Moldova National Cancer Registry

Contents

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I. GENERAL ISSUES

Names of the experts:

- Maciej Trojanowski (Director of Greater Poland Cancer Registry), on behalf of the European Network of Cancer Registries (ENCR), Steering Committee
- David Pettersson, on behalf of the Joint Research Centre (JRC), Cancer Information Group

ENCR Secretariat:

- Raquel Carvalho, JRC

Dates of the onsite review meetings: 26-28 March 2025

Participants from the Moldova National Cancer Registry:

- Oleg Arnaut, Head of the CR
- Alexandr Culaxizov Oncologist
- Maria Tataru, Nurse
- Cristina Chioru, Nurse
- Octavian Bostan, Operator
- Galina Bostan, Registrator
- Cravtsova Dana, 1C programmer

Other Institutions visited and people met:

- National Oncological Institute (NOI) – Dr. Ruslan Baltaga, Director; Dr. Rodica Mindruta, National Cancer Control Plan Coordinator; Dr. Simona Chiaburu, breast cancer early detection program; Dr. Corina Scerbatiuc, colorectal cancer screening center; Dr. Dumitru Brinza, morphopathological lab
- WHO Country office – Alexandru Voloc, CO MDA WHO
- Medpark International Hospital - Olga Schiopu, Director and Association of Private Healthcare Providers, President.

The report is based on the information provided during the onsite meetings and documents sent by the Cancer Registry.

II. BACKGROUND INFORMATION

1. POPULATION

The population of Moldova as of January 2023 was 2.49 million (47% men and 53% women), of which about 57% live in rural areas[1].

2. HEALTH CARE SYSTEM AND CANCER CARE

Cancer care is provided mainly in the Oncological Institute in Chisinau, which is the only public comprehensive cancer centre in the country (the only institution providing radiotherapy). There are also two more main public hospitals (Institute of Emergency Medicine and Republican Clinical Hospital "Timofei Moșneaga"). There are also two private hospitals (MEDPARK International Hospital and REPROMED) diagnosing and treating cancer patients (i.e. breast, thyroid, skin neoplasms) offering surgery and systemic treatment. They are taking care of c.a. 2.000-3.000 new cancer cases per year.

In addition, there are about 16 oncologists working in the regional medical centres and responsible for the patients follow-up, 4 haematological departments of general hospitals and 1 neuro-surgical department, dealing with central nervous system tumours. Regional medical centres and hospitals have some laboratory and imaging equipment.
In all cases of suspicion of cancer, the patient is referred to the Oncological Institute for further investigation, cancer specific diagnosis, and mostly treatment, because a comprehensive cancer diagnostic and treatment facilities is available only in this Institute.

3. CANCER REGISTRATION: organization and legal aspects

- Cancer registration is included in the recently developed National Cancer Control Plan, which is pending adoption by the MoH. It contains a detailed description of the necessary regulations for data collection, introduction of classifications (ICD-O-3 and TNM-8), staff, equipment, IT developments, and also corresponding budgets.

[1] National Bureau of Statistics of the Republic of Moldova, http://www.statistica.md

- Government Decision No. 1103/MS/2023 approved the creation of Moldova's National Cancer Registry, an integrated digital system designed to collect and manage cancer data nationwide to enhance monitoring, prevention, and treatment efforts.
- Internal order of the NOI, issued in December 2015, regulates data collection for the hospital-based cancer registry (started in January 2016), describes notification form, reportable cases and responsible persons.
- Instructions and regulations of the Health Management Centre regarding annual statistical reports, including cancer incidence, mortality and prevalence, submitted by all hospitals and primary health centers in the beginning of each year for the previous one.

4. CANCER INCIDENCE

According to information from the Ministry of Health of the Republic of Moldova (based on the Moldova CR data), there were 12 954 new cancer cases (crude rate 520.0 per 100.000 population), diagnosed in 2023, and 5 950 cancer deaths (crude rate 239.0 per 100 000)[2]. The most frequently diagnosed were colorectal cancer (1 736 cases, 13.4%), followed by breast cancer (1 399 cases, 10.8%), lung cancer (1 140, 8.8%), skin cancer (1 088, 8,4%) and prostate cancer (868, 6.7%).

