



## ■ Summary

Following a request received from the Minister of Health of the Republic of Guinea in December 2022, an imPACT Review was conducted from 5 to 9 December 2023 by the [Programme of Action for Cancer Therapy \(PACT\)](#) of the International Atomic Energy Agency (IAEA), the World Health Organization (WHO) and International Agency for Research on Cancer (IARC). The Review was followed by a workshop for the development of the National Cancer Control Strategic Plan (NCCSP) that took place from 11 to 13 December 2023. The imPACT Review and the support to develop the NCCSP were organized within the framework of the [WHO-IAEA Joint Programme on Cancer Control](#). A team of international experts, nominated by the IAEA, WHO and IARC, held technical discussions with key stakeholders, and visited the health care facilities providing cancer care in the country to develop a comprehensive report including findings and recommendations for the Government and prioritize the activities to be included in the NCCSP.

## ■ Main findings

### 1. Health system overview

The health system in Guinea is led by the Ministry of Health and Public Hygiene (MSHP). The MSHP's vision is implemented through the National Health Policy and the National Health Development Plan. Financing for the health sector comes from the state, local authorities, patients and families affected, and donors. The sector is underfunded, with households primarily covering the costs through direct payment. Social security coverage is limited, with only 6% of the population. The National Health Information System, coordinated by the MSHP Strategy and Development Office, collects, processes and analyses data on the population, health issues, healthcare activities and health system resources. The main management platform is DHIS2, deployed throughout the country.

The Guinean health system comprises public and private sectors, organized in a pyramidal structure. The different tiers of health care represent increasing degrees of specialization and technical sophistication, with the bottom level representing population-wide interventions and ascending levels that represent primary, secondary and tertiary care.

Overall, there is a lack of continuing education in all areas of cancer control and the development of human resources for oncology. The health sector also faces challenges in terms of access to essential medicines and technologies, and the regulation of medical practice.



## 2. Overview of the cancer burden

Guinea is contending with increasing cancer burden, accompanied by an escalating prevalence of both communicable and non-communicable diseases. According to GLOBOCAN 2022, there were 8777 new cancer cases and 6363 cancer deaths in the country. By 2030, these figures are projected to increase by 35.7% and 35.6%, respectively. The most prevalent cancers in women are cervix, breast and liver, while in men, it is liver, prostate and stomach.

New cases of cervical cancer are expected to rise from 2551 in 2022 to 3292 by 2030. Similarly, liver cancer cases are projected to increase from 1575 in 2022 to 2244 in 2030.

In terms of mortality, the outlook is equally concerning. Deaths due to cervical cancer are projected to increase from 1695 in 2022 to 2188 in 2030, and liver cancer deaths are expected to rise from 1557 in 2022 to 2223 in 2030. These estimates underscore the urgent need for effective cancer prevention and treatment strategies in Guinea.

## 3. National cancer control planning and governance

The National Cancer Control Programme (NCCP) is a unit within the MSHP established in April 2022. As part of its mandate, the NCCP is leading the development of and will oversee the implementation of the National Cancer Control Strategic Plan (NCCSP). The NCCP is supported by healthcare stakeholders at all levels but needs more dedicated funding and infrastructure support. The MSHP Health Sector Coordination Committee and its regional, district and sub-district committees are expected to ensure multisectoral coordination and its integration at all levels. However, these committees are not yet operational. Civil society organizations participate in the planning and implementation of cancer control activities, but face challenges in securing funds and coordinating efforts.

The organization of Guinea's healthcare system is optimal for integrating cancer control at all levels. However, the various government bodies at the central, regional and prefecture or community levels have limited experience in cancer control, which is not fully integrated with other health priorities. The NCCP, while providing a strong impetus to improve the cancer control agenda, needs more logistical, human and material resources.

## 4. Cancer registration and surveillance

The Guinean population-based cancer registry (PBCR) is housed at the pathology department of the Donka National Hospital in Conakry. The PBCR was operational from 1991 until 2013. In December 2023, the PBCR was relocated to the Regional Francophone Center for Training in the Prevention of Gynaecological Cancers (Centre Régional Francophone de Formation à la Prévention des Cancers Gynécologiques – CERFFO PCG).

