health of Luhansk Regional State Administration;
- the Donetsk Regional Center for Disease Control and Prevention of the Ministry of Health of Ukraine;
- the Luhansk Regional Center for Disease Control and Prevention of the Ministry of Health of Ukraine.

A study took up a large part of the work, which examined the information from the official websites of regional state administrations and local councils, reports from various agencies, organizations and relevant institutions, official statistics, responses of the authorities to requests for public information, etc.

In particular, in terms of official correspondence, an expert opinion was received on the actual and possible challenges to the health of the population in the territory of Luhansk oblast, controlled by the government of Ukraine, from the acting Director General of the Luhansk Regional Center for Disease Control and Prevention of the Ministry of Health of Ukraine; from the Deputy Head of the Department of Strategic Health Development and Provision of Medicines of the Department of Organization and Development of Medical Care to the Population of the Department of Health of the Donetsk Regional State Administration; from the Head of the Department for Access to Administrative Services of the Ministry for Reintegration of the Temporarily Occupied Territories of Ukraine.

The timeframe of the research covers August 2021-January 2022.

The research included:

- the analysis of available statistical data on the condition of the environment and health of the population in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, in order to reveal their relevance, completeness and accessibility;
- the study of basic technogenic issues which threaten the health of the population, permanently residing in the territories of eastern Ukraine, controlled by the government of Ukraine;
- the study of the possibility of revealing the impact of environmental and technogenic risks caused by the military conflict in eastern Ukraine on the health of the population;
- the analysis of the health care system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, opportunities/limitations for its improvement;
- the study of the peculiarities of medical reform in these territories.

## **Research limitations**

The situation in the conflict area in eastern Ukraine was analyzed with a limited set of sources. Today, some areas are not subject to environmental monitoring, with no reliable information on the nature of damages to the enterprises, with the information security procedures and complicated work of the State Environmental Inspectorates in Donetsk and Luhansk oblasts.

The work of all organizations, which had collected information on the environmental situation in Donetsk and Luhansk regions before the conflict, was disrupted. Most of them lost instrumentation, inventory, logistics and transport support, archives and documentation. The volume of reporting to state statistics bodies has decreased.

Due to:

- the abolition of basic forms of reporting on disease and mortality, resulting in a lack of statistics;
- problematic processing of available statistical data (for example, in the territory of Donetsk oblast, controlled by the government of Ukraine, estimates are made per 4.2 million people (the population of Donetsk oblast before the conflict), and not per 1.7 million (population at the time of the research));
- inability to assess the impact of the pollution sources in the territories of Donetsk and Luhansk oblasts, not controlled by the government of Ukraine (which are twice as much as in the territory, controlled by the government), on the health of the population in the territory, controlled by the government of Ukraine;
- large-scale migration processes in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine;
- lack of recording of persons, actually residing in the territory of Donetsk and Luhansk oblasts, not controlled by the government of Ukraine, and receiving medical services in the territory, controlled by the government of Ukraine;
- a short term (2014–2020) to assess the impact on morbidity;
- no outbreaks of diseases explicitly related to environmental pollution

*it is incorrect to establish correlations and dependencies between the condition of the environment and morbidity and mortality of the population in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine.*



## CONCLUSIONS

The main issues of the environment and public health in eastern Ukraine are related to hostilities, with security as the most important component. The simmering conflict, regular escalations and constant threat of full-scale hostilities cause migration, outflow of specialists, lack of necessary equipment, risk of failure of the available equipment, constant use of finances to restore obsolete and damaged transport, premises, infrastructure, etc., instead of their modernization and renewal.

Nowadays, in the territory of the armed conflict in eastern Ukraine, there is an increase in environmental and technogenic threats, characterized by a significant deterioration of drinking water quality, disruption of domestic and drinking water supply systems, flooding of mines in the occupied territories. As a result of hostilities in Donbas, a significant number of industrial, economic and medical infrastructure facilities have been destroyed, demolished and damaged, which threatens environmental safety, civil defense and public health.

Over the period of the conflict in eastern Ukraine, there is little possibility, if any, of state supervision in the field of environmental protection. In view of this, it is important to modernize the logistics of the national environmental monitoring system, create new environmental monitoring stations, ensure their smooth operation and develop risk assessment methods.