Most Common Cancers in Moldova in 2023 (Moldova CR data)*

Among both sexes, the most common cancers are:

- **Colorectal cancer** – 13.4% of cases
- **Breast cancer** – 10.8% of cases
- **Lung, trachea, and bronchus cancer** – 8.8% of cases
- **Skin cancer** – 8.4% of cases
- **Prostate cancer** – 6.7% of cases

In males, the most common cancers are:

- **Colorectal cancer** – 14.5% of cases
- **Prostate cancer** – 13.3% of cases
- **Lung, trachea, and bronchus cancer** – 13.2% of cases
- **Skin cancer** – 7.4% of cases
- **Gastric cancer** – 5.3% of cases

In females, the leading cancer types are:

- **Breast cancer** – 21.6% of cases
- **Colorectal cancer** – 12.3% of cases
- **Skin cancer** – 9.5% of cases
- **Uterine cancer** – 7.5% of cases
- **Cervical** – 6.2% of cases

[2] National Bureau of Statistics of the Republic of Moldova, http://statbank.statistica.md

The 2022 estimates presented in the ECIS - European Cancer Information System reports 13.377 new cases across all types of cancer, excluding non-melanoma skin cancer. Age-standardized incidence rate (European 2013): 391.1 cases per 100,000 inhabitants.

Male – 2022 estimates					
Cancer site	**Number of cases**	**Crude rate**	**ASR (European 2013)**	**ASR (European 1976)**	**ASR (world)**
All sites but non-melanoma skin	7329	381,8	530,8	379,8	271,8
Bladder	420	21,9	33,4	22,3	15,2
Brain cns	178	9,3	11,0	9,1	7,4
Breast	21	1,1	1,2	0,9	0,7
Gallbladder	5	0,3	0,4	0,2	0,2
Hodgkin lymphoma	34	1,8	1,8	1,7	1,5
Hypopharynx	113	5,9	7,1	5,7	4,2
Kidney	221	11,5	15,0	11,4	8,5
Larynx	330	17,2	20,8	16,7	12,2
Leukaemia	144	7,5	9,5	7,8	6,7
Lip, oral cavity	246	12,8	16,8	12,7	9,1
Liver	450	23,4	33,2	23,6	16,7
Trachea, bronchus and lung	1178	61,4	83,1	60,6	42,8
Melanoma skin	136	7,1	8,1	6,7	5,3
Mesothelioma	1	0,1	0,1	0,0	0,0
Multiple myeloma	41	2,1	2,6	2,1	1,5
Nasopharynx	31	1,6	1,8	1,6	1,2
Non-Hodgkin lymphoma	171	8,9	9,9	8,6	7,3
Oropharynx	199	10,4	12,2	9,9	7,3
Pancreas	286	14,9	21,7	15,1	10,5
Penis	17	0,9	1,2	0,9	0,6
Prostate	985	51,3	80,5	51,2	34,6
Salivary glands	12	0,6	1,0	0,6	0,4
Stomach	404	21,0	31,3	21,2	14,6
Testis	41	2,1	1,8	1,9	1,9
Thyroid	115	6,0	5,5	5,4	4,7
Oesophagus	124	6,5	8,5	6,4	4,5
Colorectum	1087	56,6	86,2	57,4	39,2
Kaposi sarcoma	4	0,2	0,2	0,2	0,1

Source: ECIS - European Cancer Information System
From https://ecis.jrc.ec.europa.eu/

Female – 2022 estimates					
Cancer site	**Number of cases**	**Crude rate**	**ASR (European 2013)**	**ASR (European 1976)**	**ASR (world)**
All sites but non-melanoma skin	6048	288,9	304,5	231,4	172,3
Bladder	78	3,7	4,6	2,7	1,7
Brain cns	153	7,3	7,4	6,3	5,2
Breast	1620	77,4	79,5	62,4	46,6
Cervix uteri	420	20,1	19,2	17,4	14,2
Corpus uteri	541	25,8	26,3	20,8	15,1
Gallbladder	18	0,9	1,0	0,6	0,4
Hodgkin lymphoma	34	1,6	1,6	1,7	1,6
Hypopharynx	2	0,1	0,1	0,1	0,0
Kidney	132	6,3	6,9	5,0	3,7
Larynx	7	0,3	0,4	0,3	0,2
Leukaemia	103	4,9	5,2	4,3	3,6
Lip, oral cavity	30	1,4	1,9	1,1	0,7
Liver	207	9,9	11,6	7,3	5,0
Trachea, bronchus and lung	286	13,7	15,4	10,3	7,1
Melanoma skin	108	5,2	5,7	3,9	2,7
Mesothelioma	2	0,1	0,1	0,1	0,0
Multiple myeloma	37	1,8	1,8	1,4	1,0
Nasopharynx	13	0,6	0,7	0,5	0,3
Non-Hodgkin lymphoma	139	6,6	6,8	5,6	4,4
Oropharynx	7	0,3	0,4	0,2	0,2
Ovary	221	10,6	10,5	8,9	6,9
Pancreas	262	12,5	14,6	9,2	6,1
Salivary glands	2	0,1	0,1	0,1	0,0
Stomach	237	11,3	12,4	8,7	6,1
Thyroid	270	12,9	12,3	11,6	9,8
Vagina	3	0,1	0,1	0,1	0,1
Vulva	43	2,1	2,4	1,4	1,0
Oesophagus	10	0,5	0,6	0,3	0,2
Colorectum	781	37,3	40,4	28,2	19,7

Kaposi sarcoma	0	0,0	0,0	0,0	0,0
Source: ECIS - European Cancer Information System From https://ecis.jrc.ec.europa.eu/					

*presented data are not final and should be considered preliminary. The current figures are subject to updates and adjustments as we are actively engaged in the reorganization of the National Cancer Registry.

