FOREWORD

This is the first report of Northern population-based cancer registration for the five years period (2003-2007). It is the outcome of efforts made by four provinces in the north of Thailand; Chiang Mai, Lampang, Lamphun and Phitsanulok.

The report provides information on incidence of cancer in the populations covered by these provinces and can be estimated cancer incidence in Northern Thailand.

It is hoped that this report will serve as a fundamental data for the researchers and health administrations to look afresh into the cancer problem occurring in Northern Thailand. The registries and their staff deserve appreciation for the efforts which they have put in for collection of data from various sources towards the preparation of these reports.

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ACKNOWLEDGEMENTS

This report has been made possible by the collaboration of numerous persons within Chiang Mai, Lampang, Lamphun and Phitsanulok province. Lampang cancer center would like to thanks all health care personals in these provinces who have helps us in any way for collective cancer data and special thanks to staff of Chiang Mai cancer registry unit for collaboration for the project and this report. This report is the outcome of continuous, long time cooperation of Northern cancer registry network.

I wish also to thank the Bureau of Policy and Strategy, Ministry of Public Health for death certificates data.

Finally, I would like to acknowledge Dr. Hutcha Sriplung who is our consultant for data analysis and the Lampang cancer registry staffs for completion of this report.

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4. **Community Hospitals**
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   - 4.2. Ngao Hospital

4.3. Chae Hom Hospital
4.4. Theon Hospital
4.5. Mae Tha Hospital
4.6. Mae Prik Hospital
4.7. Mae Moh Hospital
4.8. Wang Nua Hospital
4.9. Sop Prap Hospital
4.10. Soem Ngam Hospital
4.11. Hang Chat Hospital
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5. **Surasakmontri Military Hospital**

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Hospitals and Institutes in Chiang Mai Province

1. **Chiang Mai University Hospital < Maharaj Nakorn Chiang Mai Hospital>**

2. **Provincial Public Health Service of Chiang Mai**

3. **Nakon Ping Hospital**

4. **Chiang Mai Army Hospital**

5. **Chaing Mai Police Hospital**

6. **Chiang Mai Municipal Hospital**

7. **Wing 41 Hospital**

8. **Community Hospitals In Chiang Mai Province**
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   - 8.2 San Kamphaeng Hospital
   - 8.3 Doi Saket Hospital
   - 8.4 San Sai Hospital
   - 8.5 Mae Rim Hospital
   - 8.6 Hang Dong Hospital
   - 8.7 Mae Wang Hospital
   - 8.8 San Pa Tong Hospital
   - 8.9 Phrao Hospital
   - 8.10 Chiang Dao Hospital
   - 8.11 Mae Taeng Hospital
   - 8.12 Hot Hospital
   - 8.13 Doi Tao Hostital
   - 8.14 Chom Thong Hospital
   - 8.15 Samoeng Hospital
   - 8.16 Mae Chaem Hospital
   - 8.17 Omkoi Hospital
   - 8.18 Fang Hospital
   - 8.19 Mae Ai Hospital
   - 8.20 Wiang Haeng Hospital
   - 8.21 Chai Prakan Hospital
   - 8.22 Mae On Hospital
   - 8.23 Doi Law Hospital

9. **Private Hospitals in Chiang Mai**
   - 9.1 Chiang Mai Klaimor Hospital
   - 9.2 Chiang Mai Ram Hospital
   - 9.3 Central Chiang Mai Memmorial Hospital
   - 9.4 Mowong Hospital
   - 9.5 Lanna Hospital
   - 9.6 McCormick Hospital
   - 9.7 Changpuek Hospital

9.8 Rajavej Hospital
9.9 Seiumpukdee Hospital
9.10 Chinda Hospital
9.11 Maccane Hospital
9.12 Thappanya Hospital
9.13 Roum-Paeth Hotpital
9.14 Siam Rad Hotpital
9.15 Wiang Chiangmai Hospital
9.16 Phingkavej Hotpital

LAMPHUN

Hospitals and Institutes in Lamphun Province

1. **Lamphun Provincial Hospital**

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   - 3.3 Pha Sang Hospital
   - 3.4 Ban Ti Hospital
   - 3.5 Ban Hong Hospital
   - 3.6 Tung Hou Chang Hospital

4. **Private Hospitals in Lamphun**
   - 4.1 Hariphunchai Hospital
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3. **Community Hospitals**
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   - 3.2 Bang Kratum Hospital
   - 3.3 Chattrakan Hospital
   - 3.4 Phompiram Hospital
   - 3.5 Wat Bot Hospital
   - 3.6 Wang Thong Hospital
   - 3.7 Noenmapang Hospital
   - 3.8 Somdet Phrayupharad Nakhonthai Hospital

4. **Naresuan University Hospital**

5. **Naresuan Military Hospital**

6. **Private Hospitals in Phitsanulok**
   - 6.1 Phitsanuvej Hospital
   - 6.2 Ratanavej Hospital 1&2
   - 6.3 Intervejchakarn Hospital
   - 6.4 Ruamphat Hospital
   - 6.5 Radiotherapy and Nuclear Medicine Hospital
   - 6.6 Eye Hospital

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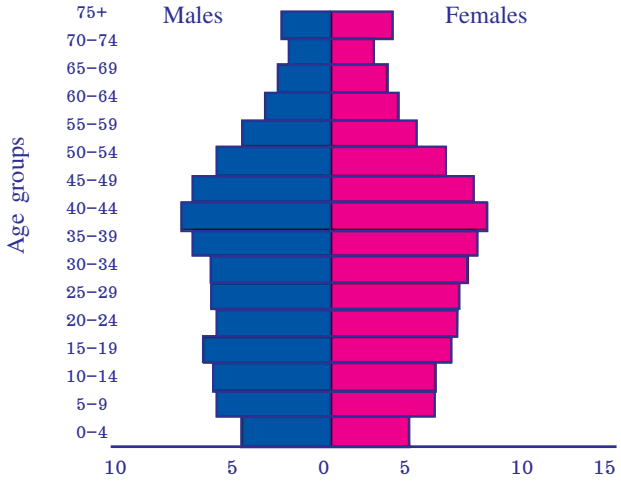
CHAPTER 1

Introduction of Northern Thailand and Statistical Methods

Karnchana Daoprasert, R.N.
Hutcha Sriplung, M.D.

Figure 1.2 *Population pyramid, Northern Thailand*

Age	Male	Female
0–4	394,424	357,436
5–9	448,262	435,102
10–14	464,502	448,584
15–19	455,064	441,111
20–24	369,516	375,015
25–29	391,235	413,139
30–34	399,347	452,749
35–39	466,903	505,508
40–44	500,187	519,301
45–49	469,339	483,603
50–54	379,187	392,357
55–59	301,938	314,798
60–64	228,306	239,790
65–69	171,588	191,793
70–74	122,422	136,917
75+	122,494	169,133
Total	5,684,714	5,876,336



The Population - Based Cancer Registration in Northern Thailand

Population-Based Cancer Registration in Northern Thailand does not cover all provinces. At present, Population-Based Cancer Registration is set up in some provinces including Chiang Mai, Lampang, Lamphun and Phitsanulok with population coverage about 33% of all north population (Table 1.1 & Figure 1.3). In this study, though most of them are in upper northern part, it is conceivable that statistics from these provinces can represent cancer incidence in Northern Thailand.

The first Thailand's population based cancer registration was established in Chiang Mai province in 1985. It began by building up a database on the incidence and mortality of cancer in Chiang Mai province since 1983 by retrospective data collection from 1983–1987 as a cancer research project which was supported by the China Medical Board and the Faculty of Medicine, Chiang Mai University. The first report published in 1989 (Martin *et al.*, 1989) and also included in Cancer in Five Continents Vol. VI. (Parkin *et al.*, 1992).

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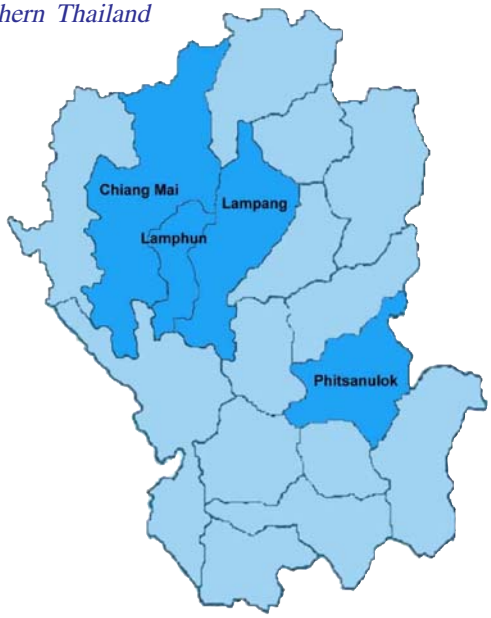
Population-based cancer registration of Lamphun and Phitsanulok provinces was established in 2004 with the retrospective study by Cancer Registry Unit of Lampang Cancer Center. The first publication of population-based cancer registration in Lamphun and Phitsanulok 1998 -2002 was carried out in 2006 (Pongnikorn *et al.*,2006).

