GLOSSARY

Crude incidence (mortality) rate (CR) – number of new cancer cases (or cases of death from cancer) occurring in a population during a year divided by the average number of this population in the same year, expressed per 100,000. It describes the frequency of new cases in a population of a region and used for the analysis of epidemiological situation in a region.

Age-standardized incidence (mortality) rate (ASR) – incidence (mortality) rate in a defined population calculated applied to the age distribution of a "standard population", expressed per 100,000. The World Standard Population is generally used for comparison between countries (with use of ASR(W)). The Ukrainian Standard Population was calculated in the Ukrainian National Cancer Registry based on the age distribution of Ukrainian population in 2000. ASR(U) with Ukrainian Standard Population is advisable for comparing cancer incidence or mortality levels between the regions of Ukraine or for the time analysis in a region.

Standard error (SE) presents a measure of precision of the estimated age-standardized rate; it is necessary for estimation of its 95% confidence interval (*ASR ± 1.96xSE)* and is used when comparing rates to determine the significance of difference between them.

Prevalence rate is a proportion of cancer patients in a defined population, expressed per 100,000. The ***complete prevalence rate is*** calculated as a total number of persons with cancer divided by the number of this population at the end of a year. The ***5-year prevalence*** is calculated for a number of persons with cancer diagnosed within the previous five years.

DESCRIPTION OF TABLES AND RATES

All information in the Bulletin is calculated based on the personified data of the regional cancer registries, which are the component parts of the National Cancer Registry of Ukraine (NCRU).

The information is given by sections that represent selected cancers by ICD-10 codes. In this issue, two nosological sections have been added – malignant neoplasms of gallbladder and connective and soft tissue. A separate section contains information about all children cancers (0-17 years old). Children cancer incidence and mortality numbers by nosologic forms are included into the corresponding sections.

The NCRU collects data on each case of cancer with a detailed ICD-10 diagnosis code up to 4-5 characters. However, for presentation in the separate sections of the Bulletin, we select the nosological forms or groups of cancer that in terms of their quantity most significantly contributed to the burden of cancer in Ukraine and are statistically representative. A more detailed distribution –by each individual cancer site or nosological unit – we use more often in specific oncoepidemiological studies.

Due to the lack of demographic data for 2024-2025 from the State Statistics Service of Ukraine, the content and form of presentation of statistical information on cancer burden in Ukraine does not include cancer incidence or mortality rates. Each section that highlights a separate nosological form or group of malignant neoplasms is presented in the appropriate section of Table 1 and Tables 3-4 by the quantitative values, as well as by the proportional rates, calculation of which does not involve number of the population.

We provide number of cancer cases and deaths from cancer that occurred in 2024 (adjusted data, that is registered in the NCRU during 2024 and 2025, are included in Table 1 and in the "Adjusted data" section of Table 3) and number of cancer cases and deaths from cancer registered in 2025 (information collected only during 2025, included in the "On-line data" section of Table 3 and in Table 4).

> Please note that in this year's edition, the total number of people that have to be under the follow-up (complete prevalence) does not include residents of *Donetska, Zaporizka, Luhanska and Khersonska oblasts* due to the temporary occupation of a significant part of these regions.
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> Number of cancer cases and deaths from cancer in Ukraine as a whole includes all those that occurred in residents of all regions and were registered by the regional cancer registries. Data from cancer registries of the Autonomous Republic of Crimea are not available.

Table 1 of each section includes numbers and proportional rates for 2024 calculated using the adjusted data that were registered until the end of 2025.

Rate "**Lived less than 1 year since the diagnosis in 2024**" is calculated with respect to the total number of cancer patients with cancer diagnosed in 2024 for the first time in their life, regardless of whether they were diagnosed and registered alive or dead.

Rate "**From among the patients diagnosed for the first time – diagnosed post mortem**" is calculated as a ratio of number of cancer patients with post mortem diagnosis to the total number of those diagnosed for the first time in 2024.

Rate "**Microscopically verified**" is a proportion of cancer cases of 2024 verified with the histological or cytological examination. Rate "**Histologically verified**" is a proportion of histologically verified cases of the total number of cancer cases of 2024.

