



## Summary

Following a request received from the Minister of Health of the Independent State of Papua New Guinea in November 2022, an imPACT Review was conducted from April to September 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 imPACT Review was 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 principal cancer facilities in the country.

## Main findings

### 1. Cancer burden

The mortality due to non-communicable diseases in Papua New Guinea (PNG) was estimated to account for 56% of all deaths in 2018, and cancer related mortality contributed with 12% in 2018. The cancer incidence and mortality figures presented in this report are based on the International Agency for Research on Cancer (IARC) estimates using data from cancer registries in neighbouring countries, since currently there is no population or hospital-based cancer registry system established.

According to IARC's GLOBOCAN (2020) estimates, there were 12 159 new cancer cases (5 399 in men and 6 760 in women). The most common cancers among men were lip, oral cavity (14%), prostate (13.2%), liver (8%) and lung (7.6%). In women, the most common cancers were breast (23.2%), cervix uteri (15.9%) and lip, oral cavity (7.1%). The estimated number of cancer deaths in 2020 was 7 276 and it is estimated that by 2030, cancer burden will increase, resulting in 16 506 new cancer cases.

### 2. Health system overview

The National Health Plan (NHP) (2011–2020) is the key policy document outlining planned transformation of the health system. The main reform process includes decentralization with devolution of responsibilities from the National Department of Health (NDoH) to the Provincial Health Authorities (PHAs), established in all 22 provinces of the country. With this plan, PHAs will have most of the planning, budgeting and management responsibility for services in their region, including for cancer prevention and early detection activities. The future role of NDoH will be



to enhance the coordination and planning of health services by setting policies, standards, and monitoring and evaluation of the health sector performance.

Using the [universal health coverage \(UHC\) index](#) (2021), Papua New Guinea is the lowest ranked in the Western Pacific Region (30), and the third lowest in the world. The average for the WHO Western Pacific Region is 79, while the global average is 68. One of the main goals of the health sector decentralisation is to increase the local-level coordination and to overcome major challenges to UHC, such as reliable supply of medicines and consumables (currently key issue for cancer related services), shortage of workforce and facility-controlled finances.

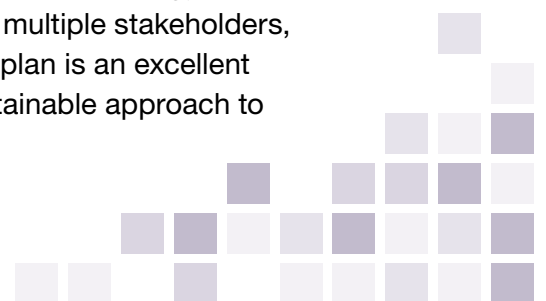
The main source of funding for the health sector is general taxation, contributing 80% of total government-provided health revenues. With expected decrease in revenues, the NHP (2021–2030) expects 20–30% of funding to come from donors and development partners. Although funding from general taxation is a stable income for the public sector overall, the NDoH aspires to increase non-tax revenue and diversify the domestic health financing, including plans to set up a social insurance scheme and increase revenues from tobacco related taxes.

The health care delivery is organized at six levels. In the terms of cancer control services, the biggest referral and teaching hospital is Port Moresby General Hospital (PMGH), with ongoing construction work to establish a comprehensive cancer centre in early 2025. The ANGAU Memorial Hospital in Lae is the second referral hospital, with medical and radiation oncology services, latter not operational since 2018. Larger provincial hospitals (Western Highlands, Simbu, East New Britain) have either active or establishing ability to provide basic medical oncology care, progressing the plan to have cancer satellite centres in all provinces by 2030.

### **3. National cancer control planning and governance**

The National Cancer Control Policy 2015 (NCCP) and Cancer Action Priorities (CAP) for 2017–2021 together form the national comprehensive cancer control programme for PNG. Important progress in its implementation has been duly acknowledged in a review by the International Cancer Control Partnership in 2022. Building on this momentum, there is a need to utilize the findings from this comprehensive review to institute a long-term strategic plan. Moving forward, there is a need to significantly strengthen governance and coordination capacities of the cancer control programme, with consideration to re-orient the programme from a curative to a preventative approach. It would be equally important to establish mechanisms for the sustainable financing of cancer activities. An update of the existing policies has the potential to open funding opportunities, both from the national budget and development partners.