Table 1.1 *Land area, population density and estimated population in 2005.*

Province	Population density (person/km)	Land area (km)	Estimated population (2005)	
			Male	Female
Northern region	69.8	170,000	5,684,716	5,877,236
Chiang Mai	84.0	20,107	749,735	783,471
Lampang	61.2	12,534	389,801	397,079
Lamphun	88.9	4,505.9	402,646	206,824
Phitsanulok	78.0	10,815.8	417,353	407,063

Figure 1.3 *Areas covered by the cancer registries in Northern Thailand*



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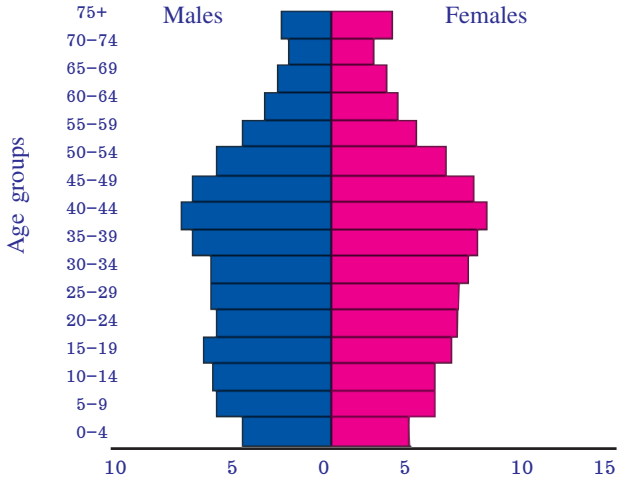

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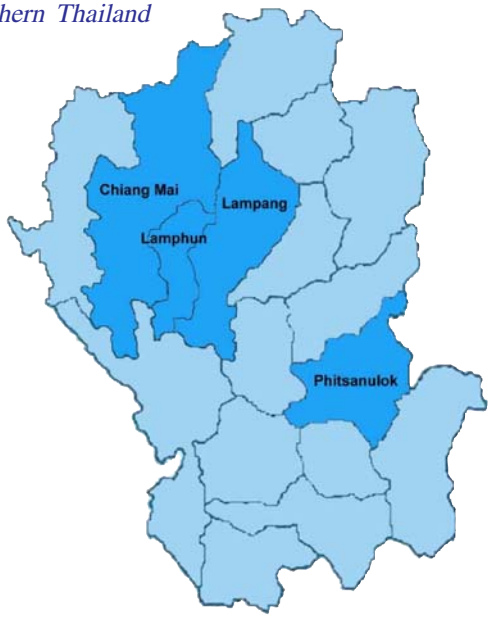

Methods

Sources of Data

In Lampang, Lamphun and Phitsanulok, all data on cancer patients were collected by passive methods involving notification by the staff of provincial hospitals, Army hospitals, private hospitals, and community hospitals in these provinces. Furthermore this study collected data from Cancer registry unit of Maharaj Nakorn Chiang Mai University Hospital and the National Cancer Institute in Bangkok. For Chiang Mai province, the cancer data were actively collected by the Chiang Mai registry's staff. All death certificates were matched with the incident case records of all registries. Deaths certificates of all causes were obtained from Bureau of Policy and Strategy, Ministry of Public Health (see Appendix A for the details in each province).

Registry Methods

New cancer cases were collected from out and in patient departments, wards, radiotherapy unit, surgery unit, cytology unit, hematology unit, medical record, pathological unit and autopsy service. The information collected includes demographic details for each cancer patient that consists of:registry number, name, residential address, date of birth, age, sex, date of diagnosis, site of cancer, histology of cancer, staging, extension of disease, method of diagnosis, treatment, date of last contact and status of cancer patients (alive or dead).

The primary site and histology were coded according to ICD-O third edition (Fritz, *et al*, 2000). Multiple primary registration followed IARC/IACR criteria. Second primary cancer was also registered, a new registration number was given for each new primary cancer. The data collection form was checked and entered into data base files, using the CanReg 4 program which is free data entry and analysis software supplied by the IARC. Cases of carcinoma in situ were registered but not included in the analysis of cancer incidence.

Type of Diagnosis

Type of diagnosis has been divided into two broad categories: morphological confirmation and no morphological confirmation. Given below are the list in approximate order of increase validity.

No morphological confirmation;

0. Death certificate only,
1. Clinical only,
2. Clinical investigation, (including X-ray, ultrasound, CT scan, etc.)
3. Surgery/autopsy without histology,
4. Specific immunological and / or biochemical tests.

Morphological confirm;

5. Cytology or hematology,
6. Histology of metastasis,
7. Histology of primary,
8. Autopsy with concurrent or previous histology.

Extension of Cancers

Extension in cancer registration is classified as the following items;

1. In situ
2. Localized
3. Direct extension
4. Regional nodes metastasis
5. Distant metastasis
6. Not applicable
7. Unknown

Staging of Cancers

Staging of cancers in this book follows the American Joint Committee on Cancer (AJCC) Cancer Staging Atlas (Greene, F.L., *et al*., 2006).

Statistical Methods

Definition

Age: The age of patient (in complete years) at the time of diagnosis or death.

Age groups: The basis for most statistics is summation of cases by five-year age groups. Age groups are expressed in whole years, i.e."5-9"means 5.0 to 9.99..years.

Incidence : The number of new cases of a given type of cancer diagnosed during the year. The basic unit of reporting is a new case of cancer rather than an individual patient, expressed as a rate per 100,000 persons in the population.

Incidence is the number of new cancer cases in a defined population within a specific period of time.

Population at risk: Population at risk is the part of population which is susceptible, to have a specific cancer. It is defined on the basis of demographic data.

Calculation of Rates

Rates

Rates in this report are calculated separately for males and females and expressed as cases per 100,000 person-years. If one year's data are being analyzed, this is equivalent to n cases per 100,000 population for that year.

Total Number of Cases (C)

The total number of cases, calculated as the sum of cases in all age groups.

$$C = \sum_{i=1}^{A} c_i$$

Crude Incidence rates

Crude rates are the number of new cases during the year, expressed as a rate per 100 000 persons in the population.

Crude Incidence rates are calculated simply as the total cases divided by the total population over a wide age range. So, crude rates are the ratios of cases to person year at risk, regardless of age, multiplied by 100 000 to give a rate per 100,000. They are not suitable as a basis for comparison of the rates in different areas if the age-structures of the populations differ.

$$\text{Crude rate} = C \,/\, \sum_{i=1}^{A} n_i \times 100{,}000$$

Age-Specific rates

Age-specific rates are the number of new cases of cancer or cancer deaths during the year, expressed as a rate per 100,000 persons in the population.

Age-specific rate is the incidence and mortality rate in a specific age group. So age-specific rates are calculated by dividing the number of cancer cases in each five years age group and sex structure of Lampang's population in that age group and multiplied by 100 000. The rates are usually expressed per 100,000 of population.

$AR = N_i P_i \times 100{,}000$

N_i = Number of new cancer occurring in the i^{th} age group

P_i = Population of the i^{th} age group in Lampang province.

Age-standardized Incidence Rates (ASR)

The age-standardized incidence rate is a summary measure of a rate that a population will have if it has a standard age structure. It is calculated first by estimating the age-specific incidence rates and then applying these rates to the standard population. The most frequently used standard population is the world standard populati; the calculated incidence rate is then called the world – standardized incidence rate. It is also expressed per 100,000 population.

Standardization is necessary when comparing several populations that differ with respect to age because age has powerful influence on the risk of cancer. So they are suitable as a basis for comparison of the rates in different areas.

Quality Control

Quality control was carried out though the following indices:

Percentage of Morphological Verification (%MV): The percentage of cases diagnosed was based on morphological examination of tissue from primary site or from metastasis site, bone marrow, cytology and peripheral blood for leukaemia. A low proportion of morphological verification suggests over reporting or it is very difficult to get a tissue diagnosis. A hundred percent of morphological verification suggests under reporting. Clinical cases were not included unless they were easily to get tissue diagnosis.

Percentage of Death Certificate Only Diagnosis (%DCO): The percentage of cases where diagnosis was based on information obtained from a death certificate. When a death certificate is received containing information on a tumor or patient not previously known to the registry, the records are checked to confirm the disease and date of diagnosis. All death certificates mentioned cancer deaths, are reviewed and matched against the registered cases in our files. The cases with no matching records were founded and were traced back to the relevant data.

Those could not be traced back to an existing entry in the registered cases would be labeled as a "Dead Certificate Only" and the date of death would be taken as the date of diagnosis.

The proportion of DCO registration is widely used as an indicator of ascertainment and data quality, if this percentage is high, it reflects the degree of under reporting in the registry and is missing cancers as they

are diagnosed. A low level of DCO (less than 5%) is regarded as an indicator of good data quality, a high degree of completeness. A very low or zero level of DCO cases may indicate that the registry is not receiving information on all deaths.

The Mortality Incidence Ratio: **M/I** ratio is the number of deaths in a given time period divided by the number of incidence cases for that time period expressed as a percentage.

If the number of death in a period exceeds the number of incidence cases, the Mortality/Incidence ratio expressed as percentage may be in excess of 100. As a result, the cancer registration is considered incomplete, under reporting, may be occurring, of course for rarer cancers and occurring if incidence was declining very rapidly. A high level of mortality incidence ratio is regarded a very difficult to treat or to diagnose of that cancer. A low proportion is regarded as a good result of treatment or easily to diagnose. Mortality incidence ratio closes to 100% are founded for cancer of poor prognosis. This ratio should be low than 100% for cancer with good prognosis such as skin cancer, breast cancer and cervical cancer.