III. PURPOSE OF THE REPORT

To evaluate the progress in developing a national cancer registry in Moldova, according to the ENCR recommendations from the previous visit in 2016.

To share good practices from other European CR's both in the organization of the CR work and data collection procedures.

IV. EVALUATION OF THE CANCER REGISTRY (CR)

1. REGISTRY NAME, CONTACT DETAILS AND BRIEF HISTORY

National Cancer Registry
Institute: Oncological Institute
Chișinău, Republic of Moldova
Email: cancerregistru@ms.md
Director: Dr. Oleg Arnaut

2. INFRASTRUCTURE, STAFF, EQUIPMENT AND TRAINING

The current cancer registry activity is performed at the NOI, as part of the Medical records department, and is mainly hospital-based. The staff consists of 7 people: 2 physicians (one head of
CR and one oncologist, working full time for the registry), 2 nurses, 1 registrar, 1 operator and 1 IT specialist (part time). Equipment – 5 PC and general office equipment.

Task	Number of staff
Head of the registry	1 person
Data collection	4 persons
Data analysis	None
Epidemiology	None
Pathologist	None
Data quality	1 person

Staff Training Overview

In general, staff members are trained using real data from cancer notifications as part of their routine work. More experienced personnel share their knowledge and internal procedures for data collection with newer staff.
During the audit mission, a short half-day training session was conducted by experts, focusing on international and European standards for cancer registration, including relevant classifications and recommendations. The JRC-ENCR report on the harmonization of quality checks was presented and highlighted as a model for achieving data comparability. Additionally, the availability of the new JRC-ENCR Quality Check software was announced.
Further training sessions based on ENCR-published materials are planned to continue.

3. SOURCES OF FINANCE

NOI dedicated funds for salaries of the staff, IT equipment and development of software for the hospital-based cancer registry. Additional funding for cancer registration is expected from the MoH, according to the National Cancer Control Plan, once the political decisions on the official national cancer registry allocation will be taken.

4. SOURCES OF INFORMATION USED BY THE REGISTRY

The main data source for the cancer registry is the cancer notification (paper form), which contains all information about diagnosis, treatment and follow-up, including results from laboratory exams and pathology reports. The notification form is printed on the back of the patient medical file, allowing the physicians to complete it at the same time as preparing the medical file and thus facilitating the work of the registrars.

The **pathology reports** are handwritten on paper and provide short description of the morphological diagnosis, topography and size of the tumor, resection status, number of the lymph nodes examined/affected. While basic microscopic methods remain in use, immunohistochemistry and other advanced techniques have now been implemented, supported by the necessary equipment and the prior training of pathologists. While other laboratories provide cancer diagnostics, the NOI's pathological laboratory remains the leading and most relied-upon institution, staffed by 20 specialized pathologists. In addition, there are also several private laboratories, dealing mainly with cytology and the patients have been referred to the NOI if a second opinion is requested. There is a good collaboration established between the pathologists and cancer registrars - the pathologists are trained to code the morphological diagnosis, using ICD-O-3.2 and WHO World Tumor Classification 5th edition codes, and record the code in the pathological report, which facilitates the work of the registrars.

The cancer registry staff has access to information from the Hospital information system about all admissions of cancer patients, including to outpatient department, which allows to register the patients who don't receive treatment in the hospital (due to the stage of disease or other reasons) and to update the follow-up information of the registered cases. The auditors has identified a need to implement tools to identify the new cancer cases based on the comparison of HIS records with CR database.

Other hospitals should send Notification forms to the cancer registry, for patients which are diagnosed and/or treated outside NOI.

Reports from the **regional oncologists** are received every 3 months. They contain list of all cancer patients from the corresponding region with updated follow-up information. Moreover at the end of the current year annual report and data merging is performed.

Access to population mortality registry (including list of patients who died of cancer or who presented a cancer non-reported before, with personal identification number, cause of death and date of death, date of birth, sex and region) is available at the Electronic Governance Agency (especially eCMND register). At the moment the cancer registry have done a request to connect to it automatically using the protected channel in order to save patients personal data. Moreover the request to connect to the Electronic Governance Agency has intention to connect to population database as well as to insurance company (CNAM) database.

5. METHODS OF REGISTRATION

The cancer registry, located within the National Oncological Institute (NOI), aggregates cancer data from multiple potential sources. These include regional medical centers and several major hospitals that regularly report cases. However, a significant portion of private medical institutions do not contribute data to the registry. Furthermore, an important gap in data collection is the absence of systematic reporting from morphological laboratories, which limits the completeness and accuracy of case registration.