It covers the population of the Conakry region, divided into six municipalities representing almost 15% of the total population. The main challenge is regular data recording and management. There is an opportunity to strengthen the cancer registry system through active engagement with the IARC Regional Hub for Cancer Registration in Africa, established as part of the Global Initiative for Cancer Registry Development (GICR).



## 5. Prevention

In Guinea, cancer control is a significant challenge due to exposure to various risk factors. These include behavioural aspects, such as smoking, alcohol consumption, poor diet and lack of physical activity, which have led to obesity, particularly among women. Infections like HPV, Hepatitis B and C, and HIV also contribute to the cancer burden. Despite the existence of an anti-smoking law and awareness campaigns, prevention efforts are limited and revenues from taxes on tobacco and alcohol are not directed for cancer control activities.

Cervical, liver, and breast cancers are the most prevalent in the country. HPV infection, a major risk factor for cervical cancer, has a high prevalence (50.8%). Similarly, Hepatitis B and C, which are risk factors for liver cancer, show varying prevalence based on occupational status and region (respectively 8–12% and 2%). HIV infection, a contributing factor for cervical cancer, also shows a statistical prevalence (1.5%).

Prevention and screening activities are implemented by civil society organizations (Association Guinéenne pour la Lutte Contre le Cancer, Fraternité Médicale de Guinée and JHPIEGO).

Although cervical cancer is the most prevalent cancer in Guinea, HPV vaccination has not yet been introduced. However, efforts are underway to introduce HPV vaccination targeting girls aged 9 to 13 into Guinea's Expanded Programme on Immunization (EPI). The vaccination of infants against Hepatitis B has been operational since 2008, with a recent extension to include newborns. However, the vaccination coverage among infants aged 0 to 5 remains at 47%.

Guinea ratified the WHO Framework Convention on Tobacco Control in November 2007 and enacted the law L/2012/039/CNT Concerning the Commercialization, Consumption, Advertising and Sponsorship of Tobacco and its Derivative Products in 2012. However, its implementation has been limited. Moreover, the tax revenues generated from tobacco, alcohol and sweetened beverages are not allocated towards combating NCDs, including cancer.

## 6. Early detection

The country's main secondary prevention activity is the screening of cervical cancer using the comprehensive Visual Inspection of the Cervix with Acetic Acid (VIA) and Lugol's Iodine (VILI) technique. Guinea has 41 sites for screening (24 operational), early detection, and treatment of precancerous cervical lesions. The Centre Régional Francophone de Formation à la Prévention des Cancers Gynécologiques (CERFFO PCG) is an African regional hub which, from 2007 to 2020, screened 28 942 women and treated 1 081 cases of precancerous lesions. It also participated in a multicentre trial involving five countries on the sensitivity and specificity of the VIA/VILI technique in the early detection of precancerous cervical lesions.

For breast cancer, early detection is practiced through self-examination and clinical breast examination due to the shortage and high cost of mammography. There are currently three operational mammography units (two public and one private). However, the cost of mammography is out-of-pocket (reduced only during Pink October



screening campaigns). The country faces challenges in expanding early diagnosis services and integrating them into a comprehensive cancer control strategy.

## **7. Diagnosis – diagnostic imaging and nuclear medicine services**

In general, there is the need to develop a national roadmap, focusing on diagnostic imaging, the establishment and sustainability of nuclear medicine and radiotherapy. These services should be planned around the development of a National Cancer Institute, providing comprehensive cancer services. Three 1.5 Tesla MRIs are installed at the Donka University Hospital, the Sino-Guinean Friendship Hospital and the social security clinic's imaging centre, but there are no MRI machines in other regions of the country.

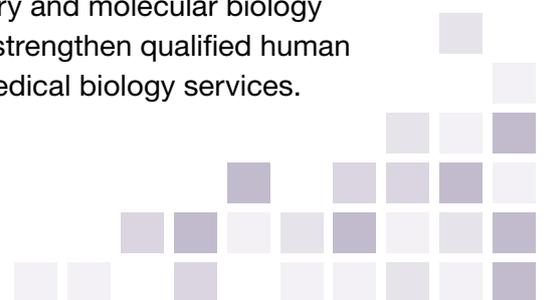
There are no nuclear medicine departments, equipment or nuclear medicine physicians in the country. Diagnostic imaging efforts in Guinea are currently focused on the procurement and maintenance of equipment, as well as the availability of trained personnel. The government has invested in new technologies and diagnostic tools, such as CT scanners, MRIs and mammography machines, which are primarily located in Conakry. However, there is a notable lack of these services across the country.