CHAPTER II

Cancer Incidence in Northern Thailand, 2003-2007

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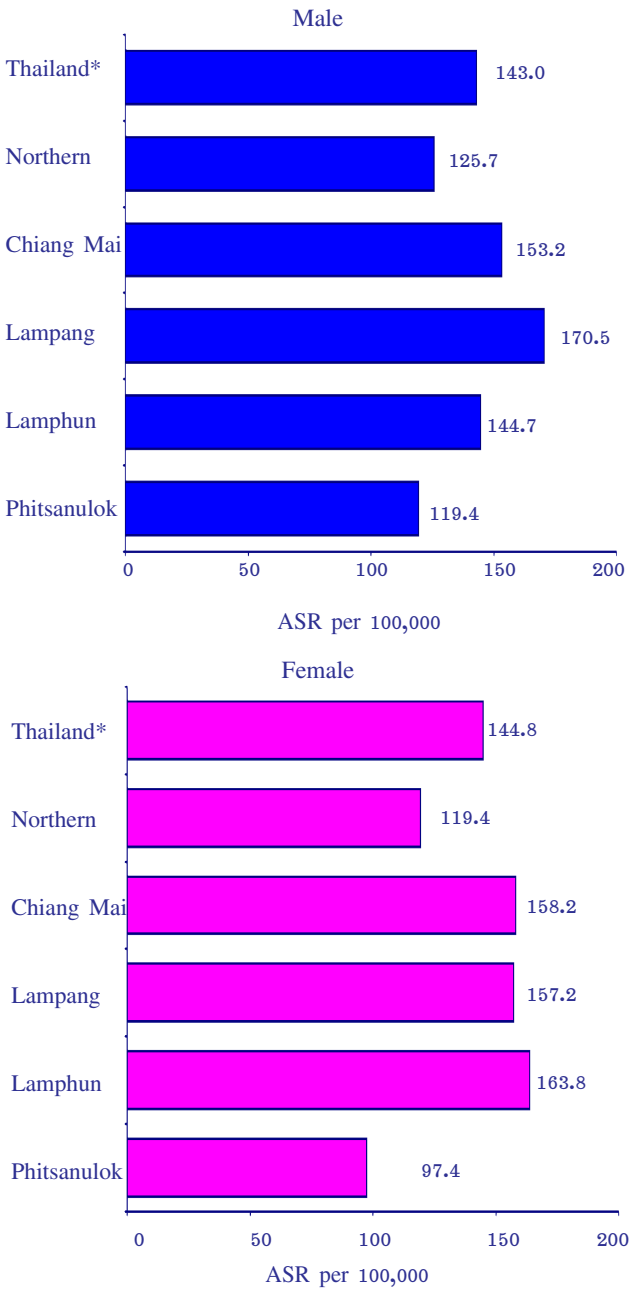
Cancer Incidence in Northern Thailand

During the period of 2003-2007, among northern populations, the total number of new cancers was 85,062 cases; 40,872 in males and 44,190 in females, with sex ratio of new cancer in males and females approximately 1:1. The age-standardized incidence rates (ASR) of all cancer sites were 125.7 among male and 119.4 per 100,000 populations among female. Comparisons between 4 registries in northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), among males, the highest age-standardized incidence rate of all cancers was found in Lampang (ASR=170.5 per 100,000 populations) while the lowest incidence rate was found in Phitsanulok (ASR=119.4 per 100,000 populations). Among females, the highest incidence rate of all cancers was found in Lamphun (ASR=163.8 per 100,000 populations) while the lowest incidence rate was found in Phitsanulok (ASR=97.4 per 100,000 populations) (Table 2.1& Figure 2.1).

Table 2.1 *Age-standardized incidence rates (ASR) of all cancer sites in Northern Thailand, 2003-2007*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	121,747	143.0	145,538	144.8
Northern	40,872	125.7	44,190	119.4
Chiang Mai	6,454	153.2	7,448	158.2
Lampang	4,168	170.5	4,228	157.2
Lamphun	1,786	144.7	2,229	163.8
Phitsanulok	2,522	119.4	2,476	97.4

Figure 2.1 *Comparisons of Age-standardized incidence rates (ASR) of all cancer sites, 2003-2007*

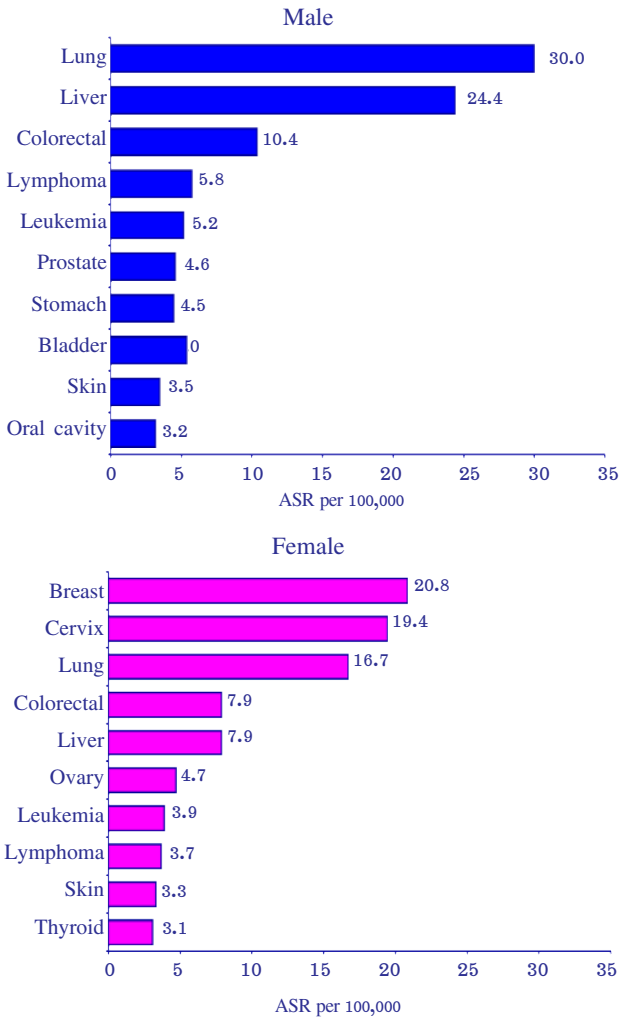


*From Cancer in Thailand Vol.V, 2001-2003

Leading Cancers in Northern Thailand

Lung cancer was the most common cancer in males followed by liver cancer and colorectal cancer. In females, the most common cancer was breast cancer followed by cervix cancer and lung cancer (Figure 2.2).

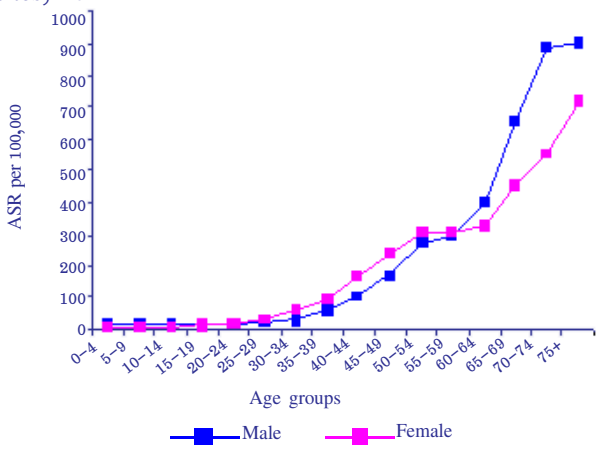
Figure 2.2 *Leading cancers in Northern Thailand, 2003–2007.*



Age-Specific Rate

Age-specific rates of all cancers showed higher incidence rate of cancer among females than males during the age of 25–59 while higher incidence among males after the age of 60 (Figure 2.3).

Figure 2.3 *Age-specific incidence rates of all cancer sites, 2(*



Cancer by Age Group

Cancer varied according to age (Figure 2.4 & 2.5).During the age 0–14, Leukemia, brain and lymphoma were the most common cancers in boys, whereas leukemia, brain and cancer of bone and connective tissue were the most common cancers in girls.

During the age 15–24, leukemia, lymphoma and cancer of bone and connective tissue were the most common cancers in males while ovary, leukemia and thyroid were the most common cancer among females.

In young adult (age 25–59), cancers of liver, lung and colorectal cancers were the most common cancers among males while breast, cervix and lung cancers were the most common cancer among females.

For older age groups (age 60–74), the most common cancers were lung, liver and colorectal cancer among males while lung, breast and cervix were the most common cancers among females.

The age over 75, cancer of lung, liver and prostate were the most common cancers among males while cancer of lung, colorectal and liver were the most common among females.