6. DATA MANAGEMENT

In alignment with modernization efforts, plans are underway to develop a new cancer registry information system to replace the outdated 1C platform. The primary focus of the new system is to facilitate **automated data collection** from various sources, including regional medical centers, major hospitals, and, importantly, morphological laboratories. The aim is to reduce manual data entry, minimize errors, and enhance real-time data synchronization. This new infrastructure will integrate automated data flow from electronic medical records (EMRs), laboratory information systems (LIS), and other digital health platforms, ensuring a more complete and accurate cancer

registration process. Additionally, it will support real-time validation, internal consistency checks, and seamless generation of analytical reports, contributing to improved cancer surveillance and public health planning.
Registry collects all mandatory variables recommended in the Standard dataset for European cancer registries, and also some optional variables such as TNM, stage and type of treatment. The format of the variables is according to the recommendations, e.g. dates (dd/mm/yyyy), topography and morphology codes, TNM and stage.

7. DATA COMPARABILITY

Coding and classification procedures, followed by the registry, are:

- **Topography** is coded according to ICD-O-3 (site and subsite) and in addition cancer cases are also coded according to ICD-10. In-situ, malignant and borderline malignancies are collected.
- **Morphology** is coded according to ICD-O-3, including 5th digit for **behaviour**. The registry uses also behaviour code 6, which is discouraged for cancer registries.
- **Grade** is coded according to ICD-O-3 rules, using two systems: one for solid tumors (Grades 1–4) and another for haematological malignancies (cell type). No site-specific grading system is implemented.
- **Date of incidence –** according to in-house rules, similar to the ENCR recommendation.
- **Basis of diagnosis –** according to in-house rules, 4 categories – cytology, histology of primary tumour, histology of metastasis, clinical/imaging
- **Multiple primaries** – no clear rules adopted yet. The software allows registration of more than one cancer in the same patient. Some discrepancies with the rules for preparation of the annual report for the MoH may arise if the registry follow the IARC/IACR recommendation for multiple primaries, because of the MoH requirement for counting patients instead of cancer cases. There is a need to prepare the rules for data recording and reporting to meet the requirements of MoH and epidemiological analysis.
- **TNM and stage** – according to TNM7, with automatic assigning of stage if correct values of T, N and M for the corresponding site were recorded.
- **Treatment method and the day of treatment:**
    - **1. Surgery**
    - **2. Radiotherapy**
    - **3. Systemic therapy**
    - **3.1. chemotherapy**
    - **3.2. target therapy, incl. monoclonal antibodies**
    - **3.3. immunotherapy, excl. monoclonal antibodies**
    - **3.4. hormonal therapy**
    - **3.5. unspecific therapy**
    - **4. Transplant stem cell**

5. No anti-cancer treatment

- **Recurrences** – data on recurrences and progression is not collected.
- **Biomarkers** – biomarkers and prognostic factors are not collected.
- **Follow-up** – the CR dataset is verified annually to update the vital status of cases in the registry.
- **ICD-O-4 / ICD-11** – no actions on the implementation of those classifications has been taken.

8. COMPLETENESS AND VALIDITY

It was not possible to evaluate completeness and validity of data due to the registry reorganization (update the data notifications sources, ex. Death certificates, insurance company reports etc). In accordance to the data for 2023, having 12954 cases the preliminary data are:

- Morphologically verified cases (MV%): 87,2%.
- Unspecified site cases (C80, C26, C39, C48, C76): 2.3%.
- Unspecified stage cases: 5.6%.
- Internal consistency checks implemented in the registry software for data quality assurance

The main concern regarding the current cancer registry is the underreporting of cases from private and state medical institutions, including morphological laboratories. Until recently, reporting was primarily reliant on the activities of the National Oncological Institute (NOI), effectively making the registry hospital-based. Consequently, patients who are diagnosed or treated outside of NOI—particularly in private clinics, regional hospitals, or those who cannot travel to Chisinau due to advanced age, severe disease stage, comorbidities, or logistical difficulties—are often missing from the cancer registry database.

This critical gap in data completeness is expected to be improved following the legislative amendments introduced in July 2024, which made cancer case reporting mandatory for all medical institutions and laboratories. This legal change aims to enhance the integration of cases from private healthcare providers, state medical facilities, and diagnostic laboratories, significantly strengthening the national cancer surveillance system.

9. ANNUAL REPORTS

The NOI receives annual reports about the number of new cancer patients from the regional oncologists and based on them and on data from the cancer registry database

prepares automatically country report about cancer incidence, which is submitted to the Ministry of health. The data in this report is aggregated by sex, site (ICD-10, three-digit code) and age group. The report is created in February of the year following the reported period having a negative impact on the completeness, why we are considering switching to a estimate approach for the most recent year.