There is a national interest in working towards cervical cancer elimination, with considerable support from bilateral agencies, especially the Australian Centre for the Prevention of Cervical Cancer (ACPCC), which leads the initiative for [Ending Cervical Cancer in the Western Pacific Region](#). A National Cervical Cancer Strategy (2021–2030) has been drafted and would benefit from a review by multiple stakeholders, including those beyond the cancer control disciplines. This plan is an excellent head start to guide the country towards a coordinated, sustainable approach to



introduce HPV vaccination, cervical cancer screening and treatment and can be used nationwide with flexibility to accommodate the differing needs of 22 provinces.

#### 4. Cancer registration and surveillance

Population-based cancer registries (PBCRs) are essential in providing reliable data to facilitate effective planning, implementation and monitoring of cancer control interventions. While there is no national cancer registry programme, the impACT Review revealed a significant interest from national stakeholders. There is commitment in developing a strong cancer registration system. Planning for hospital-based cancer registries (HBCR) has commenced in Port Moresby General Hospital and ANGAU Provincial Hospital. The 2015 National Cancer Control Policy also puts forward a strategy for a National Cancer Registry development in a phased manner.

Priority actions to further advance the cancer surveillance system in the country include setting up a National Registry Committee and addressing key challenges identified: lack of unique patient identifier; inadequate financial, infrastructural and human resources; lack of a legislative framework to make cancer a notifiable disease. In addition, health-records keeping and vital statistic system should be improved by using international disease and cause of deaths coding standards, such as ICD-10. There is an opportunity to strengthen the cancer registry system by leveraging on efforts by IARC Regional Hub for Cancer Registration in the Pacific Islands established as part of the [Global Initiative for Cancer Registry Development](#).

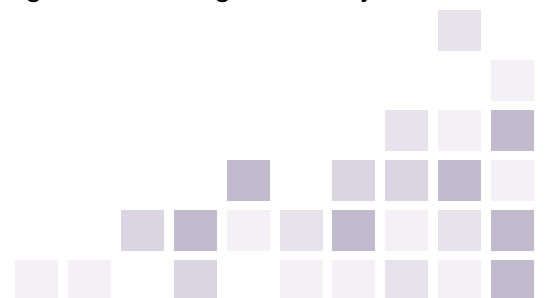
#### 5. Primary prevention

PNG faces a critical need to address common cancer risk factors through a targeted and strategic approach to health education due to low levels of 'health- and general-literacy' among its population. While the WHO recommends a set of cost-effective interventions for NCD risk factors, current resource allocation and level of political will pose challenges for PNG to implement these recommendations. Overcoming this requires substantial government investment, political will and cross-sectoral leadership.

While the pilot implementation of HPV vaccination showed promising acceptance, a comprehensive analysis of outcomes is crucial. Scaling up nationwide implementation with sustainable funding, ideally [incorporating HPV vaccination](#) into the National Immunization Programme (NIP), is recommended. Strengthening the NIP, including Hepatitis B vaccination, is imperative to meet WHO targets, requiring prioritization by all Public Health Authorities.

#### 6. Early detection

The National Cancer Control Policy 2015 identified cervical, breast and oral cancers as priority areas for screening in PNG. While positive progress has been made in [cervical cancer screening](#) through pilot projects, there is a lack of clear plans for nationwide expansion and sustained implementation. Several Provincial Health Authorities (PHAs) aim to implement HPV screen-and-treat in 2023–2024, contingent on funding availability.



Oral and [breast cancer screening](#) face challenges due to limited healthcare resources. However, an opportunity exists to integrate breast cancer screening with cervical cancer screening under the theme of ‘women’s health screening’. Considering the current cancer screening landscape in PNG, investing in a robust [early diagnosis pathway](#) for symptomatic patients is imperative. Additionally, recognizing the challenges patients face in navigating the healthcare system, especially with low literacy rates and limited access to services, a patient navigation pathway should be developed for PNG.