Figure 2.4 *Leading cancer sites by age (Male),Northern Thailand, 2003-2007.*

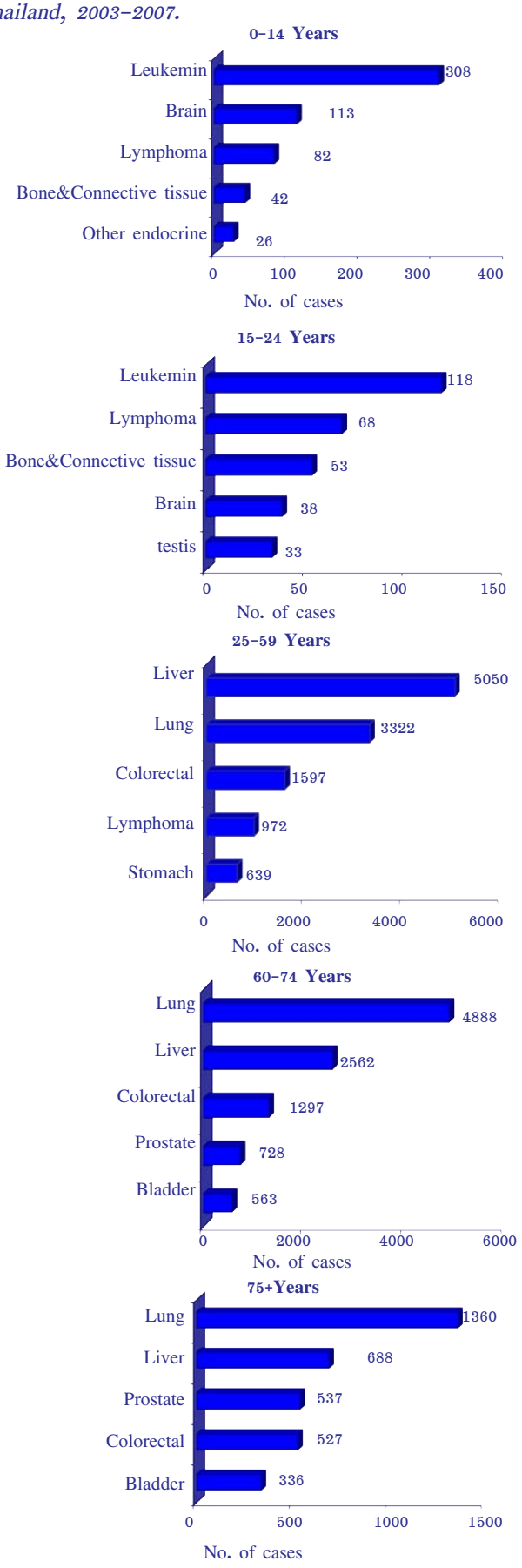


Figure 2.5 *Leading cancer sites by age (Female), Northern Thailand, 2003-2007*

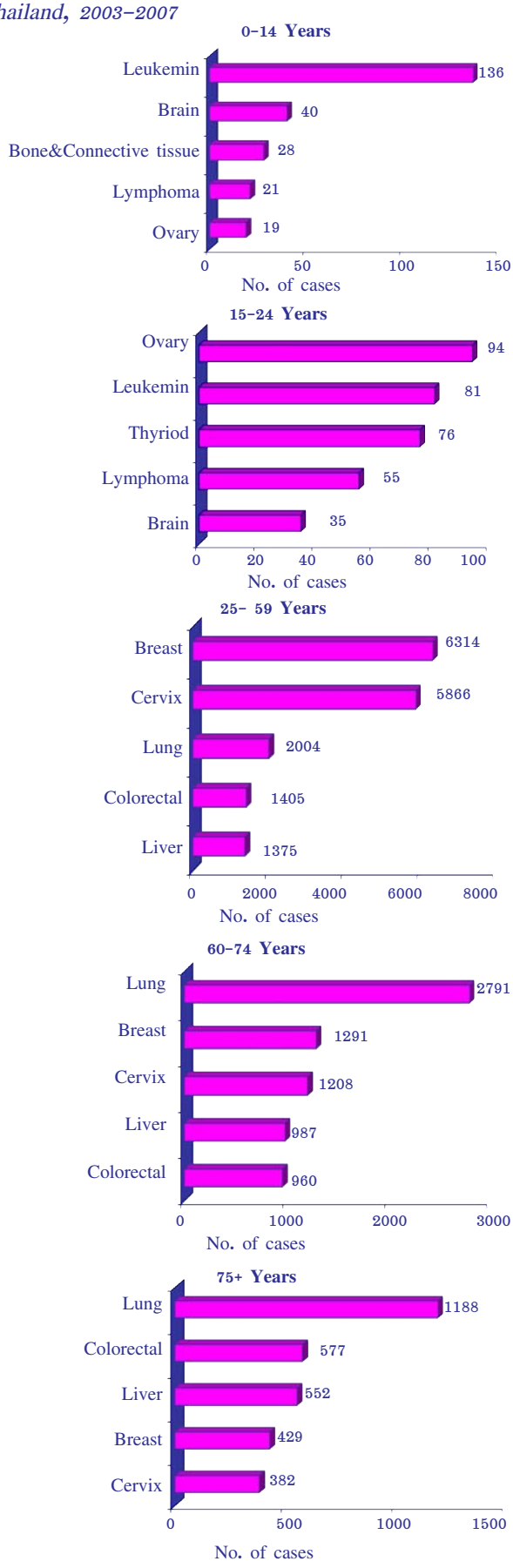


Table 2.2 : Number of New Cancers by Age Group (Male), Northern Thailand, 2003–2007

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	45	0	0	0	0	0	0	0	0	3	3	3	3	3	6	5	8	10	0.1	C00
Tongue	438	0	0	0	0	3	2	0	3	19	39	62	69	35	59	46	55	47	1.1	C01–C02
Salivary gland	143	0	0	0	0	0	0	16	3	3	10	16	3	18	31	11	10	23	0.4	C07–C08
Mouth	424	0	4	0	0	0	2	5	5	0	35	29	65	41	48	51	68	70	1.0	C03–C06
Oropharynx	278	0	0	0	0	3	2	8	0	9	32	52	42	18	23	27	25	37	0.7	C09–C10
Nasopharynx	864	0	0	0	12	11	20	24	11	47	93	120	176	138	76	78	33	25	2.1	C11
Hypopharynx	311	0	0	0	0	0	0	0	0	3	6	39	59	29	31	35	40	68	0.8	C12–C13
Pharynx unspec.	18	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	5	6	0.0	C14
Oesophagus	502	0	0	0	0	0	0	0	0	13	13	39	82	65	65	99	55	72	1.2	C15
Stomach	1469	0	0	0	0	0	5	8	27	31	64	162	203	144	150	250	238	186	3.6	C16
Small intestine	75	0	4	0	4	3	0	0	0	0	10	0	10	3	6	5	15	16	0.2	C17
Colon	1994	0	0	0	0	3	12	38	16	106	135	221	248	203	201	271	249	291	4.9	C18
Rectum	1454	0	0	0	0	3	10	8	8	34	103	143	193	141	176	207	193	236	3.6	C19–C21
Liver	8345	0	0	15	4	11	15	62	138	428	810	1237	1323	1052	878	948	736	688	20.4	C22
Gallbladder etc.	582	0	0	0	0	0	0	0	8	28	19	58	65	41	74	83	110	94	1.4	C23–C24
Pancreas	542	0	0	0	0	0	0	0	3	6	35	65	88	71	42	89	78	66	1.3	C25
Nose, sinuses etc.	168	0	0	0	0	0	0	3	3	6	3	26	16	24	37	16	20	14	0.4	C30–C31
Larynx	567	0	0	0	0	3	0	0	0	3	22	26	78	76	79	81	83	115	1.4	C32
Bronchus, lung	9603	0	7	7	0	3	15	38	77	134	286	578	1052	1158	1311	1830	1747	1360	23.5	C33–C34
Other Thoracic organs	68	0	0	4	4	6	2	5	3	0	0	3	10	12	8	0	5	6	0.2	C37–C38
Bone	206	0	7	0	12	25	15	11	8	13	10	23	13	6	11	19	18	16	0.5	C40–C41
Connective tissue	256	0	7	4	12	8	5	8	3	13	13	23	33	35	34	19	18	23	0.6	C47;C49
Mesothelioma	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	10	0	0	0	0	0	5	0	0	0	0	0	0	3	0	0	0	2	0.0	C46
Melanoma of skin	137	0	0	0	4	0	0	3	0	0	22	6	16	12	11	8	28	27	0.3	C43
Other skin	996	0	0	0	4	0	22	11	19	13	55	91	95	97	130	116	115	229	2.4	C44
Breast	127	0	0	0	0	0	0	0	3	13	16	19	16	15	14	11	10	10	0.3	C50
Prostate	1393	0	0	0	0	0	0	0	0	0	10	3	33	82	147	247	334	537	3.4	C61
Testis	186	0	7	0	0	11	22	22	13	25	19	23	13	3	8	5	5	8	0.5	C62
Penis	381	0	0	0	0	0	0	13	16	22	45	36	36	24	34	38	60	57	0.9	C60
Other male genital	13	0	0	0	4	0	0	0	0	0	0	0	0	0	3	3	0	4	0.0	C63
Bladder	1277	0	0	0	0	0	2	3	3	9	39	101	127	94	122	188	254	336	3.1	C67
Kidney etc.	587	0	15	4	0	0	0	5	3	16	26	78	85	76	34	89	88	70	1.4	C64–C66;C68
Eye	61	0	18	0	0	0	0	3	0	3	6	6	7	3	3	3	3	6	0.1	C69
Brain, nervous system	586	0	26	41	46	28	10	19	37	28	58	55	78	41	42	24	25	27	1.4	C70–C72
Thyroid	230	0	0	0	8	3	12	0	8	6	32	29	26	21	31	16	15	23	0.6	C73
Other endocrine	50	0	11	4	12	3	2	0	0	0	0	0	0	6	0	11	0	2	0.1	C74–C75
Hodgkin's disease	138	0	7	4	15	6	7	13	5	9	0	6	23	6	6	13	8	8	0.3	C81
Non–Hodgkin lymphoma	1734	0	15	34	8	28	27	32	40	88	138	156	265	191	144	183	206	180	4.2	C82–C85;C96
Multiple myeloma	286	0	0	4	4	0	2	5	0	6	26	19	33	62	25	43	25	31	0.7	C88;C90
Lymphoid leukaemia	360	0	62	82	35	42	7	0	5	13	6	13	13	21	11	8	15	27	0.9	C91
Myeloid leukaemia	597	0	11	15	35	31	22	27	16	34	55	52	75	32	40	46	55	51	1.5	C92
Monocytic leukaemia	12	0	0	0	0	0	2	0	0	3	3	0	3	0	0	0	0	0	0.0	C93
Other leukaemia	8	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	0.0	C94
Leukaemia unspec.	248	0	29	11	19	8	2	5	3	13	10	23	13	21	14	27	25	25	0.6	C95
Other & unspecified	3104	0	7	4	8	14	10	35	48	116	215	328	392	367	371	406	384	400	7.6	
All sites	40872	0	237	231	247	257	261	431	531	1316	2522	3971	5193	4486	4539	5653	5465	5530	100.0	

Table 2.3 : Number of New Cancers by Age Group (Female), Northern Thailand, 2003–2007

