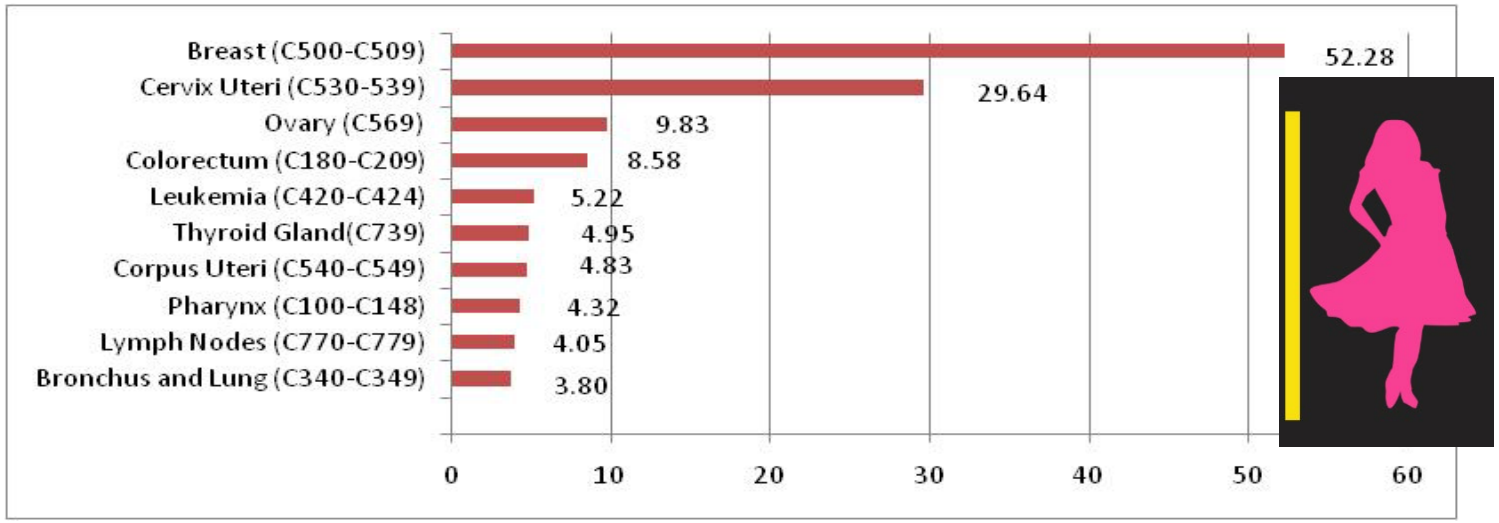
INDONESIA

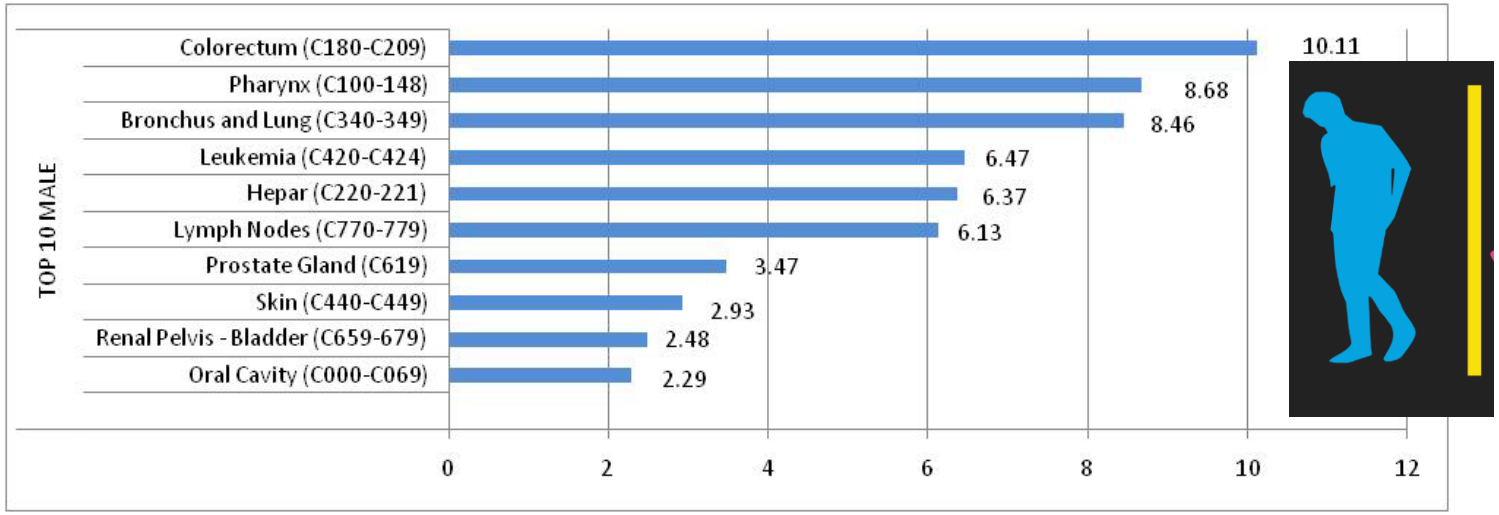
Presented at 2023 Ministerial Level Meeting of the FNCA