"**Unspecified morphology**" is a percentage of microscopically verified cases with ICDO morphology codes 8000-8005.

Rate "**Patients diagnosed during the preventive medical examinations**" is a proportion of patients with cancer detected during the preventive medical examination or in a doctor's consulting room for women of the total number of cancer patients diagnosed in 2024 for the first time.

Rate "**Received anti-cancer treatment of patients diagnosed for the first time**" is a ratio of cancer patients who received anti-cancer treatment (curative or adjuvant anti-cancer therapy), along with surgery or without it, during 12 months from the time of diagnosis, to the total number of cancer patients diagnosed for the first time. Ratio of patients, who received "**combined or complex treatment**" shows percentage of patients who received chemotherapy, hormonal treatment, immunotherapy or/and radio-therapy along with surgery, as distinct from those who received "**surgical treatment only**" or other monotherapy.

Table 2 - Incidence and mortality, 2024 was not calculated due to lack of demographic data of 2024.

In **Table 3 - Incidence and mortality, 2024-2025** in this issue includes both adjusted number of cancer cases and deaths from cancer in 2024 and on-line numbers of 2025, which were registered in the NCRU until the end of 2025.

> In 2024-2025, the registration of deaths of cancer patients in the NCRU continues to be undercounted, in particular due to the consequences of active military operations, occupation of some regions and active population migration, but not only for these reasons. Underreporting of deaths in many regional cancer registries has been increasing during the recent years due to restriction of access to death data in regional institutions of state registration of civil status acts
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> Our research showed that the number of died cancer patients and therefore the 1-year mortality of cancer patients as well, in such regions as Donetska, Zaporizka, Kyivska, Luhanska, Lvivska, Mykolaivska, Odeska, Poltavska, Rivnenska, Sumska, Kharkivska, Khersonska, Chernivetska oblasts, Kyiv city and the average for Ukraine, are underestimated and do not correspond to reality.

Table 4 includes some important rates of 2025 calculated based on the on-line data of the regional registries.

The distributions of “new cases by stage” consist of proportions of new cancer patients diagnosed in respective stage of the disease. The stage was automatically defined based on (p)TNM indices (TNM classification of the 6th edition was used). Column "**Not determined**" accounts cancers that are subject to TNM staging classification but were registered without values of TNM (though they are to be classified) or these values were incorrect or any other relevant information was missed (e.g.differentiation grade of tumour of bones, etc.). Cancers that are not subject to staging by TNM were not taken into account in “Not determined” stage. The sections **Hodgkin lymphoma** and **Non-Hodgkin lymphoma** show the distribution by Ann-Arbour stages. The section **Leukaemia** includes proportions of the diseases by their cell types.

The distribution of “**new cases by stage**” as well as rates "**Received special treatment**" and "**Diagnosed during the preventive examination**" are calculated as a ratio of the corresponding number of new cancer patients of 2025 to the total number of new cancer patients registered in 2025, and rate "**Microscopically verified**" is calculated based on the respective cancer cases.

Rate "**Lived less than 1 year since the diagnosis in 2024**" is calculated in a similar way to that described in Table 1. Number of cancer patients who were **diagnosed post-mortem** is also given.

"**Patients are to be under the follow-up**" shows a total number of cancer patients that were registered in the NCRU and were not stricken off the registration due to their death or any other reason till the end of 2025. In Ukraine, such patients are to be under the follow-up in the regional oncological centres. By this number a complete prevalence of cancer at the end of the reporting year was usually represented, but in the current circumstances, due to the considerable deterioration of registration of patients' vital status, it is likely to exceed notably the real values.

The chart “**The most prevalent cancers**” on page 9 shows the nosological structure of these same data, and on page 10 the nosological structure of patients diagnosed with cancer during the last 5 years (2021-2025) who have not been stricken off the registration due to their death or any other reason till the end of 2025 (5-year prevalence) is shown.

Tables of Annex A "**Cancer incidence by site, age and gender**" and Annex B " **Cancer mortality by site, age and gender**" include total number of cancer cases and deaths from cancer of 2024 for 53 nosologic forms of cancer, all sites in total and for all sites with the exception of non-melanoma skin cancer. All rates are distributed by gender and age groups, based on the adjusted NCRU data.