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	157	0	0	0	0	0	0	3	3	3	0	6	18	8	5	35	27	49	0.4	C00
Tongue	192	0	0	0	2	0	0	3	6	6	3	43	23	25	26	8	20	27	0.4	C01–C02
Salivary gland	167	0	0	0	0	0	0	6	9	11	11	17	29	11	13	23	18	19	0.4	C07–C08
Mouth	382	0	0	0	0	0	0	6	3	6	3	20	38	39	21	66	47	134	0.9	C03–C06
Oropharynx	86	0	0	0	0	3	0	0	0	0	3	9	3	14	5	10	5	36	0.2	C09–C10
Nasopharynx	367	0	0	0	2	12	8	14	15	40	42	46	44	28	26	30	34	27	0.8	C11
Hypopharynx	58	0	0	0	0	0	0	0	0	0	6	3	3	6	8	8	9	16	0.1	C12–C13
Pharynx unspec.	11	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	5	0.0	C14
Oesophagus	180	0	0	2	0	0	0	6	3	3	6	11	12	14	18	25	20	60	0.4	C15
Stomach	992	0	0	0	0	3	5	17	32	57	72	83	153	94	81	114	115	167	2.2	C16
Small intestine	67	0	0	0	0	0	0	0	0	0	6	14	6	14	3	10	7	8	0.2	C17
Colon	1722	0	0	0	0	3	3	14	41	57	111	177	191	195	198	180	203	350	3.9	C18
Rectum	1236	0	0	0	0	0	11	20	29	34	94	159	147	135	117	145	117	227	2.8	C19–C21
Liver	2933	0	6	2	2	6	3	23	29	68	155	290	396	413	277	393	318	552	6.6	C22
Gallbladder etc.	674	0	0	0	0	0	0	0	3	8	17	37	76	63	70	101	90	208	1.5	C23–C24
Pancreas	504	0	0	0	0	0	0	0	3	8	28	40	82	55	44	63	65	115	1.1	C25
Nose, sinuses etc.	120	0	0	0	0	0	5	3	3	3	19	11	21	14	8	10	7	16	0.3	C30–C31
Larynx	143	0	0	0	0	0	3	6	0	0	3	0	9	14	23	25	23	38	0.3	C32
Bronchus, lung	6001	0	0	0	2	0	16	29	97	74	186	350	569	699	832	1017	942	1188	13.6	C33–C34
Other Thoracic organs	64	0	0	0	2	3	0	6	0	6	3	9	3	3	3	10	7	11	0.1	C37–C38
Bone	149	0	2	2	8	12	5	14	9	6	11	17	23	11	5	0	9	14	0.3	C40–C41
Connective tissue	188	0	6	4	4	3	8	6	15	28	3	14	12	28	21	10	7	19	0.4	C47;C49
Mesothelioma	5	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	15	0	0	2	0	0	5	0	0	6	0	0	0	0	0	0	2	0	0.0	C46
Melanoma of skin	147	0	0	0	0	3	0	3	3	3	3	11	18	25	13	18	20	27	0.3	C43
Other skin	1108	0	0	0	4	3	8	6	9	20	55	65	73	88	73	129	131	442	2.5	C44
Breast	8047	0	0	0	0	0	14	84	275	656	1287	1674	1418	920	496	484	311	429	18.2	C50
Uterus unspec.	16	0	0	0	0	0	0	0	0	0	3	3	0	0	3	5	0	3	0.0	C55
Cervix uteri	7481	0	0	0	0	3	22	75	319	730	1287	1532	1139	785	530	403	275	382	16.9	C53
Placenta	49	0	0	0	0	6	5	9	9	3	8	3	6	0	0	0	0	0	0.1	C58
Corpus uteri	1087	0	0	0	2	0	5	3	18	37	67	125	235	204	128	96	83	85	2.5	C54
Ovary etc.	1716	0	4	4	11	48	46	63	79	133	183	282	346	162	102	106	50	96	3.9	C56
Other female genital	299	0	0	0	0	0	5	3	15	8	17	31	38	17	39	33	25	68	0.7	C51–C52;C57
Bladder	527	0	0	0	0	0	0	3	3	6	14	23	21	52	68	61	95	183	1.2	C67
Kidney etc.	249	0	8	4	2	0	0	9	3	8	11	26	26	36	21	35	29	30	0.6	C64–C66;C68
Eye	34	0	4	0	0	0	0	3	6	6	3	0	0	3	0	0	2	8	0.1	C69
Brain, nervous system	543	0	16	8	15	24	11	29	32	65	44	57	79	47	31	20	23	41	1.2	C70–C72
Thyroid	1109	0	0	0	8	24	52	69	117	110	166	134	129	69	37	74	54	66	2.5	C73
Other endocrine	53	0	2	0	4	0	5	6	3	6	3	3	6	6	5	0	2	3	0.1	C74–C75
Hodgkin's disease	67	0	0	2	2	3	3	6	6	6	0	9	3	6	8	3	7	5	0.2	C81
Non–Hodgkin lymphoma	1271	0	0	4	13	27	22	46	61	62	78	125	156	99	120	106	144	208	2.9	C82–C85;C96
Multiple myeloma	208	0	0	0	0	0	0	0	0	8	8	17	18	33	34	28	20	41	0.5	C88;C90
Lymphoid leukaemia	241	0	33	39	17	18	22	14	9	14	3	17	9	8	3	5	14	16	0.5	C91
Myeloid leukaemia	575	0	21	4	13	21	11	29	32	42	58	57	59	25	42	43	47	71	1.3	C92
Monocytic leukaemia	21	0	0	0	0	0	3	0	3	0	0	3	3	3	3	0	5	0	0.0	C93
Other leukaemia	6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0.0	C94
Leukaemia unspec.	196	0	4	4	2	3	3	12	20	8	19	14	21	3	13	20	14	36	0.4	C95
Other & unspecified	2724	0	6	0	4	18	16	46	73	119	128	199	282	270	290	398	342	533	6.2	
All sites	44190	0	113	83	123	247	326	696	1396	2472	4224	5769	5944	4739	3862	4353	3783	6061	100.0	

Table 2.4 : Average Incidence per 100,000 by Age group (Male), NorthernThailand, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	45	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.5	0.6	1.2	1.7	0.2	0.1	C00
Tongue	438	0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.8	1.5	2.6	3.6	2.3	5.2	5.3	9.0	7.7	1.5	1.3	C01-C02
Salivary gland	143	0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.1	0.4	0.7	0.2	1.2	2.7	1.3	1.6	3.7	0.5	0.5	C07-C08
Mouth	424	0	0.2	0.0	0.0	0.0	0.1	0.3	0.3	0.0	1.4	1.2	3.4	2.7	4.2	5.9	11.1	11.4	1.5	1.3	C03-C06
Oropharynx	278	0	0.0	0.0	0.0	0.1	0.1	0.4	0.0	0.4	1.3	2.2	2.2	1.2	2.0	3.1	4.1	6.0	1.0	0.8	C09-C10
Nasopharynx	864	0	0.0	0.0	0.5	0.5	1.1	1.2	0.5	2.0	3.7	5.1	9.3	9.1	6.7	9.1	5.3	4.0	3.0	2.5	C11
Hypopharynx	311	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	1.7	3.1	1.9	2.7	4.1	6.6	11.0	1.1	0.9	C12-C13
Pharynx unspec.	18	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.8	1.0	0.1	0.1	C14
Oesophagus	502	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.7	4.3	4.3	5.7	11.6	9.0	11.7	1.8	1.5	C15
Stomach	1469	0	0.0	0.0	0.0	0.0	0.3	0.4	1.3	1.3	2.6	6.9	10.7	9.5	13.1	29.1	39.0	30.4	5.2	4.5	C16
Small intestine	75	0	0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.5	0.2	0.5	0.6	2.5	2.7	0.3	0.2	C17
Colon	1994	0	0.0	0.0	0.0	0.1	0.7	1.9	0.8	4.6	5.4	9.4	13.1	13.4	17.6	31.6	40.6	47.5	7.0	6.0	C18
Rectum	1454	0	0.0	0.0	0.0	0.1	0.5	0.4	0.4	1.5	4.1	6.1	10.2	9.3	15.4	24.1	31.6	38.5	5.1	4.4	C19-C21
Liver	8345	0	0.0	0.7	0.2	0.5	0.8	3.2	6.9	18.4	32.4	52.7	69.8	69.7	76.9	110.5	120.2	112.4	29.4	24.4	C22
Gallbladder etc.	582	0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.2	0.8	2.5	3.4	2.7	6.4	9.7	18.0	15.4	2.0	1.8	C23-C24
Pancreas	542	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	1.4	2.8	4.7	4.7	3.7	10.3	12.7	10.7	1.9	1.6	C25
Nose, sinuses etc.	168	0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.1	1.1	0.9	1.6	3.2	1.9	3.3	2.3	0.6	0.5	C30-C31
Larynx	567	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.9	1.1	4.1	5.1	6.9	9.4	13.5	18.7	2.0	1.8	C32
Bronchus, lung	9603	0	0.4	0.3	0.0	0.1	0.8	1.9	3.9	5.8	11.4	24.6	55.5	76.7	114.9	213.3	285.4	222.1	33.8	30.0	C33-C34
Other Thoracic organs	68	0	0.0	0.2	0.2	0.2	0.1	0.3	0.1	0.0	0.0	0.1	0.5	0.8	0.7	0.0	0.8	1.0	0.2	0.2	C37-C38
Bone	206	0	0.4	0.0	0.5	1.1	0.8	0.6	0.4	0.5	0.4	1.0	0.7	0.4	1.0	2.2	2.9	2.7	0.7	0.7	C40-C41
Connective tissue	256	0	0.4	0.2	0.5	0.4	0.3	0.4	0.1	0.5	0.5	1.0	1.7	2.3	3.0	2.2	2.9	3.7	0.9	0.8	C47;C49
Mesothelioma	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposis sarcoma	10	0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0	C46
Melanoma of skin	137	0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.9	0.3	0.9	0.8	1.0	0.9	4.5	4.3	0.5	0.4	C43
Other skin	996	0	0.0	0.0	0.2	0.0	1.2	0.6	0.9	0.5	2.2	3.9	5.0	6.4	11.4	13.5	18.9	37.5	3.5	3.1	C44
Breast	127	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.6	0.8	0.9	1.0	1.2	1.3	1.6	1.7	0.4	0.4	C50
Prostate	1393	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	1.7	5.4	12.9	28.8	54.5	87.6	4.9	4.6	C61
Testis	186	0	0.4	0.0	0.0	0.5	1.2	1.1	0.7	1.1	0.8	1.0	0.7	0.2	0.7	0.6	0.8	1.3	0.7	0.6	C62
Penis	381	0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.9	1.8	1.5	1.9	1.6	3.0	4.4	9.8	9.4	1.3	1.2	C60
Other male genital	13	0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.7	0.0	0.0	C63
Bladder	1277	0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	1.5	4.3	6.7	6.2	10.7	21.9	41.4	54.9	4.5	4.0	C67
Kidney etc.	587	0	0.7	0.2	0.0	0.0	0.0	0.3	0.1	0.7	1.0	3.3	4.5	5.1	3.0	10.3	14.4	11.4	2.1	1.8	C64-C66;C68
Eye	61	0	0.9	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.3	0.3	0.2	0.2	0.3	0.4	1.0	0.2	0.2	C69
Brain, nervous system	586	0	1.3	1.8	2.0	1.2	0.5	1.0	1.9	1.2	2.3	2.4	4.1	2.7	3.7	2.8	4.1	4.3	2.1	1.9	C70-C72
Thyroid	230	0	0.0	0.0	0.3	0.1	0.7	0.0	0.4	0.3	1.3	1.2	1.4	1.4	2.7	1.9	2.5	3.7	0.8	0.7	C73
Other endocrine	50	0	0.6	0.2	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.3	0.0	0.3	0.2	0.2	C74-C75
Hodgkins disease	138	0	0.4	0.2	0.7	0.2	0.4	0.7	0.3	0.4	0.0	0.3	1.2	0.4	0.5	1.6	1.2	1.3	0.5	0.5	C81
Non-Hodgkin lymphoma	1734	0	0.7	1.5	0.3	1.2	1.5	1.7	2.0	3.8	5.5	6.6	14.0	12.6	12.7	21.3	33.6	29.4	6.1	5.3	C82-C85;C96
Multiple myeloma	286	0	0.0	0.2	0.2	0.0	0.1	0.3	0.0	0.3	1.0	0.8	1.7	4.1	2.2	5.0	4.1	5.0	1.0	0.9	C88;C90
Lymphoid leukaemia	360	0	3.1	3.7	1.5	1.9	0.4	0.0	0.3	0.5	0.3	0.6	0.7	1.4	1.0	0.9	2.5	4.3	1.3	1.5	C91
Myeloid leukaemia	597	0	0.6	0.7	1.5	1.4	1.2	1.4	0.8	1.5	2.2	2.2	4.0	2.1	3.5	5.3	9.0	8.4	2.1	1.9	C92
Monocytic leukaemia	12	0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C93
Other leukaemia	8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.3	0.0	0.0	C94
Leukaemia unspec.	248	0	1.5	0.5	0.8	0.4	0.1	0.3	0.1	0.5	0.4	1.0	0.7	1.4	1.2	3.1	4.1	4.0	0.9	0.9	C95
Other & unspecified	3104	0	0.4	0.2	0.3	0.6	0.5	1.8	2.4	5.0	8.6	14.0	20.7	24.3	32.5	47.3	62.7	65.2	10.9	9.4	
All sites	40872	0	12.0	10.3	10.6	11.3	14.1	22.1	26.6	56.4	100.9	169.2	273.9	297.2	397.6	658.9	892.8	902.8	143.8	125.7	