Quality control and improvement programmes in radiology departments need to be strengthened to ensure optimal functionality of equipment. Taking advantage of after-sales services and maintenance contracts with suppliers would support sustainable radiology.

There is a pressing need for strengthening human resources, particularly in training of radiology technicians, medical physicists. The development of various sub-specialties, including for breast cancer imaging, paediatric radiology, MRI and interventional radiology, and digital imaging in radiology would also be beneficial. Addressing these issues will be crucial for improving the quality and accessibility of diagnostic imaging and nuclear medicine services in Guinea.

## **8. Diagnosis – pathology and laboratory diagnosis**

Pathology and cytology services in Guinea are grappling with several challenges related to lack of equipment, consumables and trained health workforce. Cancers are often diagnosed at advanced stages due to limited access to diagnostic services, lack of early diagnosis with access to diagnostic and treatment services, and limited awareness about cancer signs and symptoms. The two public pathology and cytology laboratories are located at the Donka National Hospital and the Sino-Guinéen Friendship hospital. There is a shortage of qualified pathologists and support staff. The provision of biology and biochemistry services, an effective tool for diagnosis, investigation and therapy in medicine and related disciplines, is facing issues such as a lack of qualified human resources, guidelines, under-financing, limited integration of the laboratory component within diagnostic services and under-equipped laboratories in health centres. There are also unlicensed laboratories performing biomedical analysis. Tumour markers assays are available both in the public and private sector, but there is low awareness. The country lacks a cytogenetic laboratory and molecular biology services, such as immunohistochemistry. The priority is to strengthen qualified human resources and improve cancer diagnosis, pathology and medical biology services.



## 9. Treatment – medical oncology

The majority of patients present at an advanced stage of the disease, which necessitates systemic anti-cancer treatments as the main treatment modality. The treatment of solid cancers and haematological malignancies is provided in three health facilities (two public and one private). Anti-cancer drugs are available from the central pharmacy (supplies health facilities upon request). However, there are several challenges, including limited geographic and financial accessibility to anti-cancer drugs, the lack of qualified workforce the high cost of anti-cancer drugs and the lack of standard operating procedures in outpatient treatment units for receiving, transporting, preparing and safely administering chemotherapy. Access to and availability of approved medication meeting the WHO essential medical list is required. The country has no practising medical oncologists, although two doctors are in the process of specializing. In the field of haemato-oncology, six clinical haematologists are responsible for the management of haematological malignancies. However, there is a general lack of quality and quantity of other health professionals involved in cancer care.

## 10. Treatment – surgical oncology

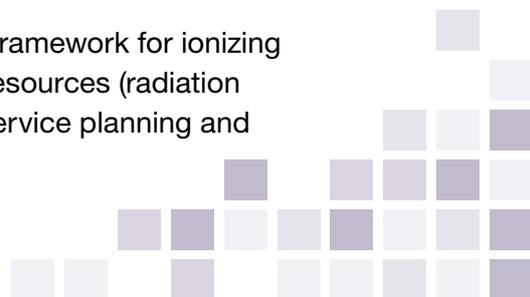
Surgical oncology for palliative and curative purposes accounts for an average of 300 procedures per year, with breast cancer being the most common, for over 7871 new cases per year. These procedures are performed by surgical oncologists, gynaecologists and general surgeons. However, these procedures are not performed in a multidisciplinary system, which is an important area for improvement. The country has three surgical oncologists and more than 26 general surgeons, primarily based at Donka National Hospital, the Sino-Guinéen Friendship Hospital and Ignace Deen National Hospital. Multidisciplinary consultation meetings are not systematically held in hospitals. Conakry facilities have the capacities to provide high-quality surgical oncology services, yet decentralization of care is necessary to increase access to surgical oncology across the country.