10. SUMMARY OF FINDINGS

Findings	In 2016	In 2025	Comments
Legislation available	National Cancer Control Plan (pending adoption); Internal regulation of the NOI about data collection; About annual statistical reports.	GOVERNMENT DECISION No. 501 dated 10-07-2024 regarding the approval of the Concept of the Information System "National Cancer Registry" and the Regulation on the procedure for maintaining the National Cancer Registry	Big progress.
Funding	From NOI: salaries, software, equipment; From MoH: pending adoption of the National Control Plan	From NOI: salaries, software, equipment and technical requirements elaboration;	Unclear

Staff	2 medical doctors (part-time); 1 nurse; 4 registrars (part- time)	2 physicians (one head of CR and one oncologist, working full time for the registry), 2 nurse, 1 registrars, 1 operator and 1 IT specialist (part time)	Small progress
Software	In-house built, with proper features	In-house built, with proper features	No change
Training	During the working process, at training courses, some training resources available (in Moldavian and Russian languages)	During the working process (last 5 years) and Tampere IARC workshop in 2022	Small progress
Data items	All mandatory variables are collected (including personal identification number), and some additional (stage and treatment). The format of the most of the variables is according to the requirements.	All mandatory variables are collected (including personal identification number), and some additional (stage and treatment). The format of the most of the variables is according to the requirements	No change
Comparability			
Diagnosis/ Topography	ICD-10/ICD-O-3	ICD-10/ICD-O-3	No change

Morphology	ICD-O-3	ICD-O-3	No change
Behaviour	ICD-O-3	ICD-O-3	No change
Grade		ICD-O-3	N.A.
Date of incidence	dd/mm/yyyy; in-house rules, similar to the ENCR recommendation	dd/mm/yyyy; in-house rules, similar to the ENCR recommendation	No change
Basis of diagnosis	Text description, four categories, similar to the ENCR recommendation, but Death certificate only is missing, while Tumour markers are included in the clinical/imaging category.	Four in-house categories, as reported in 2016.	No change
Multiple primaries	No clear rules, but software allows recording of more than one cancer for the same patient	No clear rules, but software allows recording of more than one cancer for the same patient	No change
TNM and stage	TNM7 with automatic check of consistency between T, N, M and stage	TNM7 with automatic check of consistency between T, N, M and stage	No change
Completeness and validity			
MV%	84.7	87.2%	Progress

DCO%	Not available	5%	N.A.
Proportion of cases with unknown site (%)	2.2	2.3%	No change
Unknown stage (%)	13.9	5.6%	Progress
Internal (between variables) checks for consistency, integrated in the software	Partially Available	Partially Available	No change
Reporting	Aggregated data – number of new cancer cases by site (ICD-10, three-digit code), sex and age group	Aggregated data – number of new cancer cases by site (ICD-10, three-digit code), sex and age group	No change
Membership in International organizations	No	ENCR	Progress
Participation in National or international projects, using cancer data	Occasionally, only with aggregated data	1. Cancer Watch JA 2. eCAN+ JA 3. EUnetCCC	Progress

V. CONCLUSIONS

1. The National Cancer Registry of Moldova is currently positioned at a crucial phase of development, transitioning from a hospital-based registry to a fully-fledged population-based cancer registry aligned with the European Network of Cancer Registries (ENCR) standards and the principles of the International Agency for Research on Cancer (IARC).

2. Key improvements have been made since 2016, including updates for reportable case notifications (such as death certificates, insurance company data, and the merging of data from previous collection instruments) and legislative changes. However, significant gaps remain in achieving full data completeness, sustainable funding, and integration with other health data systems. Additionally, it is important to mention the lack of research capacity within the registry.

3. To address these challenges, the development of a cutting-edge cancer registry software is proposed, emphasizing automated data collection, interoperability, advanced analytics, and international compliance. This initiative is expected to significantly enhance the reliability, timeliness, and completeness of cancer data in Moldova, providing a robust foundation for cancer surveillance, research, and policymaking.

4. The registry needs to develop and implement an educational and training plan for registry staff as well as for data provider's staff.

5. There is a need to assess the actual staffing requirements that will allow for timely registration, reporting and development of the registry.

VI. RECOMMENDATIONS

1. Integrate population and mortality data. Ensure the inclusion of population statistics (stratified by age and sex) and mortality data in the cancer registry to achieve population-based completeness and accurate incidence estimation. Formalize agreements with the Electronic Governance Agency to access real-time demographic and mortality data, including automatic updates from the civil registry and death certificates. Establish standardized procedures for automated synchronization of population and mortality data with the cancer registry, improving data quality and enabling real-time monitoring.