## 7. Cancer diagnosis – diagnostic imaging and nuclear medicine

The greatest number of radiology imaging services are concentrated in the urban centres, with many remote areas lacking access to essential services, making it difficult to diagnose and treat various medical conditions. Diagnostic imaging using conventional and digital methods such as general X ray radiography, computer tomography (CT) scan, magnetic resonance imaging (MRI), mammography and ultrasound are available but not equally distributed across the country. Currently, there are no nuclear medicine services available, however, a facility is under construction at the PMGH and will include gamma-camera, positron emission tomography/ computer tomography (PET-CT) Unit, Stress Test Facility and Hot Laboratory.

Diagnostic imaging human resources are available, with 7 radiologists and 32 radiographers, a number which is insufficient to ensure wide access to services. Their competencies and clinical skills should be enhanced by targeted short-term trainings and/or overseas fellowships in oncology imaging. An important priority is to develop a plan for appointing [clinical medical physicists in radiology](#) and to recruit nuclear medicine physician, radio pharmacist, nuclear medicine technologist and nuclear medicine medical physicist to ensure adequate and safe provision of [PET/CT services](#), planned to be established in 2025 at PMGH. Establishing a [radiology information system with digital imaging and archiving](#), will allow teleradiology that will further improve capacity of human resources and availability of services in remote areas.

Efforts to improve services should prioritize equipment availability and long-term maintenance contracts, developing a skilled workforce and implementing [a comprehensive quality management system](#) and radiation safety practices. Papua New Guinea should enforce strict adherence to accepted radiation safety guidelines, including appropriate shielding, dose optimization techniques and radiation monitoring programmes. Regular training on radiation safety protocols, as well as proper handling and disposal of radiopharmaceuticals, should be provided to personnel involved in both public and private sector.

## 8. Cancer diagnosis – pathology and laboratory services

Papua New Guinea faces considerable challenges in the provision of histopathology services. Noting that without the identification of malignant nature of the disease, effective treatment cannot be delivered, expansion of PNG national cancer control programme, inevitably requires strong and reliable pathology services. There is a considerable mismatch between the heavy workload and the small number of histopathologists, with only 6 pathologists working in the public sector (5 of them



at PMGH) and 2 in the private sector. This is further exacerbated by the requirement to also cover hematopathology and administrative duties. This leaves approximately 30 to 40% of available time for histopathology reporting.

Maintaining an adequate number of qualified staff is critical to providing timely and accurate pathology services. It is important to ensure qualifications and certification through appropriate education, training and continuing professional development. An effective supervision and mentoring programme should be developed and interdisciplinary coordination and teamwork with clinical services should also be encouraged. Until these essential elements of a national training programme in pathology are established, in the short term, consideration should be given to explore assistance from volunteer pathologists in Australia and New Zealand, leveraging on the existing relationships with the Royal College of Pathologists of Australasia (RCPA).

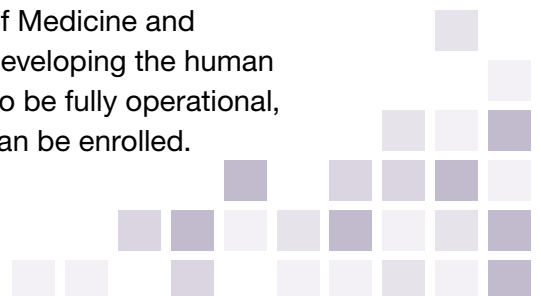
PMGH is currently the only hospital with a fully functional anatomic pathology laboratory, which further delays report issuing. On average, it takes around six months to report histopathology samples with some cases experiencing delays of up to one year. Papua New Guinea should address availability of equipment across the main provincial hospitals (currently some equipment is available at Goroka, Alotau provincial and ANGAU referral hospitals), including to regulate procurement and management of essential supplies as well as to establish an effective equipment maintenance system. Future planning of services in the context of cancer control should consider [WHO Guide to Establish Pathology Laboratory \(2019\)](#).