## 11. Treatment – radiotherapy

Radiotherapy services in Guinea are currently not available. The estimated number of new cancer cases in 2022 was 7900, and 1300 to 1400 patients present at hospitals, mostly at advanced stages of the disease. Radiotherapy cases are mainly referred to Senegal (275 in 2022), but also to India, Mali, Mauritania, Morocco, Tunisia, as well as Europe. Access to radiotherapy is between 25% and 30% (represented by cases referred abroad).

During the imPACT Review mission, the government authorities have expressed a clear intention to set up a radiotherapy unit. There are two radiotherapy facility projects: the National Cancer Institute Project and the Oncology Center Project. A national roadmap should be developed covering comprehensive cancer care, integrating radiotherapy in this broad strategy. One radiotherapist has been trained in China (currently out of Guinea), X ray technicians and medical physics graduates have expressed interest in training outside Guinea.

The immediate priority is the establishment of a regulatory framework for ionizing radiation safety and protection, and the training of human resources (radiation oncologists, medical physicists, radiation therapists), and service planning and management.



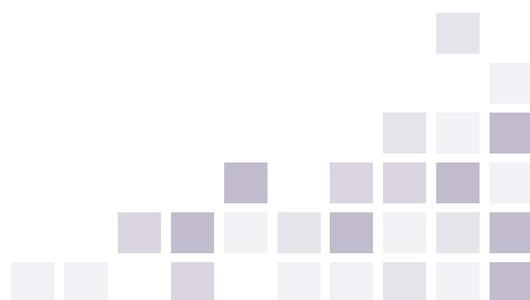
## 12. Treatment – paediatric oncology

Guinea has a Paediatric Haematology and Oncology Unit (Unité d'Hématologie et Oncologie Pédiatrique – UHOP) that treats almost 100 of around 600 new patients every year. While childhood cancers are curable in 80% of cases in developed countries, this unit records almost 30% treatment abandonment and almost 30% mortality. This unit has been in place since 2012 at the Donka National Hospital. There is an urgent need to support parents of children with cancer, notably by setting up a family house in Conakry and procuring drugs to treat the six priority cancers (part of the WHO's Global Initiative for Childhood Cancer: acute lymphoblastic leukaemia, Burkitt's lymphoma, nephroblastoma (Wilms tumour), Hodgkin's lymphoma, retinoblastoma and low-grade glioma). For the achievement of the WHO Global Initiative on Childhood Cancer 2030 targets, a national strategy is needed to expand treatment services to the children across the country as part of an integrated network, develop an early diagnosis programme, develop an optimal care pathway, expand international/national support and strengthen engagement with local NGOs. Paediatric cancer awareness campaigns, including the community as well as primary health care workers, will be essential to ensure that all childhood cancers are appropriately detected, diagnosed and treated.

## 13. Palliative care and survival

Palliative care in Guinea is a pressing need due to the large proportion of advanced stages of the disease and the prevalence of disadvantaged groups. Guinea would benefit from a national palliative care strategy, encompassing in its scope the development and provision of palliative care services to meet the needs of all patients, together with their families and carers, who are dealing with a disease that is known to benefit from palliative care. The Multi-Sectoral National Strategic Plan for the Fight Against Non-Communicable Diseases 2021–2025 envisaged palliative and rehabilitative care accessible to 50% of the population. However, currently there is no public or private palliative care programme in Guinea.

In terms of pain relief, only the 10mg/ml injectable morphine has just become available from Guinea's central pharmacy, as well as injectable Tramadol 100 mg. Three organizations are active in the field for the development of palliative care in Guinea: Soins Palliatifs Guinée (SOPAG), Association pour le Développement des Soins Palliatifs en Guinée (ADESPGUI) and Médecins Sans Frontières Belgique. As most cancer cases present at late stage and are cared for during their terminal phase by family and community, a primary health model of palliative care is essential, with healthcare workers in community centres and provincial hospitals capacitated to provide home-based care. Palliative care needs to be introduced in the undergraduate medical, nursing, pharmacy and allied health curricula and postgraduate courses. There is a need to ensure uninterrupted access to essential medicines for the relief of pain and psychosocial symptoms by strengthening the pharmaceutical supply chain. Research is needed to assess the needs of the community and evaluate the models of care best suited to local context and cultural beliefs.