BASIC INFORMATION

- Population (2021) = 276,361,788.
- GNP per capita (2021) = US$4291,8
- Life expectancy (2020) = 72 yo
- 37 provinces (2002)
- Area: 1,904,569km^2
- 3 times zone: GMT+7 to +9
- 17,504 islands

INDONESIA CANCER REGISTRY DATA 2017



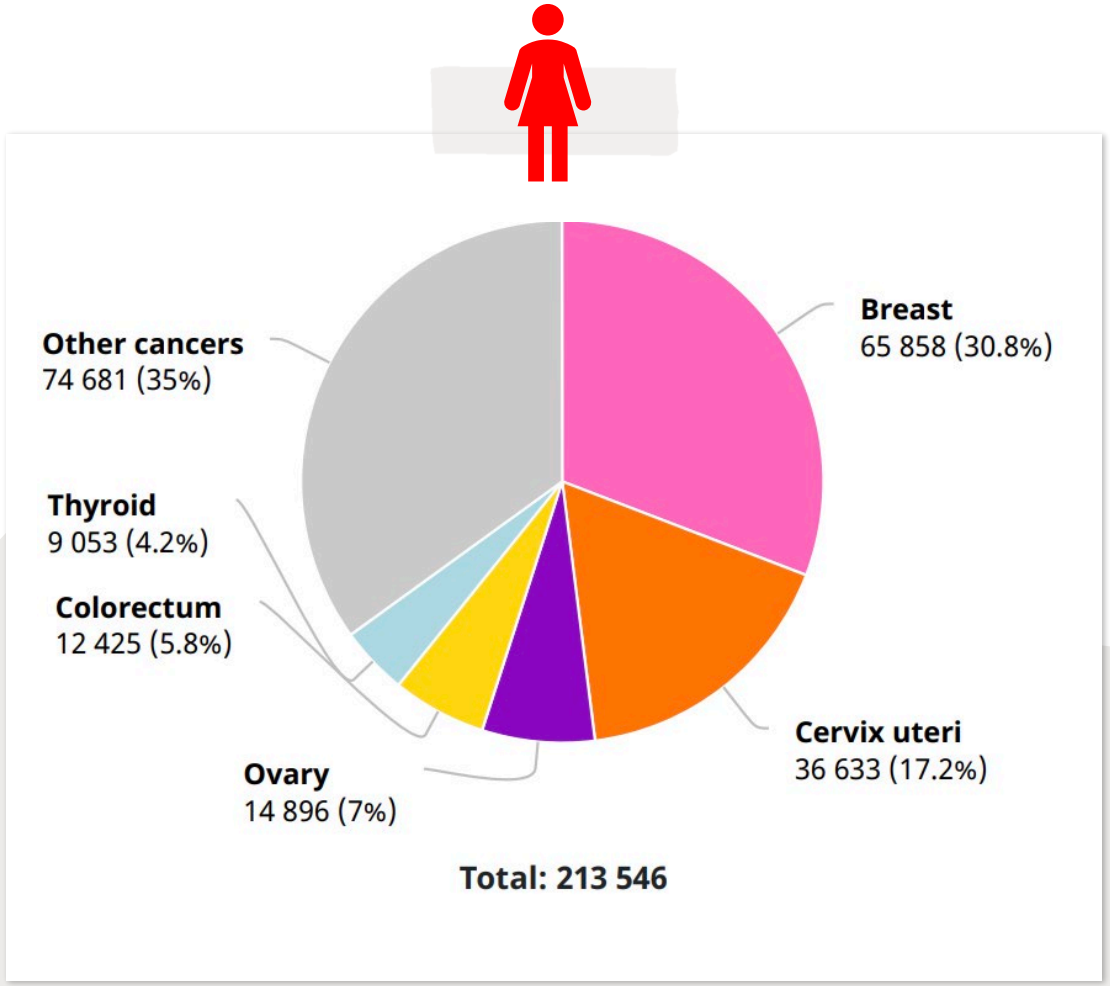


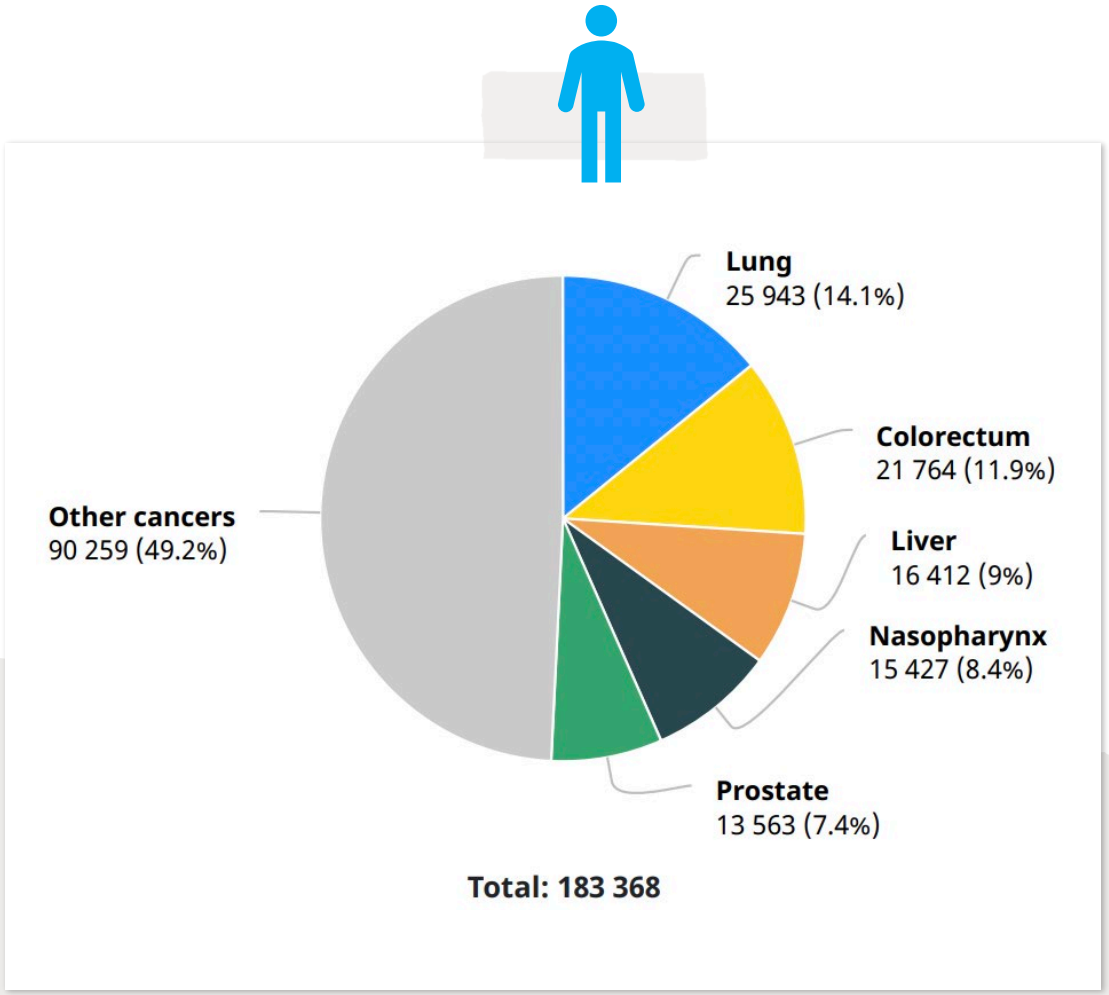
KEMENTERIAN KESEHATAN REPUBLIK INDONESIA