## 9. Cancer treatment – medical oncology

Medical oncology services in Papua New Guinea are available at two government referral hospitals, Port Moresby General Hospital (PMGH) located in the capital city of Port Moresby, and ANGAU General Hospital (ANGAU) located in Lae, capital of the Morobe Province. Cancer treatment resources are very limited in most of the provincial health system. Cancer management is just emerging in the limited private sector with a unit being equipped and staffed at the Pacific International Hospital in Port Moresby.

Access to and availability of licensed medication meeting the [WHO essential medical list](#) is required, and frequent medication shortages force patients to seek alternative sources in private pharmacies and lead to catastrophic expenditures and treatment abandonment. There is a need to establish oncology pharmacy in hospitals to improve the [quality of chemotherapy preparation and administration](#). During the time of the in-country mission, the only oncology cabinet at PMGH was not operational, which caused a delay in administering chemotherapy at country level. The current landscape underscores the need to improve capacity and access to cancer care, introduce national treatment guidelines followed by multidisciplinary approach to cancer management, and enhance support services for patients and their families.

Sub-specialty trained medical oncologists are not available in the public or private health sector. The ongoing development of a training pathway for clinical oncology at the University of Papua New Guinea's School of Medicine and Health Sciences (UPNGSMH) is a promising step towards developing the human resources capacity. In order for this academic programme to be fully operational, senior faculty members must be recruited before trainees can be enrolled.



## 10. Cancer treatment – surgical oncology

Papua New Guinea has a significant burden of solid tumors like oral, breast and cervical cancers, which requires surgery as an essential treatment option. Furthermore, the lack of radiation oncology and the inconsistent availability of chemotherapy drugs, makes surgery an important treatment modality. Acknowledging the efforts by the National Department of Health in scaling up early diagnosis and screening programmes, the country will soon be faced with large numbers of early-stage cancers, which would require enhanced facilities in surgical oncology.

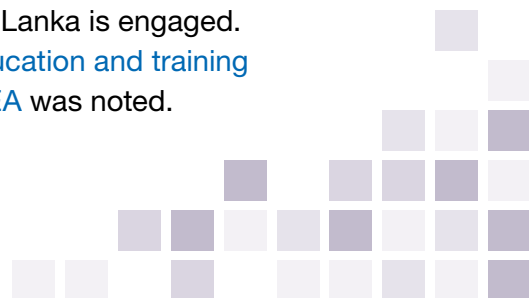
Cancer surgery is currently performed in three types of hospital facilities: PMGH, corporate hospitals in Port Moresby and in a few hospitals under the Provincial Health Authorities (PHAs). Breast and oral cancer are the most common surgeries performed. At PMGH, surgeons also perform complex gastrointestinal cancer surgery, neurosurgery and reconstructive surgery. The overall surgical training in PNG is very good and surgeons are skilled, however, they have not received formal training in surgical oncology.

Surgical oncology services in most centers in PNG are inadequate and need to be developed significantly. PMGH manages the major burden of cancer patients in the country. Hospitals under PHAs need to be strengthened to decrease the workload at PMGH. There is also a need to incorporate some form of evidence-based guidelines for treatment and adopt [multidisciplinary treatment approach](#) in practice. The new cancer center at PMGH will provide an excellent opportunity to plan and strengthen the surgical oncology services.

## 11. Cancer treatment – radiation oncology

At the time of the in-country mission in September 2023, there was no operational radiotherapy service in the country. The radiotherapy facilities at ANGAU Memorial Hospital had not been operational since 2018, and the new facilities planned at PMGH are still under construction with reported delayed progress. Plans for improvement should be focused on [setting up and running efficiently the two already planned centers](#). This includes the re-establishment plan for the Cobalt-60 unit at ANGAU Memorial Hospital with further expansion in the next few years, and finish [setting up the new cancer center at PMGH](#), including the two LINACs and a brachytherapy unit. It is recommended to have these two centers operating optimally within the next five years, before any plans for expansion are executed. In addition to the health benefits and patient survival, long-term planning of radiotherapy (a roadmap is provided as Annex 2) will provide financial gains. With the scale of five operational RT machines running optimally in the next 10 years, the country is estimated to gain a net benefit of US\$ 85 million.