2. Strengthen data completeness. Implement robust trace-back mechanisms for unregistered cases identified through death certificates, insurance claims, and pathology reports. Develop a dedicated audit protocol for validating missed registrations by cross-referencing with medical records, insurance databases, and laboratory reports. Expand reporting obligations to private healthcare providers, regional hospitals, and laboratories to address existing gaps in data collection.

3. Reporting and Compliance with ENCR Technical Requirements. Establish a standardized reporting cycle in accordance with ENCR technical recommendations to ensure data completeness, consistency, and international comparability.

Reports should be generated 2 years after the end of the statistical year to allow for full verification of cases, trace-back procedures, and data validation. The goal should, however, be to shorten this delay over time. Furthermore, to develop a reliable automated reporting system capable of generating trend analysis and survival statistics, adhering to ENCR quality indicators.

Ensure compatibility with ENCR Quality Check software for validating data accuracy and meeting European standards.

4. Enhance collaboration with international partners as WHO Country Office for technical assistance and alignment with international cancer control strategies, The Joint Research Centre (JRC) of the European Commission for access to European cancer data platforms and methodological guidance. Actively participate in international projects, surveillance initiatives and training courses, organized by these or other institutions. Establish a mechanism for regular exchange of data and expertise with ENCR and IARC to ensure methodological consistency and quality control.

5. Expanding the workforce to enhanced quality. To improve data quality and enhance the analytical capabilities of the registry, it is recommended to increase the laboratory staff, adding the following specialists: pathologist — to ensure high-quality and timely pathological diagnosis, epidemiologists in oncology — to analyze incidence data, make projections, and evaluate epidemiological trends, data science specialists — to apply machine learning techniques and predictive analytics to registry data, biostatisticians — to perform statistical analysis of data, prepare reports, and conduct research studies, PhD students — to perform research studies.

6. Establish a multi-source funding strategy to support the long-term sustainability of the cancer registry, including:
    - Government Funding: Secure dedicated funds through the Ministry of Health for core activities, staffing, and data management infrastructure.
    - International Support: Apply for grants from organizations such as WHO, ENCR, IARC, and the European Commission to support the modernization of the registry and training of personnel.
    - Budget Planning: Develop a detailed financial plan covering system development, staff training, data integration, and maintenance over a 5-year period.

These additions will not only improve the accuracy and timeliness of statistics but also strengthen the analytical capacity of the registry in studying risk factors, predicting incidence and survival rates, and forming evidence-based cancer control strategies.

SHORT-TERM ACTIONS

1. Adhere to the international recommendations for recording and reporting multiple primaries.
2. Prepare an agreement for collaboration with the Electronic Governance Agency and the Ministry of health in order to receive population and mortality data.
3. Establish technical mechanisms to ensure timely, complete, and standardized data transmission from all relevant sources, including private healthcare institutions
4. Ensure continuous training for the registry staff in coding rules, data quality, reporting standards and other areas, related to cancer epidemiology and registration.
5. Extend the written instructions and internal procedures to include descriptions of classifications and recommendations applied at the registry, along with a comprehensive list and format of all variables collected.
6. Appoint a contact person in every medical unit
7. Organize regular trainings for data providers
8. Verification the discharge lists from National Assurance Company in Medicine to assure the data completeness.
9. Conduct an annual comparison of the NIO patient list and pathology reports vs CR database to be sure that all cases are registered.
10. Critical approach to ICD codes and TNM on cancer notifications – verification based on the ICD and TNM rules on the CR site is needed.
11. Hold weekly CR team meetings to address operational issues and data quality.
12. The registry should aim to publish national cancer statistics within 2 years after the end of the statistical year with the goal of shortening the delay over time. The report could include estimates of incidence for more recent years and also incidence predictions.

LONG-TERM ACTIONS

1. Monitor data quality at the registry with all available tools and methods, including:
    - regular dataset quality checks procedure using freely available software (IARC/IACR Check Tool, JRC-ENCR QCS;
    - internal audits involving cross-checking for consistency and completeness by registry staff;
2. Develop a new information platform for cancer registration
3. Prepare and disseminate relevant reports on cancer incidence, mortality, and survival.
4. Contribute to cancer control activities at the regional, national and international levels
5. Secure access to relevant population registries to improve linkage and follow-up capabilities
6. Implementation of the ENCR recommendations (incidence date, basis of diagnosis,

standard dataset etc.)