HIDUP SEHAT HINDARI KANKER

1. Source data: National Cancer Registry, NCCC 2017

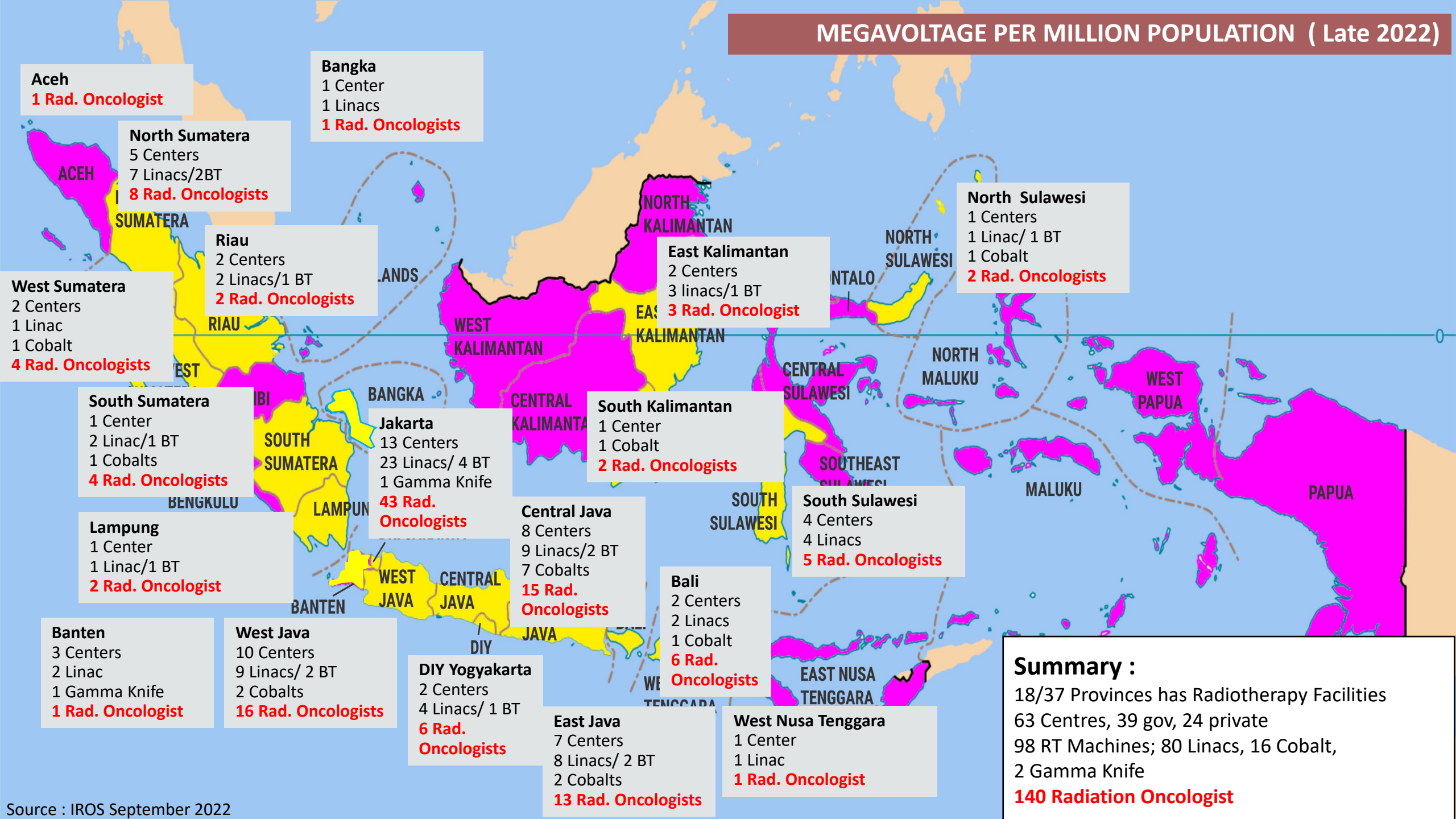
Summary statistic 2020			
	Males	**Females**	**Both sexes**
Population	137 717 861	135 805 760	273 523 621
Number of new cancer cases	183 368	213 546	396 914
Age-standardized incidence rate (World)	138.9	145.4	141.1
Risk of developing cancer before the age of 75 years (%)	15.0	14.9	14.9
Number of cancer deaths	124 698	109 813	234 511
Age-standardized mortality rate (World)	96.3	75.9	85.1
Risk of dying from cancer before the age of 75 years (%)	10.5	8.3	9.4
5-year prevalent cases	389 640	556 448	946 088
Top 5 most frequent cancers excluding non-melanoma skin cancer (ranked by cases)	Lung Colorectum Liver Nasopharynx Prostate	Breast Cervix uteri Ovary Colorectum Thyroid	Breast Cervix uteri Lung Colorectum Liver





NUMBER OF NEW CASES IN 2020

MEGAVOLTAGE PER MILLION POPULATION (Late 2022)



Aceh
1 Rad. Oncologist

Bangka
1 Center
1 Linacs
1 Rad. Oncologists

North Sumatera
5 Centers
7 Linacs/2BT
8 Rad. Oncologists

Riau
2 Centers
2 Linacs/1 BT
2 Rad. Oncologists

West Sumatera
2 Centers
1 Linac
1 Cobalt
4 Rad. Oncologists

East Kalimantan
2 Centers
3 linacs/1 BT
3 Rad. Oncologist

North Sulawesi
1 Centers
1 Linac/ 1 BT
1 Cobalt
2 Rad. Oncologists

South Sumatera
1 Center
2 Linac/1 BT
1 Cobalts
4 Rad. Oncologists

Jakarta
13 Centers
23 Linacs/ 4 BT
1 Gamma Knife
43 Rad. Oncologists

South Kalimantan
1 Center
1 Cobalt
2 Rad. Oncologists

Central Java
8 Centers
9 Linacs/2 BT
7 Cobalts
15 Rad. Oncologists

South Sulawesi
4 Centers
4 Linacs
5 Rad. Oncologists

Lampung
1 Center
1 Linac/1 BT
2 Rad. Oncologist

Bali
2 Centers
2 Linacs
1 Cobalt
6 Rad. Oncologists

Banten
3 Centers
2 Linac
1 Gamma Knife
1 Rad. Oncologist

West Java
10 Centers
9 Linacs/ 2 BT
2 Cobalts
16 Rad. Oncologists

DIY Yogyakarta
2 Centers
4 Linacs/ 1 BT
6 Rad. Oncologists

East Java
7 Centers
8 Linacs/ 2 BT
2 Cobalts
13 Rad. Oncologists

West Nusa Tenggara
1 Center
1 Linac
1 Rad. Oncologist

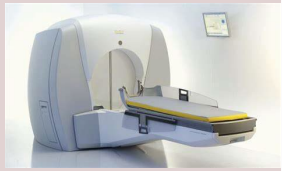
Summary :

