23rd FNCA Ministerial Level Meeting
31st October 2022

COUNTRY REPORT

Current Status and Situation of Cancer Radiotherapy in Malaysia

Malaysian Nuclear Agency
Ministry of Science, Technology & Innovation (MOSTI)

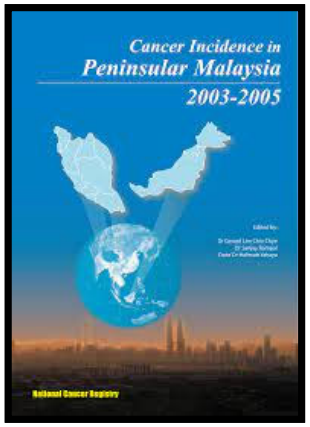
Outline

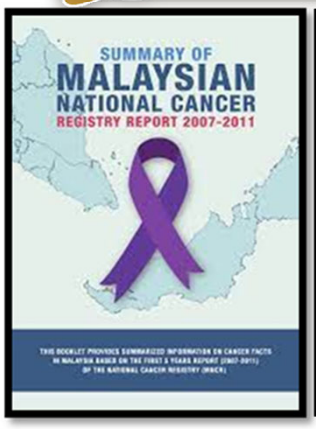
1. INTRODUCTION
2. OVERVIEW OF RADIOTHERAPY IN MALAYSIA
3. ISSUES AND CHALLENGES
4. WAY FORWARD AND CONCLUSION

Introduction

Cancer overview in Malaysia

- A total of 115,238 new cancer cases were registered from 2012 to 2016.
- The incidence rates were increased by 2.3 in females and slightly reduced by 0.8 in males per 100,000 populations when comparing the last five-year period (2012–2016) with the previous one (2007–2011).
- Cancer incidence is expected to double by 2040, from 43,837 cancer cases to about 84,158 cases in Malaysia.
- The number of Malaysians aged 60 years and above was about 3.3 million in the year 2020. This increase in aging population in Malaysia is susceptible to increase the number of cancer patients in the country.





Cancer cases by gender

	Male	Female
1.	Colorectal	Breast
2.	Lung	Colorectal
3.	Prostate	Cervix
4.	Lymphoma	Lung
5.	Nasopharynx	Ovary
6.	liver	lymphoma

Introduction

Ray of Hope: Cancer Care for All

- The objectives of the NSPCCP 2021-2025 are to reduce the negative impact of cancer by decreasing the disease morbidity, mortality and to improving the quality of life of cancer patients and their families

NSPCCP Trust Strategic

CFP 2022 – 2027 Thematic Areas

Diagnosis	Treatment	Palliative	HR Development

- Enhance national radiotherapy and nuclear medicine capacities to manage patients with non-communicable diseases;
- Improving the technical capabilities and human resources for the development of new generation radiopharmaceuticals and their deployment for nuclear medicine imaging and radionuclide therapy;
- Improving the infrastructure and human resources capabilities for nuclear medicine based diagnoses and treatment of cancer patients;
- Improving the capabilities of nuclear medicine-based diagnosis of cardiovascular patients at risk

Radiotherapy Service

Radiotherapy Centers In Malaysia

Hospital Kuala Lumpur (HKL)
- 4 LINACs
- 1 Brachy

Hospital Umum Sarawak (HUS)
- 5 LINAC – 3 LINACs functional & 2 under repair/ awaiting replacement
- 1 Brachy - awaiting replacement

Hospital Likas
- 2 LINACs
- 1 Brachy

Institut Kanser Negara (IKN)
- 4 LINACS
- 1 Brachy

Hospital Sultan Ismail (HSI)
- 3 LINACs – 2 LINACs functional & 1 LINAC being replaced
- 1 Brachy

Region	Gov. Hospital	Private Hospital	MV Unit
North	0	9	12
Central	2	11	27
East	0	1	2
South	1	4	9
East Malaysia	2	3	8

Research Projects

FNCA Research Projects

- Prospective Observational Study of 3D-Image guided brachytherapy for Locally Advanced Cervical Cancer (CERVIX-V)
  - ✓ Still enrolling
- Phase II Study of Neoadjuvant Chemotherapy with Concurrent Chemoradiotherapy (CCRT) for Nasopharyngeal Carcinoma (NPC-III)
  - ✓ Enrolment completed. Awaiting submission of follow up data and final report
- Phase II Study of Hypofractionated Radiotherapy for Breast Cancer (Postmastectomy Radiation Therapy (PMRT)/BREAST-I)
  - ✓ Study completed. Submitted for publication in Journal of Radiotherapy and Oncology entitled “Significance of hypofractionated radiotherapy in postoperative irradiation for breast cancer: An Asian multi-institutional prospective

IAEA Technical Cooperation (TC) Projects

NATIONAL TC PROJECT (2026-2027)

Target : By 2027, improved nuclear medicine, radiology, radiotherapy for diagnosis, therapy and research for NCD including cancer and neurological diseases as well as infectious diseases in Malaysia.

REGIONAL COOPERATIVE AGREEMENT (RCA) PROJECT

RAS6098	Standardizing Radiotherapy in Palliative Care (RCA)	2022-2025
RAS6096	Empowering Regional Collaboration among Radiotherapy Professionals through Online Clinical Networks (RCA)	2020-2023
RAS6100	Strengthening Clinical Application of Hypofractionated Radiotherapy (RCA)	2022-2025
RAS6086	Strengthening Cancer Management Programmes in RCA States Parties through Collaboration with National and Regional Radiation Oncology Societies (RCA)	2018-2021

INTERREGIONAL PROJECT

INT6065	Contributing towards Improved Survival in Childhood Cancer Using Radiation Medicine and Nutrition	2022 - 2025 (4 years)

Issues and Challenges

- Currently, there is no government radiotherapy center in the Northern Region and the East Coast of Peninsular, Service inequity for secondary and tertiary care such as in rural areas.
- In the existing centers, some of the equipment related to radiotherapy delivery are past their life span and problems of frequent breakdowns (downtime) had resulted in long waiting times to start treatment and a reduced capacity to treat patients.
- Following primary diagnosis of a cancer, all patients should preferably be referred to an Oncologist before the next treatment is decided upon. Many patients however are reluctant to travel a long distance to get oncologist's advice at these RT centers.
- Non-integrated health system, government and private facilities do not have an incorporated health care system.

Way Forward

- Increased the number of cancer treatments, including radiation therapy facilities
- Provide radiotherapy services in timely manner, upgrading of the radiotherapy machine and facilities
- Inter-collaboration between the government and the private sector to improve the health care system.
- Increase awareness to the public on radiotherapy procedure for cancer treatment

Conclusion

- The setting up of NSPCCP enables Malaysia to manage current and future cancer incidents, creating more research in cancer treatment including radiation therapy.
- FNCA is a platform for exchanging information; and collaborating to solve common issues among member states.

Thank you

Dr. Abdul Rahim Bin Harun
Director General,
Malaysian Nuclear Agency

Dr. Mohd Rodzi Bin Ali
Director, Medical Technology Division
Malaysian Nuclear Agency