7. Create supportive conditions for research activities based on registry data.

Date: 16 June 2025

Table 1 Availability of recommended components of the MCACR cancer incidence report and presentations

No	Recommended component	Available in the presentations and report
	Background information	
1	Outline of the organisation of the cancer registry	Y
2	List of the professional staff	Y
3	Description of the registration procedures	Y
4	Description of the information sources for cases identification and validation	Y
5	A list of registration cases	Y
6	Description of coding procedures	Y
7	A clear statement of definitions used in registration	Y
8	Population covered by registration	Y
9	Reference for the population denominator data	Y
10	Description of statistical terms and methods	Y
11	Evaluation of findings: consistency of the number of cases in each calendar year	Y
12	Evaluation of findings: site distribution	Y
13	Evaluation of findings: indices of validity of diagnosis	Y
14	Evaluation of findings: demographic data	Y
15	Evaluation of findings: differences compared with similar areas	Y
	Tabular presentation	
16	Clearly defined contents of the table and the items	Y
17	Denominator for rates	Y
18	Frequency distribution	Y
19	Rate or proportion with the number of observations	Y
20	Particulars and criteria of exclusions	Y
21	Number of cases by site, age and sex	Y
22	Incidence rates by site, age and sex	Y
23	Age-standardised rates	Y
24	Tables for subsets of the population	Y
25	Tables for quality indicators	Y
	Graphical presentation	
26	Limited amount of data per graph	Y
27	Tabular information for the graphs	Y

28	Appropriate choice of scale	Y
29	Graphs should form self-contained units	Y
30	Appropriate use of bar, pie and line graphs	Y

Annex 1. Cancer notification form template

FORMULAR DE RAPORTARE CĂTRE
IMSP INSTITUTUL ONCOLOGIC, REGISTRUL NAȚIONAL DE CANCER

I. DATE DESPRE AUTORITATEA CARE RAPORTEAZĂ

1.1 Instituție medicală/prestator de servicii medicale

_____

1.2 Cod prestator ☐☐☐☐☐☐

1.3 Nume/prenume medic care raportează

_____

1.4 IDNP medicul ☐☐☐☐☐☐☐☐☐☐☐☐☐ 1.5 Semnătură _____

1.6 Ziua ☐☐ Luna ☐☐ Anul ☐☐☐☐ raportării

COD REGISTRU
☐☐☐☐☐☐☐☐☐
ZONA MARCATĂ CU GRI SE COMPLETEAZĂ DE CANCER REGISTRU

II. DATE DESPRE PACIENT

2.1 **NUME** ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ **PRENUME**
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

2.2 IDNP ☐☐☐☐☐☐☐☐☐☐☐☐☐ 2.3 **DATA NAȘTERII** ☐☐.☐☐.☐☐☐☐ 2.4 **SEX**: Masculin - 1 Feminin - 2 ☐

2.5 **DOMICILIU** Raion/Municipiu	2.6 **REȘEDINȚĂ** Raion/Municipiu
_____	_____
Oraș/Comună/Sat	Oraș/Comună/Sat
_____	_____
Stradă	Stradă

2.7 **MOTIVUL RAPORTĂRII** *(marcați numarul corespunzător în căsuța goală)*

Caz nou-1;Avansare-2;Revizuire/infirmare diagnostic-3;Altă tumoră primară-4;Tratamentul tumorii-5;Confirmare postmortem-6; ☐

III. DATE DESPRE TUMORĂ

3.1 Data primei adresări/internări ☐☐.☐☐.☐☐☐☐ 3.2 Dată confirmării anatomopatologică/citologică ☐☐.☐☐.☐☐☐☐

3.3 CERTITUDINEA DIAGNOSTICULUI (*marcați numărul corespunzător în căsuța goală*)
Examen anatomopatologic - 1; Examen citologic - 2; Consiliu/clinico-imagistic - 3; ☐

BAZA DE ÎNREGISTRARE ☐

3.4 COD DIAGNOSTIC

CIM-O-3	***CIM-10 OMS***
/__/☐☐.☐	/__/☐☐.☐

3.5 TOPOGRAFIA TUMORII
(indicați diagnosticul complet conform CIM-O-3)

COD TOPOGRAFIE /__/☐☐.☐

3.6 **LATERALITATEA TUMORII** *(marcați numărul corespunzător în căsuța goală)*
Neaplicabil - 0; Dreapta -1; Stânga - 2; Bilateral -3 ☐

LATERALITATE ☐

3.7 **MORFOLOGIA TUMORII** *(se completează citeț rezultatul cito/histologic)*

3.8 **COD MORFOLOGIE** *(CIM-O-3)* **M-** ☐☐☐☐ /☐

COD MORFOLOGIE M☐☐☐☐ /☐

3.9 **COMPORTAMENTUL TUMORII** *(marcați numărul corespunzător în căsuța goală)*
Benign – 0 ; La limita malignității/borderline – 1 ; In situ – 2 ; Malign – 3; ☐

COMPORTAMENT ☐

3.10 **GRAD DE DIFERENȚIERE HISTOLOGICĂ** *(tumori solide, marcați numărul corespunzător în căsuța goală)* (a) Bine diferenciat – 1;Moderat diferenciat – 2; Slab diferenciat – 3; Nediferențiat – 4; Nedeterminat – 9. ☐ 3.11 **IMUNOFENOTIP** *(leucemii și limfoame, marcați numărul corespunzător în căsuța goală)* (b) Celule T – 5; Celule B/pre-B – 6; Celule NonT- nonB – 7; Celule NK – 8; Nedeterminat – 9. ☐	**GRAD/FENOTIP** *(CIM-O-3)* ☐

anexa nr.1
la Regulamentul de funcționare a SI RNC
aprobat prin HGRM nr. _____din_____

