

Summary

Following the request from the Ministry of Health and Population of Nepal in June 2020, the [Programme of Action for Cancer Therapy \(PACT\)](#) of the International Atomic Energy Agency (IAEA), the WHO Regional Office South-East Asia (WHO SEARO), and the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO), conducted an [imPACT review](#) from November 2020 to March 2021.

The imPACT Review expert team, nominated by the IAEA, the WHO SEARO and the IARC, assessed Nepal's cancer control capacity and needs in the cancer control continuum, and provided recommendations to the Government for:

- Strengthening national capacities in cancer control
- Supporting the development of an NCCP and related policies, strategies and plans and strengthen the cancer surveillance system
- Supporting relevant resource mobilization efforts

The imPACT Review report provided the Ministry of Health and Population with a set of findings and of priorities recommendations to orient the planning process for a comprehensive and evidence-based national cancer control plan.

Main findings

1. **Cancer Burden:** Nepal faces a double burden of communicable diseases, like HIV/AIDS and malaria, and non-communicable diseases (NCDs), such as cancer and injuries. WHO estimates that NCDs account for 66% of all deaths, 9% of which are attributable to cancer. According to IARC's GLOBOCAN estimates, there were 20,508 new cancer cases (8,943 in men and 11,565 in women) in 2020. Women are more affected because of the cervical cancer burden (2,244 new cases), which ranks first, followed by breast cancer (1,973 new cases) and lung cancer (896 new cases). The most frequent cancer sites for men in Nepal are lung (1,609 cases), stomach (977 cases) and colorectum (621 cases). The estimated number of new childhood cancer cases is 485 cases, aged 0-14 years and 829 cases, age 0-19 years. National cancer data have been provided through three population-based cancer registries, covering 9 out of 77 districts in the country.
2. **Early Detection:** There is currently no population-based screening and related activities are implemented



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in an opportunistic manner through screening camps and research settings. The visual inspection with diluted acetic acid (VIA) test is commonly used for screening and a “screen-and-treat” approach is implemented sporadically.

3. **Diagnosis:** Most of the institutions have minimum diagnostic imaging equipment, except for Magnetic Resonance Imaging. Status of equipment like X-ray, mammography, ultrasonography and CT scanners is almost similar across most of the hospitals. There is a need for adequately trained and experienced radiologists, radiographers, and other support staff for diagnostic departments to function optimally. Majority of the diagnostic radiologists are good but require more oncology-oriented training. Quality management protocols, standard operation procedures or medical audit systems are not in place for diagnostic imaging facilities. Critical reporting system is also not practiced.
4. **Nuclear medicine services** are limited, and they are not optimally utilized due to lack of skilled workforce, due to the inconsistent and limited supply of radiopharmaceuticals. Radionuclide therapy, which plays an important part in cancer management, is not available.
5. **Treatment:** Cancer treatment is provided in both public (government) and private facilities. Medical oncology services are not readily available through the country and patients often need to travel for care. Oncology medicines are not produced in the country, therefore the need to come primarily from India or other countries. Supply has always been a challenge, and more so during COVID-19 times. The current capacity for radiotherapy is inadequate, with limited access and availability. For those who can access services, it is not provided in a timely fashion. At least 50% of cancer patients would benefit from radiotherapy either for palliation or for treatment. The planning of radiotherapy services should be aligned with respective IAEA guidelines. There are no incident reporting mechanisms in place nor there is any awareness of the inherent risk of error in radiotherapy. There is a recognition of the importance of a multidisciplinary approach and efforts are being made to formalize case management. The current Government subsidies for cancer management should be increased and estimated based on patients’ needs. It is estimated that about 25% of patients do not complete planned therapy due to financial constraints.
6. **Palliative Care:** Nepal’s Ministry of Health and Population endorsed the National Strategy for Palliative Care with a 10-year vision to integrate palliative care at all levels of health system, with a possibility for public, private and NGO ownership. The strategy requires support for implementation through allocation of resources from the government budget. It is estimated that 12,000 people need cancer palliatives care each year, with sources of funding largely donor dependent, with limited availability of morphine and a small number of services.
7. **Childhood Cancer:** Nepal has been selected as a focus country for the [WHO Global Initiative for Childhood Cancer](#). This demonstrates the commitment of the government of Nepal and the national oncology community to contribute towards the global (CureAll) target to achieve at least a 60% survival rate for six common childhood cancers by 2030. Nepal’s paediatric radiotherapy needs to be highly specialised, and expertise is very important as many children have the potential for cure and a long-life expectancy. Children should be treated at radiotherapy centres where this expertise is available. Financial assistance needs should be provided for expenses incurred in travel and accommodation for parents.



Key priority recommendations

National Cancer Control Planning and Governance

- Develop an NCCP and establish cancer control governance mechanisms, including a coordination or steering committee.
- Develop an NCCP action plan with identified partners responsible for implementation, funding sources and a realistic timeframe.
- Develop and Implement an NCCP and its Action Plan.
- The NCCP should establish priorities in all areas of cancer control to enable realistic planning and implementation.
- The priority and strategic objectives of the NCCP should be followed with a measurable set of indicators (specific, measurable, achievable, reliable, and time-bound = SMART) for the desired results.
- Establish a National Steering Committee on Cancer Control.
- Consider development of a resource mobilization strategy with the purpose to identify current and prospective sources of financing the NCCP and ensure effective financial coverage with assigned budgets for the priority actions identified in the NCCP.