Important prerequisites of the radiotherapy services are functioning radiation safety regulatory body and a definitive cancer diagnostic capacity in the country. The regulatory body has yet to fulfil its role to deliver licensing and supervision of safe ionizing radiation health services. In terms of workforce, at PMGH there are two highly dedicated clinical oncologists from India, and three medical physicists. At ANGAU Memorial Hospital, a clinical oncologist from Sri Lanka is engaged. Further recruitments of additional workforce, along [with education and training needs for the existing personnel to be supported by the IAEA](#) was noted.





## 12. Paediatric oncology

Services for pediatric cancer have only become available in Papua New Guinea over the last several years. A small, dedicated team of pediatricians, nurses and other health professionals provide care to children with cancer at PMGH. Due to the logistical and travel challenges, any patient from outside Port Moresby must lodge on the small pediatric cancer unit at PMGH for the entirety of their treatment course. This challenge also leads to some children not even being able to complete treatment. With limited knowledge of the signs and symptoms of childhood cancer at the primary health care level, it is likely that many children in PNG who develop cancer go undiagnosed. At PMGH, the number of diagnosed and treated cases each year is well below projected pediatric cancer incidence. The challenges faced by the pediatric cancer services mirror those of medical oncology, namely access to diagnostic resources and the availability of chemotherapy.

Longstanding informal partnerships with institutions in Australia provide access to training for physicians and nurses as well as consultation on diagnosing, staging and treating children with cancer. Like medical oncology, the anticipated opportunity for post-graduate training in pediatric oncology to be offered at the at the University of Papua New Guinea's School of Medicine and Health Sciences inspires hope for increased human capacity in the near future.

[Pediatric cancer awareness campaigns](#), including the community as well as primary health care workers, will be essential to ensure that all children who develop cancer are appropriately recognized, stabilized and promptly referred. Increased recognition and diagnosis of childhood cancer will require [additional resources including more trained health care workers](#), more physical space and stable procurement of supplies for diagnosis and treatment. The development of pediatric cancer services at PMGH are encouraging and efforts should be intensified to further establish this center as the hub for pediatric cancer services in PNG. Considering the size and terrain of PNG, satellite centers in the provincial health system will need to be developed so that children can get cancer treatment closer to where they live.

In order to further prioritize childhood cancer and related investments, it is recommended that PNG joins the [WHO Global Initiative on Childhood Cancer](#), focusing on comprehensive childhood cancer care, including early diagnosis, treatment, palliative care and survivorship. The country should draft a proposal for the improvement of pediatric cancer services and submit it to the WHO Country Office.

## 13. Palliative care

Palliative care remains underdeveloped in PNG. With the increasing incidence of cancer and other non-communicable diseases, there is an urgent need to build the capacity of the healthcare system to provide effective palliation services. This would be facilitated by developing a [National Palliative Care Strategy](#) in the next 12 months. As most cancer cases present at late stage and are cared for during their terminal illness by family and community, [a primary health model of palliative care](#) is essential, with healthcare workers in community centres and provincial hospitals enabled to provide home-based care.



Palliative care needs to be introduced into 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 medicine 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 believes.

#### 14. Radiation safety considerations

Progress has been made by adopting the Radiation Safety and Control Act (2019) and Radiation Safety and Control Regulations (2021). Regulations to specify the requirements and associated criteria relevant to medical exposure need to be developed, which is essential to the implementation of regulatory control over the use of radiation sources in medical facilities.