# ■ Key priority recommendations

## National cancer control planning and governance

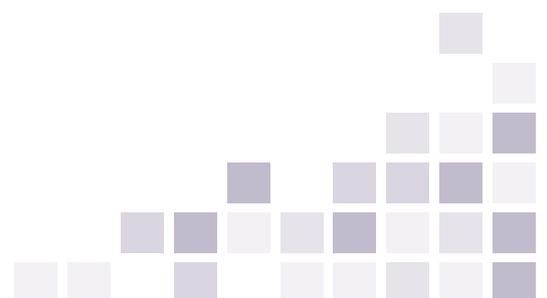
- Prioritize finalization and endorsement of the NCCSP, including a full costing, development of a phased action plan for its implementation and a monitoring and evaluation framework. Establish targets for identified priority actions with clear indicators.
- Establish the governance framework for the National Cancer Control Strategic Plan, along with the National Cancer Steering Committee (including terms of reference, schedule of meetings, reporting system) to oversee the implementation and monitoring and evaluation of the NCCSP. The National Cancer Steering Committee should develop a system for measuring and tracking NCCSP implementation.
- Establish coordination mechanisms with other Ministry of Health and Public Hygiene departments and units, as well as with other Ministries to strengthen multisectoral cancer control management at all levels.
- Develop an advocacy and outreach plan under the NCCSP.
- Develop policy/regulatory measures (e.g., Palliative Care policy, mandatory notification of cancer cases, etc.) and establish guidelines for the provision of healthcare services at all levels to strengthen cancer control.

## Cancer registration and surveillance

- Develop the legal and regulatory framework and the plan to ensure optimal operation of the cancer registry (collection of data, coding, registration, data analysis and publication of a report) and ensure the link with the National Cancer Control Programme with support from the IARC's GICR Regional Hub.
- Recruit and train human resources (registrars, data managers, epidemiologists/biostatisticians, clinical consultants) in Canreg5, data analysis and survival studies.

## Prevention

- Prioritize training, especially at the Regional Francophone Center for Training in the Prevention of Gynaecological Cancers (CERFFO PCG) under the aegis of the NCCSP.
- Introduce HPV vaccination targeting girls aged 9 to 13 into the Expanded Programme of Immunization in Guinea.
- Introduce hepatitis B vaccination at birth, promote among adults and make compulsory for at-risk individuals, such as healthcare workers, including those in training, and sex workers.



## Early detection

- Strengthen training in screening, treatment of precancerous cervical lesions and early diagnosis of priority cancers (breast, prostate, childhood cancers, etc.) at all levels of the health system.
- Develop a national cervical cancer screening strategy based on WHO standards and guidelines. Starting with the gradual introduction of HPV testing, the training of healthcare professionals in HPV testing, and making the HPV test kits available throughout the country.
- Ensure the supply of consumables, equip screening sites with cryotherapy equipment and thermo-coagulation equipment, and reopen non-operational sites.
- Allocate mammography equipment and radiology technicians to national and regional hospitals, according to the national roadmap.

## Diagnostics (diagnostic imaging and nuclear medicine services)

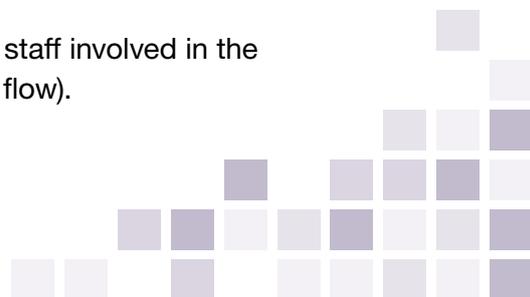
- Equip the Sino-Guinean Friendship Hospital with a mammography unit with tomosynthesis and stereotactic biopsy control module (in 2024), including the chair that can be converted into a table for managing biopsies.
- Plan and finance long-term maintenance for equipment to be procured.
- Set up a training programme in interventional radiology, MRI, paediatric radiology and breast cancer imaging.
- Introduce tele-radiology with partner radiology departments and set up joint professional meetings and distance learning courses.
- Develop equipment and training requirements for the future nuclear medicine department (planned for the National Cancer Institute).