The security component is also the most burning public health issue, which has caused:

- aging population, which has increased the workload on the health care system, as senior and elderly people require medical care more frequently;
- aging and shorthanded medical staff, as young specialists have either moved to other regions or do not want to work in the territories, controlled by the government of Ukraine, especially, in towns and villages near the contact line;
- increased workload of primary care physicians due to the lack of such specialists, the increased proportion of senior and elderly people among the permanently residing population, and the necessity to provide medical care to internally displaced people, permanently residing in the territories, not controlled by the government of Ukraine;

- lack of and periodic destruction of the infrastructure, which complicates the provision of medical care at the secondary and tertiary levels, as well as transportation of patients and doctors;
- redistribution of funds for the purchase of necessary equipment, restoration of the damaged equipment and vehicles, rent of premises, housing secondary and tertiary institutions displaced from the territories, not controlled by the government of Ukraine, transportation of patients to neighboring regions, if it is impossible to provide them with professional medical care at sight, etc.

The beginning of the medical reform had a significant impact on the health care system, as the state did not provide for any period of grace and transitional periods for the health care institutions in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine. The medical reform had to be implemented simultaneously with eliminating the negative effects of the occupation of part of Donetsk and Luhansk oblasts.

Nowadays, the conflict is changing the organizational and practical aspects of providing health services to the population, as well as reducing the amount of funds to be used for improving the health care system. However, according to all health experts, participants of the consultations within the framework of the project, against the backdrop of the simmering conflict, public health issues in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, are almost the same, as in other areas. The main issues include:

- inefficient preventive programs due to the lack of information for patients on free screening and reluctance, mostly of the senior and elderly population, with the vast majority residing now in the territories, controlled by the government of Ukraine, to see a doctor unless necessary;
- failure to keep a healthy lifestyle by the population due to lack of proper information or motivation, as well as reluctance;
- reluctance of the majority of the population to be vaccinated against both the approved list of infectious diseases and COVID-19 due to insufficient awareness of the effects of vaccines, negative side effects and possible reactions. According to the staff of the regional centres for disease control and prevention, there is a problem with the medical personnel, which do not make awareness-building efforts with regard to the necessity for vaccination, and sometimes dissuade patients from vaccination.

Related to the above issues, it is recommended to inform the population on the necessity and positive results of prevention of non-contagious and contagious diseases,

as well as to monitor the activities of the medical personnel to inform patients of preventive screening, healthy lifestyle and importance of vaccination.

The research, with one of the tasks of studying the possibility of establishing the impact of environmental and technogenic risks on public health in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, significant issues were revealed, pertaining to medical reporting and access to statistics, namely:

- abolition of the main forms of reporting on morbidity and mortality, which results in the complete absence of such statistics since 2017;
- inconsistency of the data on morbidity of the population residing in the territories, controlled by the government of Ukraine, with the actual territorial division;
- disregard for migration processes in the statistical reporting;
- lack of registration of persons, actually living in the territory of Donetsk and Luhansk oblasts, not controlled by the government of Ukraine, and receiving medical services in the territory, controlled by the government of Ukraine;
- inconsistency of the available statistical data at all levels of their registration — they differ in indicators, detailing of territorial units, and time intervals.

In addition, it is impossible to correctly determine the impact of environmental and technogenic risks on public health, as environmental and medical statistics are irrelevant in terms of territorial division and time intervals. Besides, permanent population migration between the territories of Donetsk and Luhansk oblasts, both controlled and not controlled by the government of Ukraine, as well as other regions, make the data on morbidity of the population, registered in certain areas of residence, statistically unreliable for such an impact.

## RECOMMENDATIONS

### **THE CABINET OF MINISTERS OF UKRAINE, THE MINISTRY OF ENVIRONMENTAL PROTECTION AND NATURAL RESOURCES, THE STATE EMERGENCY SERVICE OF UKRAINE, THE STATE AGENCY OF WATER RESOURCES, AND THE STATE COMMITTEE OF UKRAINE FOR LAND RESOURCES ARE RECOMMENDED:**

- 1 to consider the issue of continuous monitoring of the basic components of the environment in order to determine the environmental pollution with the involvement of UN and OSCE missions;
- 2 to develop a methodology for assessing the impact on the environment and public health of the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, taking into account the high concentration of enterprises which causes multidimensional eclectic pollution;
- 3 to standardize and implement approaches to the state monitoring information system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, in accordance with the Association Agreement between Ukraine and the EU, as well as the recommendations of the UN Economic Commission for Europe with regard to the establishment of the European Environment Information Network;
- 4 to hold consultations with international organizations on attracting financial and technical resources for technical and technological re-equipment of environmental monitoring networks;
- 5 to expand the available networks of environmental monitoring. To determine the location of observation stations, to use a probabilistic health impact assessment system for further assessment of losses;
- 6 to introduce an integrated permit for operation of high-risk enterprises within the framework of the authorization system;

- 7 to disseminate the experience of the automated environmental monitoring system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine;
- 8 to use Earth remote sensing data to map land resources that are safe for the health of the population.