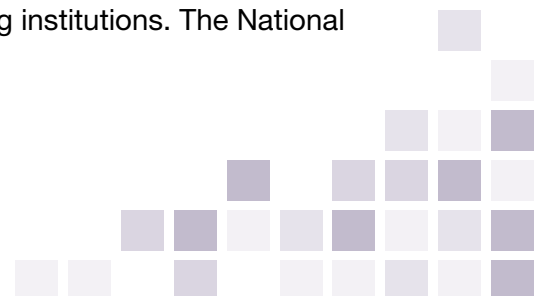
The 2019 Act designates the National Institute of Standards and Industrial Technology (NISIT) as the regulatory body for radiation safety. However, human resources of NISIT for the proper and timely discharge of the regulatory functions are very limited and inadequate. The NISIT training programme to ensure the competences and skills of the staff to perform regulatory control is not in place. Considering lack of workforce with adequate radiation safety qualifications, the development and implementation of an appropriate training programme is a priority.

The 2019 Act provides framework for the establishment of a system for the authorisation of radiation facilities and activities. The NISIT has not yet implemented this core regulatory function. Given the ongoing activities to restore radiotherapy facilities at ANGAU Memorial Hospital and the plans to establish comprehensive cancer centre at PMGH, this is considered a priority activity of the regulatory body.

## ■ Key priority recommendations

### National cancer control planning and governance

- Evaluate and/or review the NCCP (2015), CAP (2017–2021) and National Cervical Cancer Strategy (2021–2030). Considering the recent changes in the surrounding policy environment, technological advancements, health system decentralisation and global evidence base, these strategic documents need an update. Consolidation into one policy/plan document should be considered. The Strategic framework for the comprehensive prevention and control of cervical cancer in the Western Pacific Region 2023–2030 will be a useful guiding document in this process.
- Establish a National Cancer Coordination Committee to support planning and oversee implementation of the aforementioned policies and plans. Composition of the Committee should include representation of public health, clinical, professional and civil society stakeholders, as well as academia and training institutions. The National





Department of Health should lead the Committee and get experience from similar coordination mechanisms in countries of the region (e.g., potential collaboration with the Ministry of Health Malaysia may be considered).

- Ensure prevention and cancer screening programmes, especially cervical, breast and oral cancers, are a mandatory component of the Provincial Health Authorities (PHAs) health plans (as part of the health system decentralization) and aligned with the key national health and cancer related strategies.

## Cancer registry and surveillance

- Establish a dedicated National Cancer Registry Advisory Committee with multi-sectoral representation (PNG Medical Oncology Association; PNG Pathology Society; NDoH; PNG Cancer Society; Directors of cancer registries; vital registries representative from the National Statistical Office; the Asian Development Bank).
- Facilitate the Cancer Registry Advisory Committee to develop a costed National Strategy for Cancer Registration (part of NCCP) with a well-defined implementation framework and clear assignment of resources and responsibilities.
- Initiate the process of establishing population-based cancer registries in collaboration with IARC's GICR Regional Hub with ANGAU General Hospital as the priority site followed by Port Moresby.

## Prevention

- In collaboration with the National Department of Education, strengthen health education in school children, with focus on (a) risk of chewing betel nut and its direct relation to oral cancers; (b) the dangers of smoking; and (c) harmful use of alcohol.
- In collaboration with all PHAs — prepare a nation-wide plan to implement a national HPV vaccination programme in all provinces. Implementation will be one-dose schedule for girls aged 9 to 14 years, through a combination of school-based and outreach.
- Implement a population-based STEPs survey on regular basis. The survey could be modified for low-resource settings, with the inclusion of optional modules on selected cancer screenings.

## Early detection

- Prepare a nation-wide stepwise plan to implement an HPV screen-and-treat cervical screening programme in all provinces, in collaboration with all PHAs. Implementation will be based on the clinical screening guideline developed by the PNG National Technical Working Group (TWG) on Cervical Cancer (2021).
- Implement a breast cancer screening programme, using clinical breast examination (CBE), among asymptomatic women, and to integrate with the national cervical cancer screening programme.
- Implement an oral cancer screening programme using physical examination, among asymptomatic individuals, driven by the CHWs.