18/37 Provinces has Radiotherapy Facilities
63 Centres, 39 gov, 24 private
98 RT Machines; 80 Linacs, 16 Cobalt,
2 Gamma Knife
140 Radiation Oncologist

Source : IROS September 2022

EXISTING PHYSICAL INFRASTRUCTURE& HUMAN RESOURCES

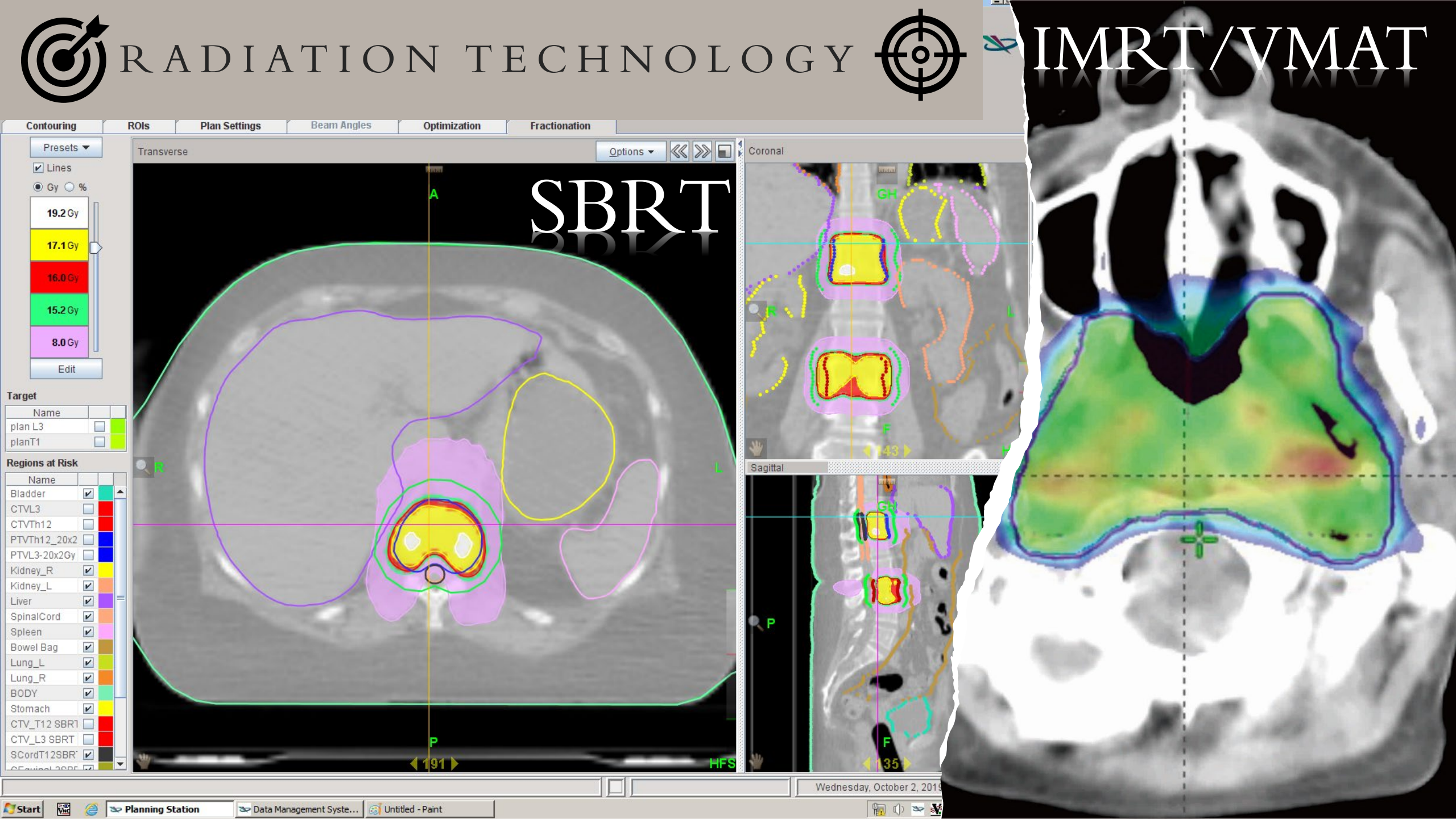
	2017	2019	2022
RT Center	40	45	63
Government	27	29	39
Private	13	16	24
Radiation Oncologist	88	98	140
Medical Physicist		74	148