Table 2.5 : Average Incidence per 100,000 by Age group (Female), NorthernThailand, 2003–2007

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	157	0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.9	0.5	0.4	3.7	3.9	5.8	0.5	0.4	C00
Tongue	192	0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.2	0.1	1.8	1.2	1.6	2.2	0.8	3.0	3.2	0.7	0.5	C01–C02
Salivary gland	167	0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.4	0.7	1.5	0.7	1.1	2.4	2.6	2.3	0.6	0.5	C07–C08
Mouth	382	0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.1	0.8	1.9	2.4	1.7	6.9	6.9	15.8	1.3	1.0	C03–C06
Oropharynx	86	0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.9	0.4	1.1	0.7	4.2	0.3	0.2	C09–C10
Nasopharynx	367	0	0.0	0.0	0.1	0.5	0.4	0.7	0.6	1.6	1.6	1.9	2.2	1.7	2.2	3.2	4.9	3.2	1.2	1.0	C11
Hypopharynx	58	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.7	0.8	1.3	1.9	0.2	0.2	C12–C13
Pharynx unspec.	11	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	C14
Oesophagus	180	0	0.0	0.1	0.0	0.0	0.0	0.3	0.1	0.1	0.2	0.5	0.6	0.9	1.5	2.6	3.0	7.1	0.6	0.5	C15
Stomach	992	0	0.0	0.0	0.0	0.1	0.3	0.8	1.4	2.2	2.8	3.4	7.8	5.9	6.7	11.9	16.8	19.7	3.4	2.7	C16
Small intestine	67	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.9	0.2	1.1	1.0	1.0	0.2	0.2	C17
Colon	1722	0	0.0	0.0	0.0	0.1	0.1	0.7	1.8	2.2	4.3	7.3	9.7	12.4	16.5	18.8	29.6	41.3	5.9	4.6	C18
Rectum	1236	0	0.0	0.0	0.0	0.0	0.6	1.0	1.3	1.3	3.6	6.6	7.5	8.6	9.8	15.1	17.1	26.8	4.2	3.3	C19–C21
Liver	2933	0	0.3	0.1	0.1	0.3	0.1	1.1	1.3	2.7	6.0	12.0	20.2	26.2	23.1	41.0	46.4	65.2	10.0	7.9	C22
Gallbladder etc.	674	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	1.5	3.9	4.0	5.9	10.6	13.2	24.5	2.3	1.8	C23–C24
Pancreas	504	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	1.1	1.6	4.2	3.5	3.7	6.6	9.5	13.6	1.7	1.3	C25
Nose, sinuses etc.	120	0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.7	0.5	1.0	0.9	0.7	1.1	1.0	1.9	0.4	0.3	C30–C31
Larynx	143	0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.0	0.4	0.9	2.0	2.6	3.3	4.5	0.5	0.4	C32
Bronchus, lung	6001	0	0.0	0.0	0.1	0.0	0.9	1.4	4.3	2.9	7.2	14.5	29.0	44.4	69.4	106.0	137.6	140.5	20.4	16.7	C33–C34
Other Thoracic organs	64	0	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.2	0.1	0.4	0.1	0.2	0.2	1.1	1.0	1.3	0.2	0.2	C37–C38
Bone	149	0	0.1	0.1	0.4	0.5	0.3	0.7	0.4	0.2	0.4	0.7	1.2	0.7	0.4	0.0	1.3	1.6	0.5	0.5	C40–C41
Connective tissue	188	0	0.3	0.2	0.2	0.1	0.4	0.3	0.6	1.1	0.1	0.6	0.6	1.7	1.7	1.1	1.0	2.3	0.6	0.6	C47;C49
Mesothelioma	5	0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposi's sarcoma	15	0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.1	C46
Melanoma of skin	147	0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.5	0.9	1.6	1.1	1.9	3.0	3.2	0.5	0.4	C43
Other skin	1108	0	0.0	0.0	0.2	0.1	0.4	0.3	0.4	0.8	2.1	2.7	3.7	5.6	6.1	13.5	19.1	52.3	3.8	2.9	C44
Breast	8047	0	0.0	0.0	0.0	0.0	0.7	4.1	12.2	26.0	49.6	69.2	72.1	58.4	41.4	50.5	45.4	50.7	27.4	20.8	C50
Uterus unspec.	16	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.5	0.0	0.3	0.1	0.0	C55
Cervix uteri	7481	0	0.0	0.0	0.0	0.1	1.2	3.6	14.1	28.9	49.6	63.4	57.9	49.9	44.2	42.0	40.2	45.2	25.5	19.4	C53
Placenta	49	0	0.0	0.0	0.0	0.3	0.3	0.4	0.4	0.1	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.2	C58
Corpus uteri	1087	0	0.0	0.0	0.1	0.0	0.3	0.1	0.8	1.5	2.6	5.2	11.9	12.9	10.7	10.0	12.2	10.0	3.7	2.9	C54
Ovary etc.	1716	0	0.2	0.2	0.5	2.2	2.5	3.1	3.5	5.3	7.1	11.7	17.6	10.3	8.5	11.1	7.2	11.3	5.8	4.7	C56
Other female genital	299	0	0.0	0.0	0.0	0.0	0.3	0.1	0.6	0.3	0.6	1.3	1.9	1.0	3.3	3.4	3.6	8.1	1.0	0.8	C51–C52;C57
Bladder	527	0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.5	0.9	1.0	3.3	5.7	6.3	13.8	21.6	1.8	1.4	C67
Kidney etc.	249	0	0.5	0.2	0.1	0.0	0.0	0.4	0.1	0.3	0.4	1.1	1.3	2.3	1.7	3.7	4.3	3.6	0.8	0.7	C64–C66;C68
Eye	34	0	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.3	1.0	0.1	0.1	C69
Brain, nervous system	543	0	0.9	0.4	0.7	1.1	0.6	1.4	1.4	2.6	1.7	2.4	4.0	3.0	2.6	2.1	3.3	4.8	1.8	1.6	C70–C72
Thyroid	1109	0	0.0	0.0	0.4	1.1	2.7	3.4	5.2	4.4	6.4	5.5	6.6	4.4	3.0	7.7	7.9	7.8	3.8	3.1	C73
Other endocrine	53	0	0.1	0.0	0.2	0.0	0.3	0.3	0.1	0.2	0.1	0.1	0.3	0.3	0.4	0.0	0.3	0.3	0.2	0.2	C74–C75
Hodgkin's disease	67	0	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.0	0.4	0.1	0.3	0.7	0.3	1.0	0.6	0.2	0.2	C81
Non–Hodgkin lymphoma	1271	0	0.0	0.2	0.6	1.2	1.2	2.2	2.7	2.5	3.0	5.2	7.9	6.3	10.0	11.1	21.1	24.5	4.3	3.5	C82–C85;C96
Multiple myeloma	208	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.7	0.9	2.1	2.8	2.9	3.0	4.8	0.7	0.6	C88;C90
Lymphoid leukaemia	241	0	1.8	1.8	0.8	0.8	1.2	0.7	0.4	0.6	0.1	0.7	0.4	0.5	0.2	0.5	2.0	1.9	0.8	0.9	C91
Myeloid leukaemia	575	0	1.2	0.2	0.6	1.0	0.6	1.4	1.4	1.7	2.2	2.4	3.0	1.6	3.5	4.5	6.9	8.4	2.0	1.7	C92
Monocytic leukaemia	21	0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.7	0.0	0.1	0.1	C93
Other leukaemia	6	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	C94
Leukaemia unspec.	196	0	0.2	0.2	0.1	0.1	0.1	0.6	0.9	0.3	0.7	0.6	1.0	0.2	1.1	2.1	2.0	4.2	0.7	0.6	C95
Other & unspecified	2724	0	0.3	0.0	0.2	0.8	0.9	2.2	3.2	4.7	4.9	8.2	14.3	17.1	24.2	41.5	50.0	63.0	9.3	7.5	
All sites	44190	0	6.3	3.8	5.5	11.2	17.4	33.7	61.7	97.8	162.7	238.6	302.3	301.1	322.1	454.0	552.6	716.7	150.4	119.4	

CHAPTER III

Cancer Incidence by cancer sites

CHAPTER III-1

Oral Cavity Cancer in Northern Thailand, 2003-2007 (ICD-O:C00-08)

Yupa Sumitsawan M.D.