Cancer Registry and Surveillance

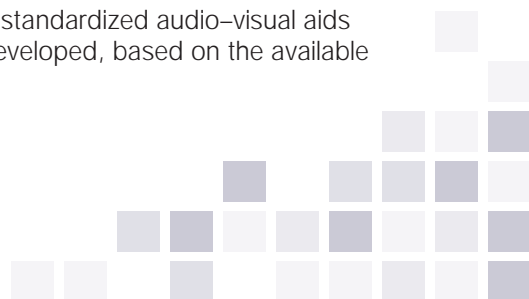
- Further capacity development of the existing registries is required in terms of staffing (currently all staff hired on temporary basis); training in CanReg5 software; improving linkage with HBCRs; and integrating childhood cancer-specific variables.
- There is a need to train the medical and paramedical teams in the cancer registration process.
- The Government should strengthen the mortality recording system to also include causes of the death.

Prevention

- Include cancer related messages in the existing national information, education, and communication plan on NCDs.
- As part of the development of the new NCCP ensure to include (a) professional(s) with technical background and expertise in the area of prevention (public health, epidemiology) in the NCCP Steering Committee (SC).
- As part of the development of the new NCCP, ensure that the cancer prevention section includes:
 - A national strategy and plan for the introduction of the HPV vaccination in the National Programme of Immunization (NPI)
 - An awareness campaign for the prevention of cervical (including awareness on related cancer screening) and oral cancers
 - Actions to ensure high coverage with HBV vaccination; align schedule with WHO recommendations, including for birth dose introduction

Early Detection

- For the context of Nepal, early diagnosis of common cancers is recommended over population-based screening programmes.
- Increase the demand for opportunistic screening and early diagnosis services by awareness raising for the existing cervical cancer screening programme; improving knowledge about common signs and symptoms of breast cancer and importance of breast self-examination (BSE) through community health workers; and awareness raising for oral cancer as part of the ongoing oral hygiene programme.
- Standardized accredited training courses and modules, along with standardized audio-visual aids as resources for early diagnosis of breast and oral cancers to be developed, based on the available resources from WHO and IARC.



Diagnosis: Pathology and Laboratory Services

- Develop the ability to obtain the results of essential tumour biomarkers in a timely fashion.
- Examine supply chain for diagnostic reagents and develop contingency plans for any shortages to ensure uninterrupted supply of services.
- Develop strict maintenance guidelines for vendors and hospitals/laboratories for the equipment maintenance, including backup equipment.

Diagnosis: Diagnostic Imaging and Nuclear Medicine

- Ensure minimum availability of X ray units, ultrasound devices, and CT scanners.
- Develop maintenance contracts and guidelines for seamless functioning of equipment.
- Identify trained available human resources in diagnostic imaging and assess the level of training and experience. Proper distribution of trained personnel required, based on the level of cancer care.
- Quality management SOPs to be established, based on international guidelines and safety protocols.

Treatment

Medical Oncology

- A list of essential medications for cancer therapy should be developed and reviewed on a regular basis. Efforts should be made to ensure an adequate supply.
- Develop a mechanism to ensure tumour boards and/or multidisciplinary conferences for the majority of patients diagnosed with cancer.
- Increase the number of trained medical oncologists using national resources of different high volume cancer centres.

Radiation Oncology

- Nepal needs to put in place a national plan for RT development as part of the NCCP.
- Improve availability of cervical cancer RT, ensuring that both EBRT and brachytherapy are available and accessible.
- Nepal needs to incorporate RT equipment replacement programme into its NCCP.
- Start regular audits to evaluate adherence to the national cancer treatment protocols.

Surgical Oncology

- Update the national cancer treatment protocols to reflect recent evidence or adapt other resource-stratified guidelines.
- Expand the cadre of trained surgical oncologists by deputing surgeons from cancer centres abroad on a medium-term or longer-term fellowship and enable them to become national trainers.

Paediatric Oncology

- Establish Paediatric-Haemato-Oncology (PHO) Committee for NCCP with childhood cancer stakeholders to support evidence-informed policymaking and define sustainable resource allocation, aligning and integrating essential PHO services with other national priorities.
- Develop national guidelines/regimens for common PHO cancers. Include referral system to ensure treatment continuity and minimize treatment abandonment.



Palliative Care

- Every hospital that provides cancer care should have a palliative care service. The hospitals do not need dedicated palliative care beds. Instead, a dedicated interdisciplinary team should be appointed.
- MoHP should require all undergraduate medical and nursing schools to include palliative care into their curricula. This is already common in many medical and nursing schools globally.
- To improve access, oral morphine should be added to the list of medications which are provided free of cost to patients (both for adults and children).