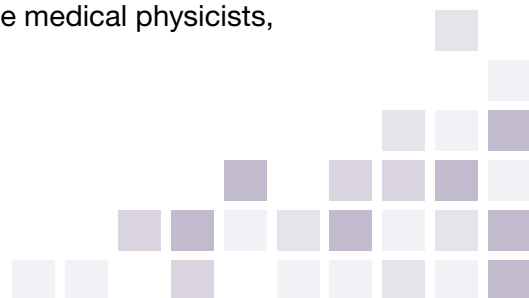


## Diagnosis (pathology and laboratory services)

- Develop an action plan to strengthen the pathology services by provision of tissue processing, embedding, sectioning and staining at PMGH, ANGAU, Alotau and Goroka hospitals to enhance access to anatomical pathology services.
- On-line resource for planning purposes: [www.who.int/publications/i/item/guide-for-establishing-a-pathology-laboratory-in-the-context-of-cancer-control](http://www.who.int/publications/i/item/guide-for-establishing-a-pathology-laboratory-in-the-context-of-cancer-control)
- Employ adequate numbers of well-trained staff (histo-technicians) at each site, including sufficient staff to cover for planned and unplanned leave.
- On-line resource for planning purposes: [www.who.int/publications/i/item/guide-for-establishing-a-pathology-laboratory-in-the-context-of-cancer-control](http://www.who.int/publications/i/item/guide-for-establishing-a-pathology-laboratory-in-the-context-of-cancer-control) Institutionalize a logistics management information system to guide the ordering, importation and supply of reagents in order to support continuous service delivery.
- Introduce the provision of immunohistochemistry with a focus on markers that are important for diagnosis and appropriate therapy for treatable cancers, particularly breast cancer and haematological malignancy.
- Provide pathologists with access to microscopes with digital cameras and internet connectivity to facilitate consultation with colleagues at distance.

## Diagnosis (diagnostic imaging and nuclear medicine)

- Establish radioprotection programme and appropriate personnel to be able to lead this initiative in each of the hospitals in PNG offering radiology services. This can be achieved at hospital level by initially appointing a radiation safety officer that would support in the establishment of the radiation protection programme within the guidelines of the International Basic Safety Standards. This may be achieved in conjunction with the IAEA TC project.
- Upscale the radiology imaging services by providing modern imaging technologies such as CT scan and MRI and replacing almost end-of-life equipment in major hospitals, especially at PMGH. This should be supplemented with appropriate service warranty agreement with vendors to assure minimal downtime. Mobile X ray equipment should not be used for routine radiography examinations. Radiographers or equivalents should be properly trained in handling equipment.
- Further the education of radiologist in cancer imaging by having additional fellowship training specific for oncological imaging utilizing CT and MRI. In the absence of specialist in CT and MRI, this approach can increase the complement of competent radiologist with specialty training in oncology and can serve as future trainers to junior colleagues who intend to pursue this pathway aligning with the cancer programme of the country. This can be achieved by availing of fellowship programmes in neighbouring countries such as Thailand and the Philippines and should be supported by the national government as it prepared to enhance the cancer control programme of the country.
- Train human resources at the PMGH radiology department in PET/CT operations, in view of the planned establishment of the PET/CT. The training should include radiologists, nuclear medicine physicians, nuclear medicine medical physicists, MITs/radiographers and nurses.



## Treatment (medical oncology)

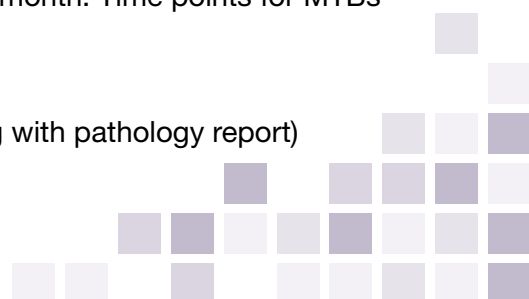
- Approve the updated country essential medicines list (EML) by the Pharmacy Advisory Committee in line with WHO Model List of Essential Medicine (updated in July 2023).
- Conduct regular review, planning and forecasting for current and new chemotherapy agents to be included in the country essential medicines list (by the medical and paediatric oncology teams). As a follow up, NDoH to include request for chemotherapy agents and forecast volumes as part of the budget submission to Treasury.
- Provide e-learning courses that enables community pharmacists to understand the supply, safe handling, adverse effects, supportive care and potential issues surrounding oral chemotherapy agents.
- Online resources:
  - <https://education.eviq.org.au/courses/pharmacy/oral-anti-cancer-drugs-in-community-pharmacy>
  - [iris.paho.org/bitstream/handle/10665.2/28554/9789275118016-eng.pdf?sequence=1&isAllowed=y](https://iris.paho.org/bitstream/handle/10665.2/28554/9789275118016-eng.pdf?sequence=1&isAllowed=y)