Oral Cavity Cancer Incidence

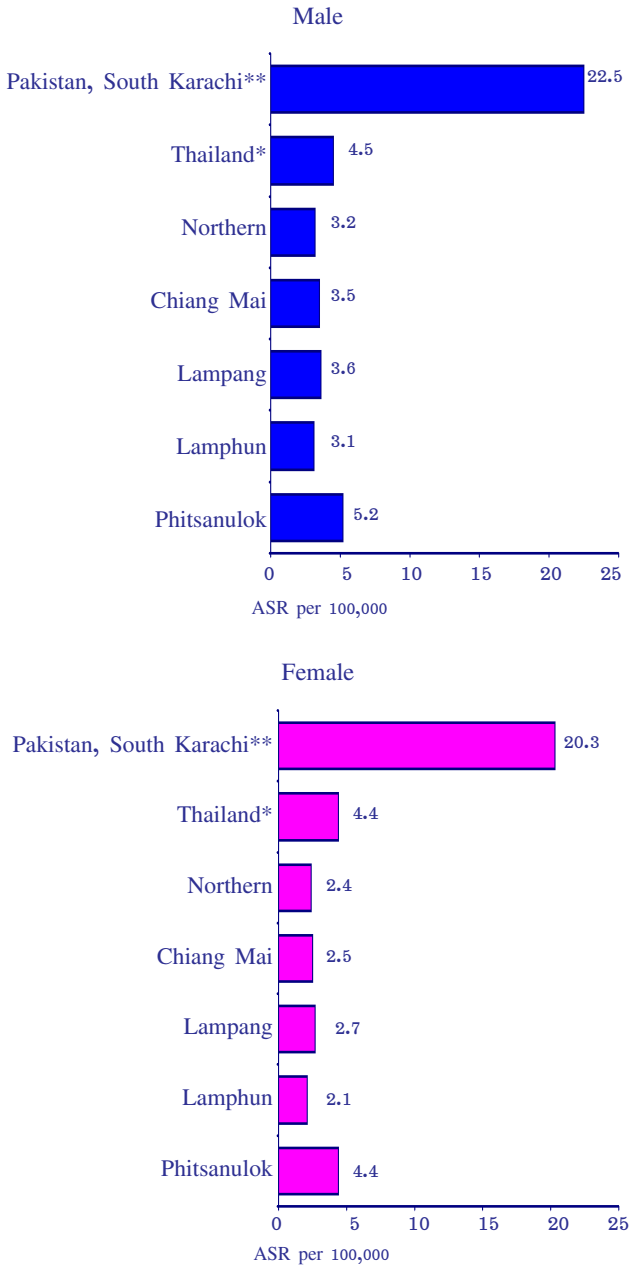
During the year 2003-2007, the number of new cases of oral cavity cancer in Northern Thailand was 1,948 cases, 1,050 were males and 898 were females. Male to female ratio was 1.2:1. The age standardized incidence rate(ASR) of oral cavity cancer per 100,000 populations per year was 3.2 for males and 2.4 for females.

Among 4 registry sites in Northern Thailand: Chiang Mai, Lampang, Lamphun and Phitsanuloke, the highest ASR for males and females were in Phitsanuloke that was 5.2 and 4.4 respectively. The lowest ASR of oral cavity cancer was found in Lamphun, they were 3.1 for males and 2.1 for females (Table 3.1.1 & Figure 3.1.1).

Table 3.1.1 *Age-standardized incidence rates (ASR) of oral cavity cancer in Northern*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	3,820	4.5	4,296	4.4
Northern	1,050	3.2	898	2.4
Chiang Mai	146	3.5	119	2.5
Lampang	91	3.6	75	2.7
Lamphun	38	3.1	30	2.1
Phitsanulok	108	5.2	113	4.4

Figure 3.1.1 *Comparisons of Age-standardized incidence rates (ASR) of oral cavity cancer, 2003-2007.*



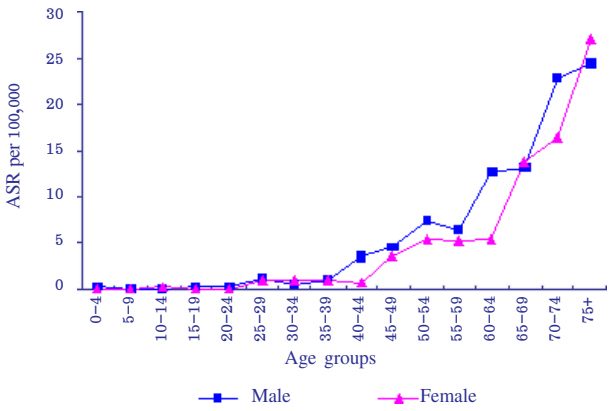
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of oral cavity cancer showed higher incidence rate in males than females. The incidence by age groups increased after the age of 60 (Figure 3.1.2).

Figure 3.1.2 *Age-specific incidence rates of oral cavity cancer, 2003-2007*



Risk factors of Oral Cavity Cancer

Both genetic and environmental factors contribute to development of oral cancer. Environmental risk factors are mainly tobacco, alcohol and viral infection[1,2,3]. Tobacco is weakly chemical carcinogenic but prolonged use makes significant effect. Fewer cigarettes / day for a long period was more deteriorate than greater cigarettes / day for a shorter duration[4]. Alcohol used to excess potentiates tobacco in the development of oral cancer. Chronic local irritation of alcohol, poor dentition and poor oral hygiene may induce neoplasia through the increased production of reactive oxygen and nitrogen which results in elevated DNA damage[5].

Oral premalignant lesion, mainly leukoplakia and erythroplakia are important risks for oral cancer. The rate of transformation into oral malignancy ranged between 11% to 30% depending on geographical location of the individual and length of follow-up[6]. There are multiple genetic mechanisms involved in progression to invasive oral cancer. High resolution genomic analysis can be used to evaluate progression risk in low grade oral premalignant lesions, a marked improvement over present histopathological approaches[7].

The incidence of oral cancer in the North of Thailand was highest in Phitsanuloke and it was at the same rate of Thailand. Phitsanuloke is the lowest part of the North that people is much alike those in central of Thailand that they like to keep tobacco in their oral cavity.

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CHAPTER III-2

Nasopharyngeal cancer in Northern Thailand, 2003-2007 (ICD-O: C 11)

Yupa Sumitsawan M.D.

Nasopharyngeal cancer incidence

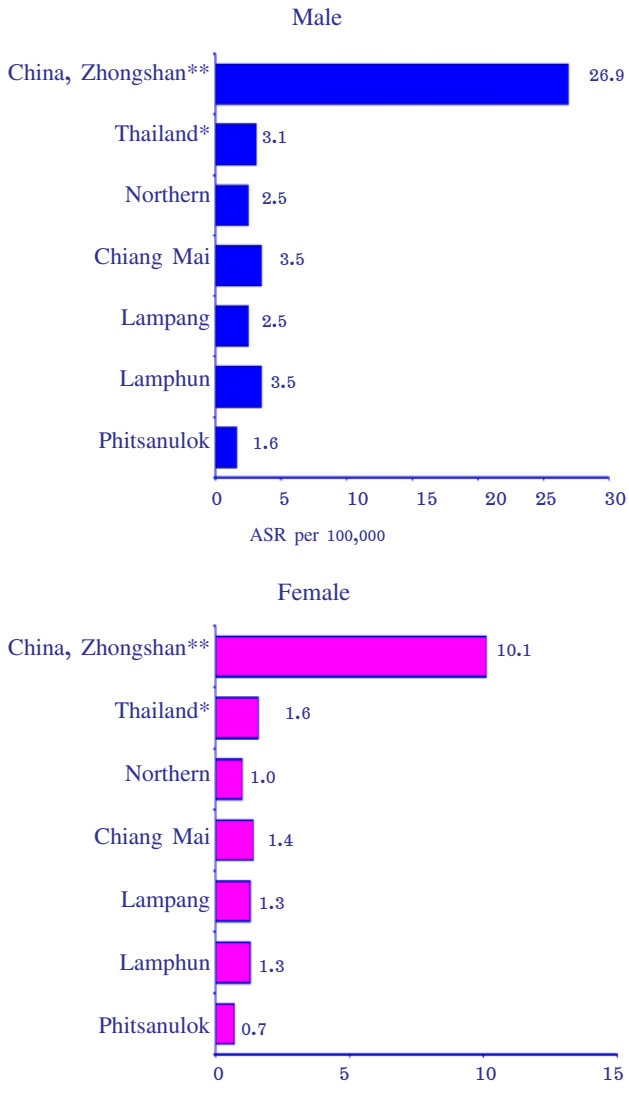
During the year 2003-2007, the number of new cases of nasopharyngeal cancer in Northern Thailand was 1,231 cases, 864 are males and 367 are females. Male to female ratio was 2:1. The age-standardized incidence rates (ASR) per 100,000 populations per year was 2.5 for males and 1.0 for females.