IV. STADIALIZARE TUMORĂ

STADIALIZARE CLINICĂ cTNM

4.1 **cTNM:** X☐ 0☐ I☐ II☐ III☐ IV☐ — A☐ B☐ C☐

(Vezi Clasificarea TNM a Tumorilor Maligne, Ediția a 8-a)

- T T0☐ Tis☐ T1☐ T2☐ T3☐ T4☐ a☐ b☐ c☐ _☐
- N N0☐ N1☐ N2☐ N3☐ a☐ b☐ c☐ _☐
- M M0☐ M1☐ _☐

cTNM ☐☐☐

STADIALIZARE ANATOMOPATOLOGICĂ pTNM

4.2 **pTNM:** Y☐ A☐ X☐ 0☐ I☐ II☐ III☐ IV☐ — A☐ B☐ C☐

(Vezi Clasificarea TNM a Tumorilor Maligne, Ediția a 8-a)

- pT pT0☐ pTis☐ pT1☐ pT2☐ pT3☐ pT4☐ a☐ b☐ c☐ _☐
- pN pN0☐ pN1☐ pN2☐ pN3☐ a☐ b☐ c☐ _☐
- pM pM0☐ pM1☐ _☐

pTNM ☐☐☐

4.3 **STADIUL non TNM (C81-C96 CIM 10 OMS)**

☐ L1; ☐ L2; ☐ L3; ☐ M1; ☐ M2; ☐ M3; ☐ M4; ☐ M5a; ☐ M5b; ☐ M6; ☐ M7; ☐ M0

☐ Accelerată; ☐ Blastică; ☐ Cronică; ☐ Inițial; ☐ Manifestări clinico-hematologice desfășurate; ☐ Terminal

☐ stadiul I ☐ stadiul. II ☐ stadiul III ☐ stadiul IV ☐ A; ☐ B; ☐ E; ☐ S;

V. EVOLUȚIE ȘI TRATAMENT

5.1 **TRATAMENTE APLICATE** *(efectiv realizate)*

	curativ	paliativ	DATA *(zi/lună/an)*
1. Chirurgical	☐	☐	☐☐.☐☐.☐☐☐☐
2. Chimioterapie	☐	☐	☐☐.☐☐.☐☐☐☐
3. Imunoterapie	☐	☐	☐☐.☐☐.☐☐☐☐
4. Hormonal	☐	☐	☐☐.☐☐.☐☐☐☐
5. Radioterapie	☐	☐	☐☐.☐☐.☐☐☐☐
6. Paliativ		☐	☐☐.☐☐.☐☐☐☐
7. Transplant celule stem:			
7a. auto	☐		☐☐.☐☐.☐☐☐☐
7b. allo	☐		☐☐.☐☐.☐☐☐☐
8. Refuz tratament	☐		
9. Lipsa datelor	☐		

5.2 **COD INTERVENȚII CHIRURGICALE (CIM X-AM)**

1. ☐☐☐☐.☐☐
2. ☐☐☐☐.☐☐
3. ☐☐☐☐.☐☐

Protocol citostatic

Tip radioterapie/altele

5.3 **STATUS VITAL LA ULTIMUL CONTACT** *(indicați numărul corespunzător în căsuța goală)* În viață-1; 2.Decedat; 3.Necunoscut ☐

5.4 Data decesului *(zi/lună/an)* ☐☐.☐☐.☐☐☐☐

5.5 Cauza directă a decesului este tumora ***(bifați)*** Da-1; Nu-2; ☐

- **Tumoră raportabilă reprezintă** orice tumoră malignă (C00-C96) conform CIM-10 OMS și CIM-O-3, cod morfologic „/3" sau tumoră in situ (D00-D09) conform CIM-10 OMS și CIM-O-3, cod morfologic „/2" sau tumoră cu evoluție imprevizibilă sau comportament necunoscut (D37-D48) conform CIM-10 OMS și CIM-O-3, cod morfologic „/1" ori tumoră benignă ale creerului și alte părți ale SNC (D32-D33) conform CIM-10-OMS și CIM-O-3, cod morfologic „/0" cu exceptia hemangioamelor și leziunilor chistice.
- **Lista episoadelor raportabile reprezintă** stabilirea unui caz nou de tumoră raportabilă; stabilirea altei „tumori raportabile"; avansare/recidivă unei tumori raportate; revizuirea diagnosticului unei tumori raportate; tratamente aplicate; confirmare postmortem.