### **THE CABINET OF MINISTERS OF UKRAINE IS RECOMMENDED:**

- 1 to increase budget funding for programs and measures aimed at preventing and eliminating the adverse effects of flooding of mines, as well as seeking additional sources of drinking subsoil water in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine;
- 2 to provide an inventory auditing of the water supply system in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, and to establish monitoring of drinking water quality in cities and villages (*involving the Donetsk Regional State Administration and the Luhansk Regional Civil-Military Administration*).

### **THE MINISTRY OF HEALTH OF UKRAINE IS RECOMMENDED:**

- 1 to continue the automation of statistical accounting in institutions of various levels of medical care by equipping them with state-of-the-art computers, as well as training and motivating the medical personnel to use them;
- 2 to provide technical facilities for free and uninterrupted access of medical workers and medical statistics specialists to the e-Health System;
- 3 to perform a STEPS study in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, to assess the basic behavioral and biological risk factors for non-contagious diseases for developing and implementing NCD prevention programs and identify approaches to NCD prevention and control (*involving the Public Health Center of Ukraine*);

- 4 to launch a system of informing the population on the risk factors for contagious and non-contagious diseases (using both passive information on the etiology, pathogenesis and clinical symptoms of diseases, and active situational informing) (*involving the Public Health Center of Ukraine*);
- 5 to advise patients on healthy lifestyles, to take measures of mass and individual prevention of contagious diseases, to inform patients of national screening programs, including screening programs for pregnant women and newborns, to inform the population of the necessity for vaccination, especially parents of minors and persons with chronic diseases of the cardiovascular and respiratory systems (*involving primary care physicians*);
- 6 to establish consultations of medical workers of all levels of medical and sanitary care with leading scientists of the National Academy of Medical Sciences of Ukraine by means of telecommunications and computer technologies;
- 7 to restore the system of registration of cases of morbidity of the population in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, taking into account changes in the territorial division and migration processes in eastern Ukraine.

**DONETSK REGIONAL STATE ADMINISTRATION, LUHANSK REGIONAL MILITARY-CIVIL ADMINISTRATION, THE DEPARTMENT OF HEALTH OF THE DONETSK REGIONAL STATE ADMINISTRATION, AND THE DEPARTMENT OF HEALTH OF THE LUHANSK REGIONAL STATE ADMINISTRATION ARE RECOMMENDED:**

- 1 to ensure repair and restoration of the damaged medical institutions; if possible, to provide them with uninterrupted water and electricity supply, as well as medical equipment and medicines;
- 2 to resolve the issue of delivery of junior and paramedical staff, as well as doctors, to the medical institutions in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine; to consider the issue of encouraging and providing graduates of medical colleges and universities with free housing

*(involving the Ministry of Health of Ukraine and the Ministry of Education and Science of Ukraine);*

- 3 to ensure adequate access to primary health care facilities for the conflict-affected population (elderly persons, children, people with disabilities and internally displaced people), residing near the contact line by taking practical measures, namely: improving road infrastructure, subsidizing travel costs, purchasing social vehicles, etc.;
- 4 to consider the issue of ensuring the appropriate personnel and equipment of ambulances at checkpoints throughout working hours;
- 5 to strengthen the possibility of introducing mobile groups of doctors with the vehicles equipped with modern diagnostic devices (ultrasound, gastrofibroscopy, etc.) for providing medical services to the settlements where distance is a special obstacle to access to services;
- 6 to constantly provide information to the population on the benefits of a balanced diet, physical activity, and giving up of bad habits;
- 7 to build infrastructure for a mobile lifestyle, to widely introduce social advertising with regard to a healthy lifestyle;
- 8 to provide continuous training and advanced training of medical workers of all levels of health care, and to ensure the long-term development of the potential of health care institutions *(involving humanitarian and development organizations)*.

**THE CABINET OF MINISTERS OF UKRAINE, THE DONETSK REGIONAL STATE ADMINISTRATION, THE LUHANSK REGIONAL CIVIL-MILITARY ADMINISTRATION, THE MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE, AND THE MEDIA ARE RECOMMENDED:**

- 1 to develop a mechanism to minimize the causes and conditions of gender-based discrimination and violence in the territories of Donetsk and Luhansk oblasts, controlled by the government of Ukraine, in order to direct available values and inner convictions in a constructive way by maximizing formalization of the gender

stereotypes, issues and conflicts and to make it the subject of open discussions and debates in parliament, bodies of the local self-government, justice systems, educational institutions, the media, the public, labor collectives, etc.