## Diagnosis (pathology and laboratory diagnosis)

- Increase staffing for cancer diagnostics and improve skills:
  - Create a directory for specialists: pathologists, medical biologists, cytogeneticists and anatomical pathology and medical biology technicians.
  - Recruit and train staff to strengthen medical and paramedical cancer diagnosis teams at national and regional hospitals.
- Increase the number of staff, improve infrastructure and equipment in the pathology departments of Donka and Sino-Guinean Friendship hospitals.
- Establish a pathology department at the Ignace Deen National Hospital and at the 7 regional hospitals.
- Ensure immunohistochemistry services for pathology.

## Treatment (medical oncology)

- Strengthen referral and counter-referral system, especially for patients residing outside of Conakry.
- Reinforce basic structural protective measures for nursing staff involved in the preparation and administration of cytotoxic drugs (laminar flow).



- Establish placement plan for medical oncologists in the public sector, including incentivization strategies to reduce the outflow of medical oncologists.
- Formally require multidisciplinary tumour board meetings.
- Align the national essential medicines list (EML) with WHO Model List of Essential Medicine and ensure availability and accessibility of anti-cancer drugs and adjuvants, including morphine.
- Establish outpatient chemotherapy treatment units, with equipment and preparation rooms, in the oncology and haematology departments of the Donka and Ignace Deen National Hospitals.

## Treatment (surgical oncology)

- Open the Donka and Sino-Guinean Friendship hospitals cancer departments.
- Establish surgical teams (surgeons, anaesthesiologists, nurses) and multidisciplinary tumour boards (MTB).
- Establish and ensure compliance on the surgical pathway.
- Equip operating theatres with essential equipment for optimal surgical diagnosis, as well as curative and palliative treatment.

## Radiotherapy

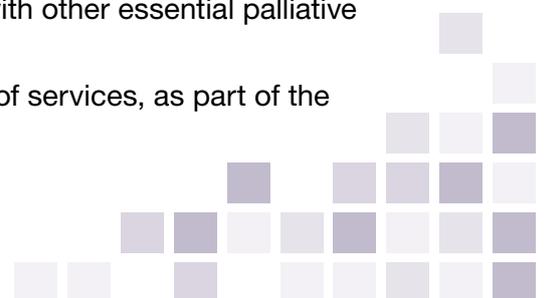
- Set up a project team of national and international experts in charge of strategic planning, design, drafting of specifications and monitoring for the National Cancer Institute project.
- Develop a roadmap for the radiotherapy project, including, for instance, training of radiation oncologists, medical physicists, RTTs and nurses.

## Paediatric oncology

- Ensure support for parents of children with cancer, e.g., with medicines and temporary accommodations (possibly with the assistance of a local NGO) near the Donka National Hospital.
- Continue implementation, monitoring and reporting of the early diagnosis programme.
- Set up satellite units outside of Conakry for early diagnosis and patient follow-up, in collaboration with the paediatric unit of the Donka National Hospital.
- Procure essential equipment to diagnose paediatric cancers.

## Palliative care

- Develop and endorse a National Palliative Care Strategy with an action plan, integrating palliative care in the health system, especially at the primary care level.
- Develop competency-based palliative care training courses for physicians, nursing, pharmacy, and social work health workers across the four regions.
- Make reconstituted liquid oral morphine available, along with other essential palliative care drugs.
- Develop an integrated and coordinated palliative care set of services, as part of the package of essential health services.



# ■ The WHO–IAEA–IARC joint activities on cancer control

In March 2009, WHO and IAEA signed arrangements at the Director-General level to implement a Joint Programme on Cancer Control. The main purpose of this arrangement is to coordinate activities and resources to provide evidence-based and sustainable support to comprehensive cancer control programmes, particularly in low- and middle-income countries. The imPACT Review is carried out as a comprehensive assessment of national cancer control capacities and needs. It is a partnership effort between the International Atomic Energy Agency (IAEA), the International Agency for Research on Cancer (IARC) and the World Health Organization (WHO). Where relevant, other partners are involved, such as the Union for International Cancer Control (UICC) and the United Nations Office on Drugs and Crime (UNODC). The IAEA Division of Programme of Action for Cancer Therapy (PACT) is responsible for coordinating the imPACT Reviews and for mobilizing the resources for their implementation.

Click here to read more about the imPACT mission to Guinea: [Empowering Guinea: The IAEA Provides Guidance on Cancer Control Measures to One of its Newest Member States](#)



**For any questions or additional information, please contact**

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