	2017	2019	2022
MV	62	72	98
LINAC	47	58	80
Cobalt	14	12	16
Gamma Knife	1	2	2
Brachytherapy		18	19

	2017	2019	2022
LINAC	47	58	80
3D LINAC	17	16	17
IMRT LINAC	25	30	43
Advanced LINAC	5	12	20

RADIATION TECHNOLOGY



PROJECT ACTIVITY

IAEA RCA

RAS 6098	Standardizing Radiotherapy in Palliative Care
RAS 6100	Strengthening Clinical Application of Hypofractionated Radiotherapy
RAS 6101	Improving the Quality and Safety of Radiation Medicine through Medical Physicist Education and Training
Research	NPC, SBRT, Spatial Fractionation RT
Education	Training Hub

FNCA

Research	Cervix IV, Cervix V, NPC-III, BREAST-I

Bilateral/institution

IAEA

IAEA FELLOWSHIP TRAINING FOR MYANMAR RADIATION ONCOLOGIST AND MEDICAL PHYSICIST

FNCA PUBLICATION

ELSEVIER

Int. J. Radiation Oncology Biol. Phys., Vol. 77, No. 3, pp. 751–757, 2010

0360-3016/$–see front matter

doi:10.1016/j.ijrobp.2009.06.011

CLINICAL INVESTIGATION **Cervix**

MULTI-INSTITUTIONAL PHASE II CLINICAL STUDY OF CONCURRENT CHEMORADIOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER IN EAST AND SOUTHEAST ASIA

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Purpose: To evaluate the toxicity and efficacy of concurrent chemoradiotherapy using weekly cisplatin for patients with locally advanced cervical cancer in East and Southeast Asia, a multi-institutional Phase II clinical study was conducted among eight Asian countries.

Methods and Materials: Between April 2003 and March 2006, 120 patients (60 with bulky Stage IIB and 60 with Stage IIIB) with previously untreated squamous cell carcinoma of the cervix were enrolled in the present study. Radiotherapy consisted of pelvic external beam radiotherapy (total dose, 50 Gy) and either high-dose-rate or low-dose-rate intracavitary brachytherapy according to institutional practice. The planned Point A dose was 24–28 Gy in four fractions for high-dose-rate-intracavitary brachytherapy and 40–45 Gy in one to two fractions for low-dose-rate-intracavitary brachytherapy. Five cycles of weekly cisplatin (40 mg/m^2) were administered during the radiotherapy course.

Results: All patients were eligible for the study. The median follow-up was 27.3 months. Of the 120 patients, 100 (83%) received four or five cycles of chemotherapy. Acute Grade 3 leukopenia was observed in 21% of the patients, and Grade 3 gastrointestinal toxicity was observed in 6%. No patient failed to complete the radiotherapy course because of toxicity. The 2-year local control and overall survival rate for all patients was 87.1% and 79.6%, respectively. The 2-year major late rectal and bladder complication rate was 2.5% and 0%, respectively.

Conclusion: The results have suggested that concurrent chemoradiotherapy using weekly cisplatin is feasible and effective for patients with locally advanced cervical cancer in East and Southeast Asia. © 2010 Elsevier Inc.

Cervical cancer, chemoradiotherapy, high-dose-rate brachytherapy, developing country, international clinical study.

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Conflict of interest: none.

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Clinical Investigation

Multi-institutional Observational Study of Prophylactic Extended-Field Concurrent Chemoradiation Therapy Using Weekly Cisplatin for Patients With Pelvic Node-Positive Cervical Cancer in East and Southeast Asia

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Disclosures: none.

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doi: 10.1093/jrr/rraa025
Advance Access Publication: 5 May 2020

Journal of Radiation Research

OXFORD

Preliminary survey of 3D image-guided brachytherapy for cervical cancer at representative hospitals in Asian countries

