

[Thailand]

## Management of Malignancy in Thailand

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Thailand is a developing country and has rather limited budget for the management of malignancy. Total expenditure for all aspect of health care is 330 US\$ per capita per year which is 3.9% of the GDP. Malignancy is the third overall cause of death of Thais and malignancy is the fifth leading cause of burden in hospital based health care. Lung carcinoma is the most common malignancy in male and breast carcinoma in female. Sarcoma of all tissue types is the fifth in both sexes. Thai government and many Thai NGOs provide all tear round campaigns for population education to prevent particular malignancy such as smoking cessation for the prevention of CA lung and to provide early detection such as CA breast and CA cervix. International standard tumor registry is now available for research and development and nation planning. The registry is updated every year to provide enough data for future planning. All Royal Colleges of Physician and Surgeons have standard CPGs for the management of most common malignancy. Regular screening test for CA cervix is successfully carried out in >80% of our population however, mammogram screening for CA breast is still lower than 60% of the population. Vaccination to prevent CA cervix is available only in urban areas. In the north and northeast of Thailand parasitic induced malignancy such as CA liver

is still commonly found. Proper cooking food is now campaigning among these people.

There are 5 full capacity tumor centers in Thailand which also have training programs in every specialty, three in Bangkok and two in the periphery of Thailand. There are 10 full capacity tumor centers without training in Thailand and majority of these centers are in Bangkok or nearby provinces. We plan to promote 15 tumor centers in the rest provinces by 2020. At the present we have tumor referral networks which can serve most of our patients who have common malignancies. Biological therapy in malignancy is still in a very early phase. Main tolls in the management of malignancy are chemotherapy, radiotherapy and surgery. Rehabilitation and social worker to support the patients and their relatives are popularizing.

To reimbursement DRGs are used in many high cause treatment and common malignancies. Cooperation in education, tumor registry and researches in the prevention and treatment of malignancy in this region should be carried out. Continuous development of all strategies to prevention, early detection and special management in the region should be carried out. CMAAO can work as a recourse center for malignancy prevention and early detection campaigning of particular malignancies.

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This article is based on a presentation made at the Symposium "Current Management of Malignant Diseases in the Asian and Oceania Regions" held at the 48th CMAAO Mid-term Council, Macau, China, on November 10, 2012.



## Management of Malignancy in Thailand; CMAAO Macau

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## Outline

- Data of Thailand
- Present
- Future
- Supporting from CMAAO



## WHO; Thailand 2010


Total population	69,122,000
Gross national income per capita (PPP international \$)	8,190
Life expectancy at birth m/f (years)	66/74
Probability of dying under five (per 1,000 live births)	< 0.1
Probability of dying between 15 and 60 years m/f (per 1,000 population)	270/139
<b>Total expenditure on health per capita (Intl \$)</b>	<b>330</b>
<b>Total expenditure on health as % of GDP</b>	<b>3.9</b>



**Cause of death Thailand overall (NSI Thailand)**  
**Table 7.1:** The rankings and rates of deaths per 100,000 people, by the importance of cause of deaths in years 1982, 1992 and 2002

**Related Links**

Causes	1982		1992		2002	
	Order	Rate	Order	Rate	Order	Rate
Heart Diseases	1	34.1	1	56.0	4	24.6
Accidents and Poisoning	2	33.5	2	48.5	2	55.3
<b>Cancers</b>	<b>3</b>	<b>26.1</b>	<b>3</b>	<b>43.5</b>	<b>1</b>	<b>73.3</b>
Tuberculosis	4	12.0	9	6.3	9	10.8
Pneumonia	5	9.6	7	11.4	5	21.1
Malaria	6	7.8	not in the rank	not in the rank	not in the rank	not in the rank
Diarrhoea	7	5.8	not in the rank	not in the rank	not in the rank	not in the rank
hypertension and the diseases of blood vessels in brain	Not in the rank		4	16.9	3	26.6