## Treatment (radiation oncology)

- Focus on setting up and running the two planned centers (ANGAU Memorial Hospital and PMGH) at least for the next five years. All efforts should be aimed to have five RT machines running and utilized optimally with good quality radiotherapy services.
- Discussion and planning for new center(s) may start in the medium term, involving all national stakeholders along with IAEA support, targeting to open then new center(s) after 2030.
- Offer Clinical competence training and refreshment courses for the existing radiotherapy workforce are to be provided preceding the start of service at any institute, with support from the IAEA and also regional countries as host institutes, including Indonesia. In medium to longer term, the nation is expected to start their own clinical education programme, including the Master of Medicine (Mmed) programme for Clinical Oncology, and potentially for Medical Physicists.
- Establish Multidisciplinary Tumour Boards (MTBs) to ensure acceptance and optimal utilization of radiotherapy services. MTBs are essential and will need to be regularly held in the two hospitals (PMGH and ANGAU) with implementation of institutional clinical guidelines. These institutional platforms may also serve as an initial driving force to deliver multidisciplinary clinical practice.

## Treatment (surgical oncology)

- Identify clinicians who can participate in MTBs discussions. Multidisciplinary treatment decisions should be instituted at all centres. The preferred composition would be as follows: surgeon, radiation oncologist, medical oncologist, radiologist, pathologist and a palliative care physician. Minimum MTBs requirements: surgeon, radiation oncologist, medical oncologist. Conduct at least two MTBs meetings/month. Time points for MTBs evaluation for any cancer patient:
  - After the initial workup, prior to treatment planning
  - After surgery, before planning adjuvant treatment (along with pathology report)



- On follow-up, in case of a suspected recurrence/residual disease
- Please find below a link to setting up MTBs in LMICs:  
[www.ncbi.nlm.nih.gov/pmc/articles/PMC9812446/?report=classic](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC9812446/?report=classic)
- Collect and maintain essential data of annual number of cancer surgeries performed, site of cancer and other demographic data. Maintain a database of perioperative outcomes (complications, length of hospital stays, pathology).
- Initiate an annual surgical oncology conference (discuss surgery techniques, challenges, sharing of oncology infrastructure and long-term workforce planning).
- Identify training sites in the region and pursue collaboration agreement for training and fellowships in surgical oncology (e.g., approach Tata Memorial Hospital, India, as discussed during the debriefing with the Minister of Health)

## Pediatric oncology

- Draft a proposal to leverage the WHO Global Initiative for Childhood Cancer for pediatric cancer services in PNG utilizing the CUREALL framework and submit the proposal to the WHO Country Office.
- Provide consistent access to all chemotherapy and supportive care medications, consistent with the WHO Essential Medicine List for Childhood Cancer.

## Palliative care

- Improve the accuracy of annual estimates for controlled medicines needs by:
  - Incorporate morbidity data based on serious health-related suffering metrics
  - Resource the Pharmaceutical Care Unit at NDoH to conduct the activities required for compliance with international conventions
- Develop and endorse a National Palliative Care Strategy with an accompanying action plan to integrate palliative care into mainstream health care, with an emphasis on primary health. Establish a technical committee under the NDoH to oversee the development and implementation of the Palliative Care Strategy.
- Develop competency-based palliative care training courses for medical, nursing, pharmacy and social work health disciplines.



# ■ 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 Papua New Guinea: [Prioritizing Childhood and Cervical Cancer in Papua New Guinea](#)



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

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