

DYNAMICS OF COVID-19 MORBIDITY OF THE POPULATION OF UKRAINE

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Disease mapping is one of the most important processes in studying the spread of certain diseases. This area of mapping is an integral part of medical geography [1].

Modern cartographic works are created as a result of the use of geographic information technologies, which accumulate spatial data on a variety of real-world objects. Computer technology is now the main way to create maps. They allow to form graphic and information databases on various territories, to carry out works on their expansion and updating, use for multifaceted mapping, the decision of analytical problems [2].

To reflect the morbidity of the population of Ukraine during the pandemic, a multimedia map "Dynamics of morbidity on COVID-19 of the population of Ukraine" was developed, which consists of eleven separate maps that convey the morbidity in Ukraine in the period from April 1, 2020 to February 1, 2021. The maps are developed in ArcGIS software, and the animation series was created using the mobile video editor VN Video Editor [3].

The aim of the map is to reflect the number of sick, healthy and fatal cases in the regions of Ukraine, as well as the spread of coronavirus disease among the younger generation, the working population and retirees. Cartographic sources of the map are statistical data on the number of infected, cured and dead in the regions of Ukraine since the beginning of the pandemic from the site «Minfin» [4].

At the beginning of the work a geodatabase was created. According to each database, maps were created representing the incidence of COVID-19 in the population of Ukraine as of the first day of the month (Fig. 1). The maps show the following information:

- the number of infections on the territory of Ukraine is reflected by cartograms in accordance with the color scale - the smaller the population, the color is paler and on the contrary - the larger the population, the brighter the color;
- updated data reflecting the number of infections are represented by numbers;
- data of the cured and the dead are presented in the form of diagrams.

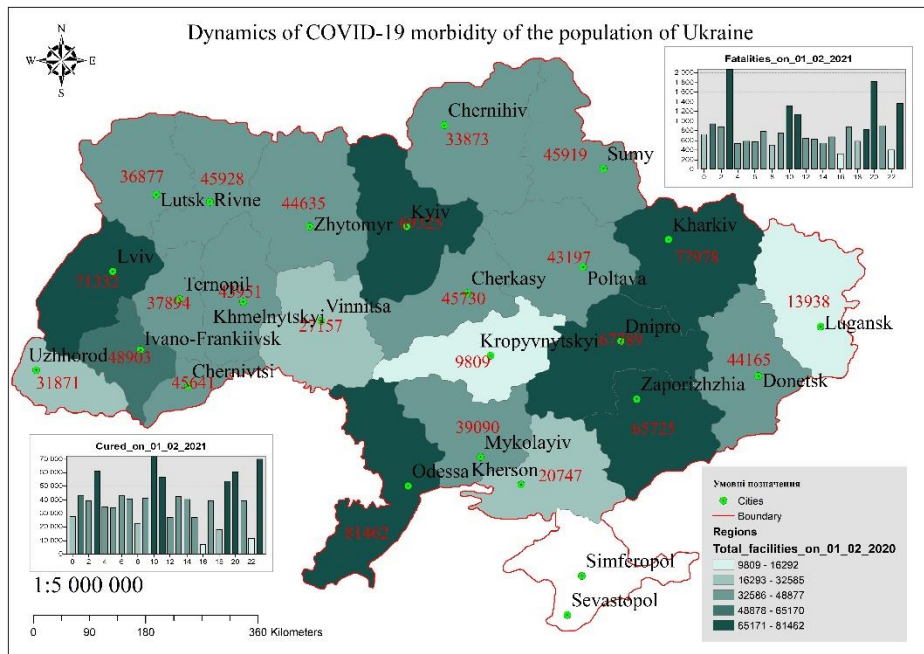


Figure 1. Incidence map on 01.02.2021

The created maps allow to objectively estimate the level of disease spread among the population in a certain area. Maps showing the statistics of infected, cured and dead people can be used to analyze the situation, compare it with other cases of other diseases, make decisions to implement certain treatment measures and conduct research.

References:

1. L.M. Datsenko. Map publishing technology: a textbook. K2020, 187 p. ;
2. Reference information on the use of GIS applications [Internet source] URL: <https://desktop.arcgis.com/ru/arcmap/10.3/main/map/what-is-arcmap-htm>;
3. Reference information about SASPlaneta [Internet source] URL: <https://uk.wikipedia.org/wiki/SAS.Планета>;
4. Coronavirus in Ukraine - statistics by region: the number of infected, dead, cured [Internet source] URL: <https://index.minfin.com.ua/reference/coronavirus/ukraine/2020-08-01/>.