## Leading causes of burden: Hospital based M. Public Health

<p><b>Male</b></p> <ul style="list-style-type: none"> <li>• Stroke</li> <li>• Traffic accidents</li> <li>• Ischaemic heart diseases</li> <li>• Chronic obstructive lung diseases</li> <li>• <b>Malignant diseases</b> <ul style="list-style-type: none"> <li>– Lung</li> <li>– Prostate and KUB</li> <li>– GI; liver and colon</li> <li>– Hematologic system</li> <li>– Others; skin, sarcoma</li> </ul> </li> </ul>	<p><b>Female</b></p> <ul style="list-style-type: none"> <li>• Stroke</li> <li>• Diabetes</li> <li>• Ischaemic heart diseases</li> <li>• Renal failure</li> <li>• <b>Malignant diseases</b> <ul style="list-style-type: none"> <li>– Breast</li> <li>– Cervix and genitourinary system</li> <li>– Thyroid</li> <li>– GI</li> <li>– Hematologic system</li> <li>– Others; skin, sarcoma</li> </ul> </li> </ul>
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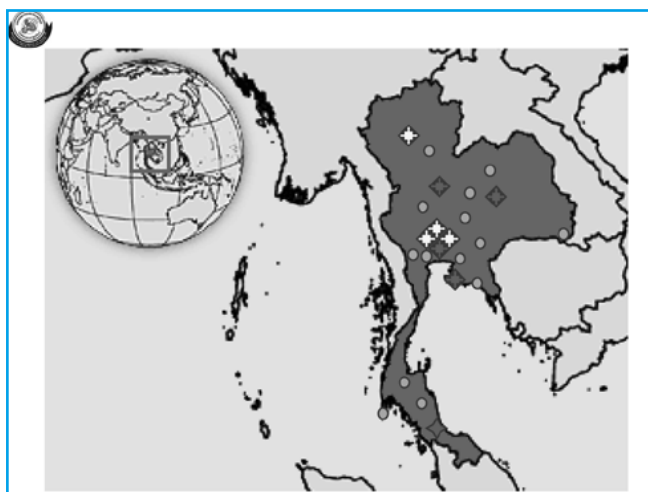


## Present development

- Education
  - Population; smoking, food preparation, lifestyle
  - Specialist and super specialists; core program for all specialties
- Registry; national and each field, inter-center
- Prevention campaign; lung, cervix
- DRGs and CPGs
- International and regional medical and surgical oncology societies and association
- Public engagement and social cooperation

**Tumor centers in Thailand**  
**M. Public Health and U. Host Net**

- ◆ Full capacity with education; 5 centers
- ◆ Full capacity with out training; 10 centers
- Developing centers; 15 centers
- Other facilities;
  - Organ donation; Red Cross Net-work
  - Tissue banking; 3 centers



**Campaign against cancer**

- Screening test; > 80%
  - CA cervix; PV and smear
  - CA breast; mammography
  - Tumor markers for CA colon and prostate
- Risk prevention; > 80%
  - Smoke cessation; CA lung
  - Cooked food; CA liver in the northeast

**Early diagnosis; > 70% of population**

- Population awareness; CA breast, CA cervix, CA lung
- Screening high risk patients; CA breast, CA liver
- Special investigation; radioisotope, MRI, MRS, colonoscopy
- Tumor markers; liver, GI tract, KUB