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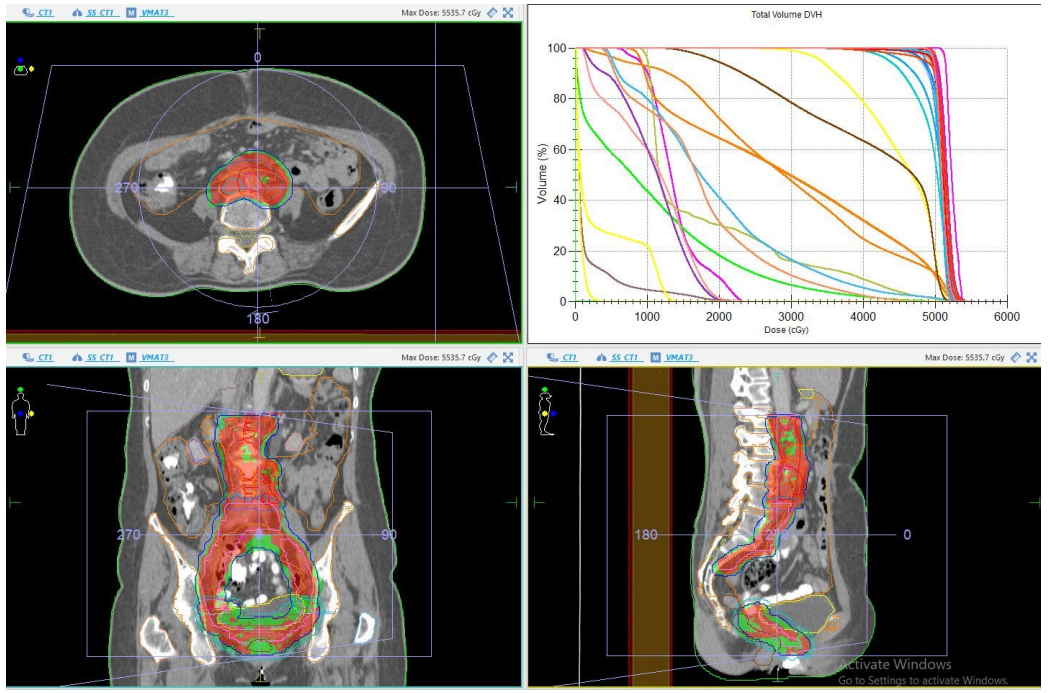
(Received 29 November 2019; revised 13 February 2020; editorial decision 16 March 2020)

ABSTRACT

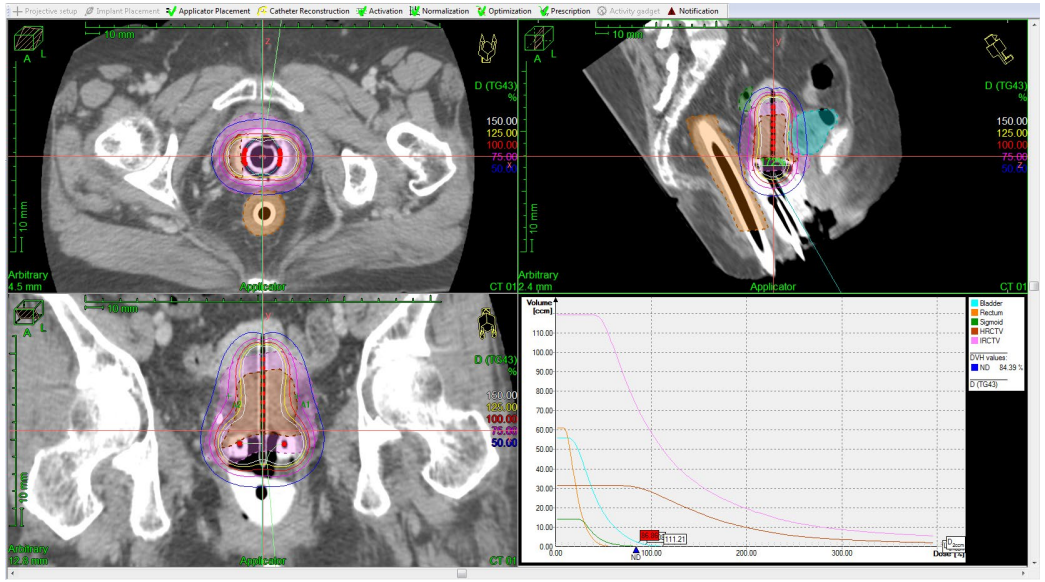
3D image-guided brachytherapy (3D-IGBT) has become a standard therapy for cervical cancer. However, the use of 3D-IGBT is limited in East and Southeast Asia. This study aimed to clarify the current usage patterns of 3D-IGBT for cervical cancer in East and Southeast Asia. A questionnaire-based survey was performed in 11 countries within the framework of the Forum for Nuclear Cooperation in Asia. The questionnaire collected the treatment information of patients with cervical cancer who underwent 3D-IGBT. The cumulative external beam radiotherapy and 3D-IGBT doses were summarized and normalized to a biological equivalent dose of 2 Gy per fraction (EQD_2) using a linear-quadratic model. Of the 11 institutions representing the participating countries, six (55%) responded to the questionnaire. Overall, data of 36 patients were collected from the six institutions. Twenty-one patients underwent whole-pelvic irradiation and 15 underwent whole-pelvic irradiation with central shielding. Patients received a median of four treatment sessions of 3D-IGBT (range, 2–6). All 3D-IGBT sessions were computed tomography (CT)-based and not magnetic resonance image-based. The median doses to the high-risk clinical target volume D_{90}, bladder D_{2cc},

Cervix-IV



CCRT + PALN-RT for stage IIB-IIIB
Pelvic lymph node positive cervical cancer

Cervix-V



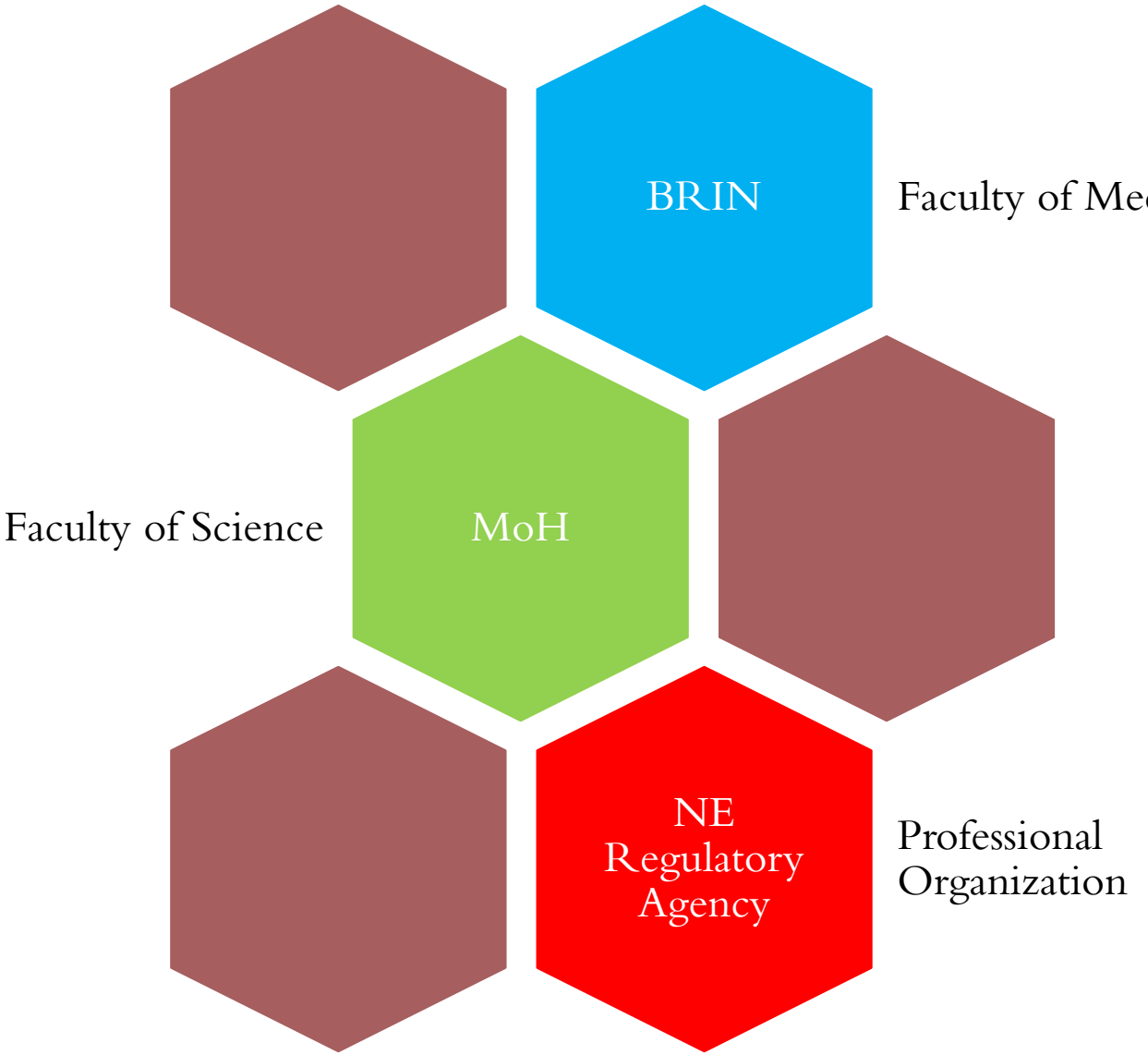
CCRT + 3D-IGBT for stage IIB-IIIB
cervical cancer

FNCA PROTOCOL IN DAILY PRACTICE

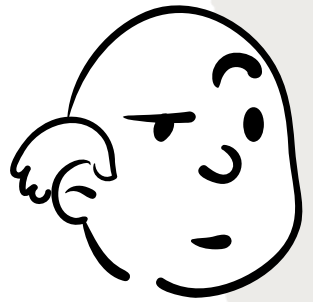
COLLABORATION WITH GUNMA UNIVERSITY

3 PhD

COLLABORATION



FUTURE PLAN



- Cancer treatment is one of the MOH priorities
- MoH want to build RT facility in every province, therefore at the end of 2024, every province will have cancer treatment facility
- Propose FNCA protocol in national cancer treatment guideline
- Conducting multi-institutional trial among national RT center to promote application of the protocol

CONSTRAINT

- High investement
- Low reimbursement
- Many competing modalities
- Highly dependent on referral
- Locally advanced/advanced cases
- Long waiting list
- Lack of diagnostic procedure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