**Definite diagnosis with > 90% accuracy**

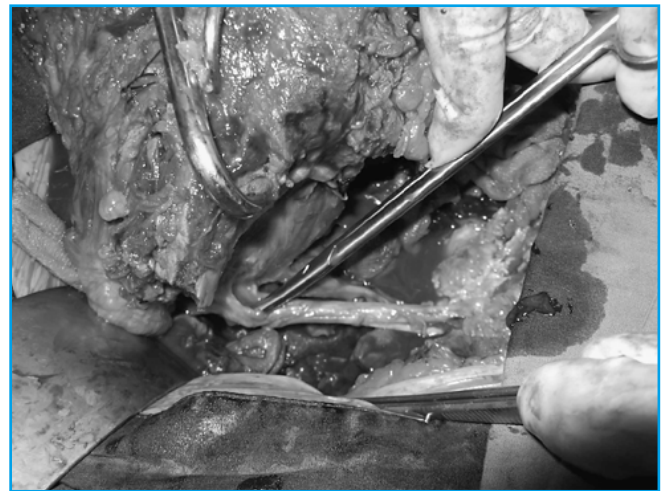
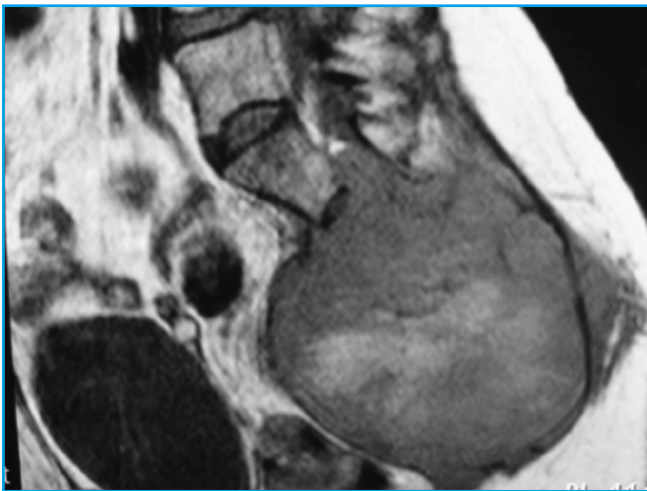
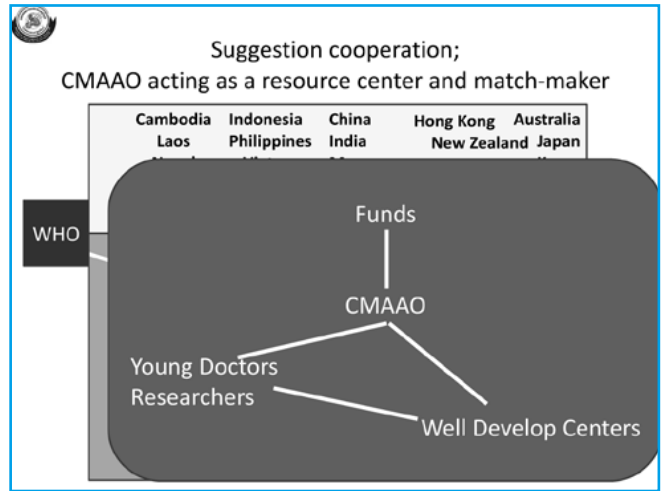
- Fine needle Bx
- Closed needle Bx. under CT
- Immuno-staining
- Monoclonal antibody; all centers
- Electron microscopy; only in medical schools, National Cancer Research Center and National Pathological Center
- Gene and chromosomal studies
- Molecular biology and epigenetic study\* (still in developing)

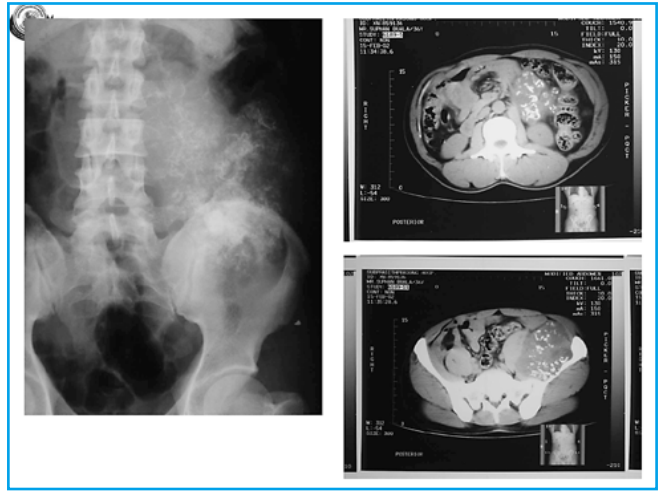
**Treatment; popularizing**

- Nutritional therapy; mTor system
- Herbal therapy; Thai and Chinese
- Surgical treatment
  - Wide resection with or without combining with transplantation
  - Limb sparing surgery, allografting and endoprosthesis
- Chemotherapy; adjuvant and neo-adjuvant
- Radiotherapy and Linear Acceleration
- Total body and marrow transplantation

## Treatment

- Biotherapy (most are in developing phase)
  - Immune system
    - Vaccination; skin CA
    - Lymphocyte activation; sarcoma
    - Tumor associated macrophage identification; sarcoma
  - Tumor stem cell targeting and attacking
    - Physical; heat
    - Chemical; microsomes
    - Biological; monoclonal Ab
  - Inhibition of angiogenesis
  - Gene therapy





### Giant cell tumor under heat

- 40 – 45 degrees C
- 47.5 – 50 degrees C