Among 4 registry sites in Northern Thailand: Chiang Mai, Lampang, Lamphun and Phitsanulok, the ASR for males are highest in Chiang Mai and Lumphun (ARS = 3.5). The highest ASR for females was found in Chiang Mai that was 1.4. Phitsanulok had the lowest ASR for both males and females that were 1.6 and 0.7 respectively (Table 3.2.1 & Figure 3.2.1).

Table 3.2.1 *Age-standardized incidence rates (ASR) of naopharyngeal cancer in Northern*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	2,820	3.1	1,613	1.6
Northern	864	2.5	367	1.0
Chiang Mai	149	3.5	67	1.4
Lampang	61	2.5	32	1.3
Lamphun	43	3.5	19	1.3
Phitsanulok	37	1.6	17	0.7

Figure 3.2.1 *Comparisons of Age-standardized incidence rates (ASR) of nasopharyngeal cancer, 2003-2007*



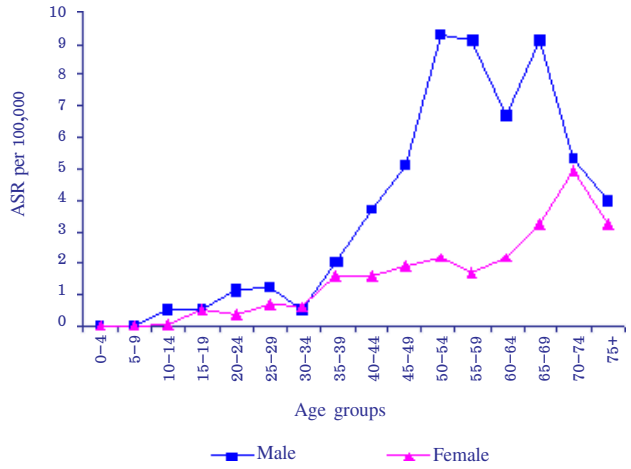
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of nasopharyngeal cancer showed higher incidence rate in males than females. The incidence by age groups increased after the age of 40, however it can be found at the age before 20 (Figure 3.2.2).

Figure 3.2.2 *Age-specific incidence rates of oral cavity cancer, 2003-2007*



Risk factors of Nasopharyngeal Cancer

Epidemiological studies of nasopharyngeal cancer (NPC) suggest 3 major etiological factors: genetic susceptibility, latent Epstein Barr Virus (EBV) infection and environmental factor. The combination of these factors drive the normal nasopharyngeal epithelial ells to preinvasive then invasive tumor stages[1,2].

Genetic susceptibility: NPC has endemic area in Southern China, Hong Kong and Southeast Asia. It has familial preponderance. Tong, et al study in Hong Kong revealed 10.4% of cases had first degree relatives with this malignancy[3]. Emigrants from high incidence area reduce the incidence of NPC in the first generation but still remains higher at 7 times the rate of people in North America[4].

Epstein-Barr virus infection: Undifferentiated and poorly differentiated squamous cell carcinoma of nasopharynx are mostly related to EBV. The IgA antibody to viral capsid antigen and early antigen of EBV are much higher in NPC cases than in control[5]. Latent and clonal viral genomes of EBV are positive in NPC lesions[6,7].

Environmental factors: Consumption of salted fish during childhood is related to increase in NPC risk in China. Preserved vegetable intake had twofold increased risk[8]. Tobacco smoking is mildly associated with higher risk[9]. There is also an increased risk with diets deficient in fresh fruits, carotene or fiber intakes[10].

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CHAPTER III-3

Colorectal cancer in Northern Thailand,2003-2007 (ICD-O: C 18-21)

Tawarat Raunroadroong, M.D.

Colorectal cancer incidence

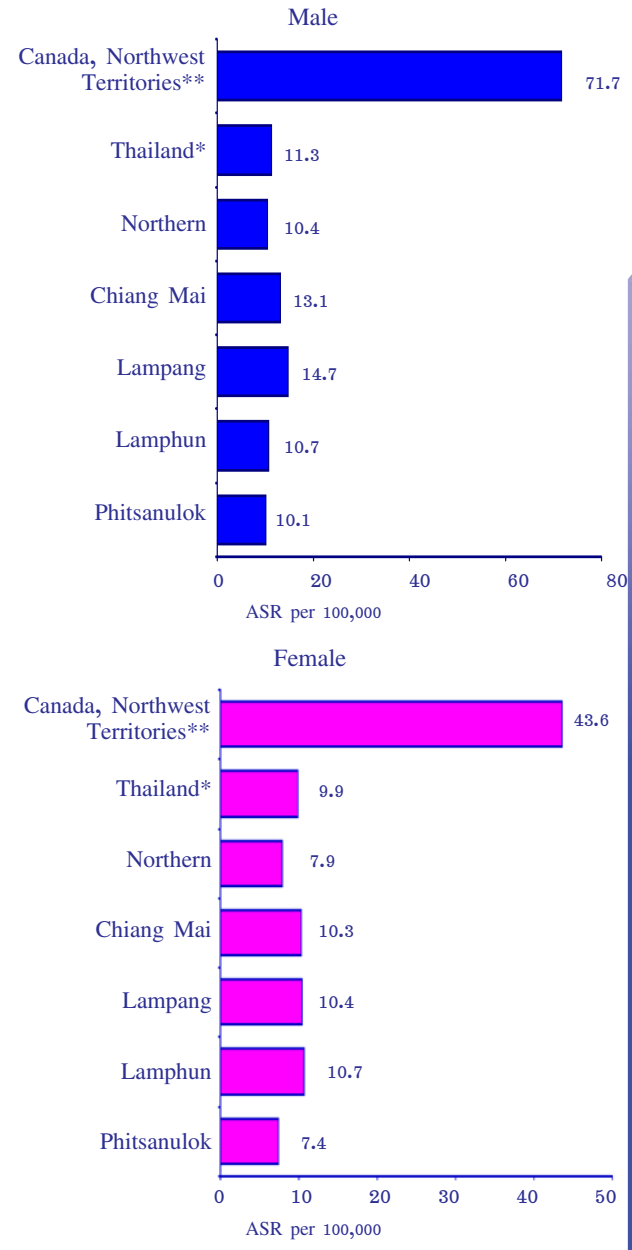
In Northern Thailand, the total numbers of new colorectal cancer were 6,406 cases, which were 3,448 among males and 2,958 among females. The sex ratio of male and female was approximately 1.2:1. The age – standardized incidence rate (ASR) of colorectal cancer was 10.4 per 100,000 population among males and 7.9 per 100,000 populations among females.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), among males, the highest ASR of colorectal cancer was found in Lampang (ASR=14.7 per 100,000 populations) while the lowest rate was found in Phitsanulok (ASR= 10.1 per 100,000 populations). Among females, the highest ASR of colorectal cancer was found in Lamphun (ASR= 10.7 per 100,000 populations) while the lowest ASR was found in Lamphun (ASR=7.4 per 100,000 populations) (Table 3.3.1& Figure 3.3.1).

Table 3.3.1 *Age-standardized incidence rates (ASR) of colorectal cancer in Northern Thailand, 2003-2007*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	9,538	11.3	9,761	9.9
Northern	3,448	10.4	2,958	7.9
Chiang Mai	556	13.1	481	10.3
Lampang	363	14.7	286	10.4
Lamphun	137	10.7	148	10.7
Phitsanulok	213	10.1	191	7.4

Figure 3.3.1 *Comparisons of Age-standardized incidence rates (ASR) of colorectal cancer, 2003-2007*



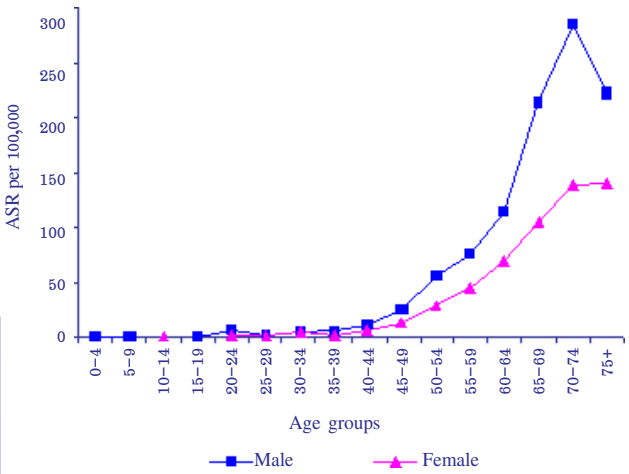
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rate of colorectal cancer showed higher incidence rate in males than females. The incidence by age groups increased after the age of 40 and the peak incidence in the seventh decade (Figure 3.3.2).

Figure 3.3.2 *Age-specific incidence rates of colorectal cancer, 2003-2007*



Risk factors for colorectal cancer

There are many risk factors involve in colorectal cancer (CRC). Diet low in fiber, fruit, vegetable and high in animal fat and red meat increase risk of colorectal cancer as well as high level of alcohol intake. Obesity seems to increase the risk of colon cancer in men and premenopausal women.

Patients with long standing of inflammatory bowel disease are known to be at an increased risk of CRC. Individuals with a family history of CRC are at an increase risk of themselves developing CRC. However, the majority of cases of CRC cannot be attributed to known genetic defects even when associated with a family history of CRC.

CHAPTER III-4

Liver Cancer in Northern Thailand, 2003-2007 (ICD-O:C22)

Baramee Boonlert, M.D.

Liver Cancer Incidence

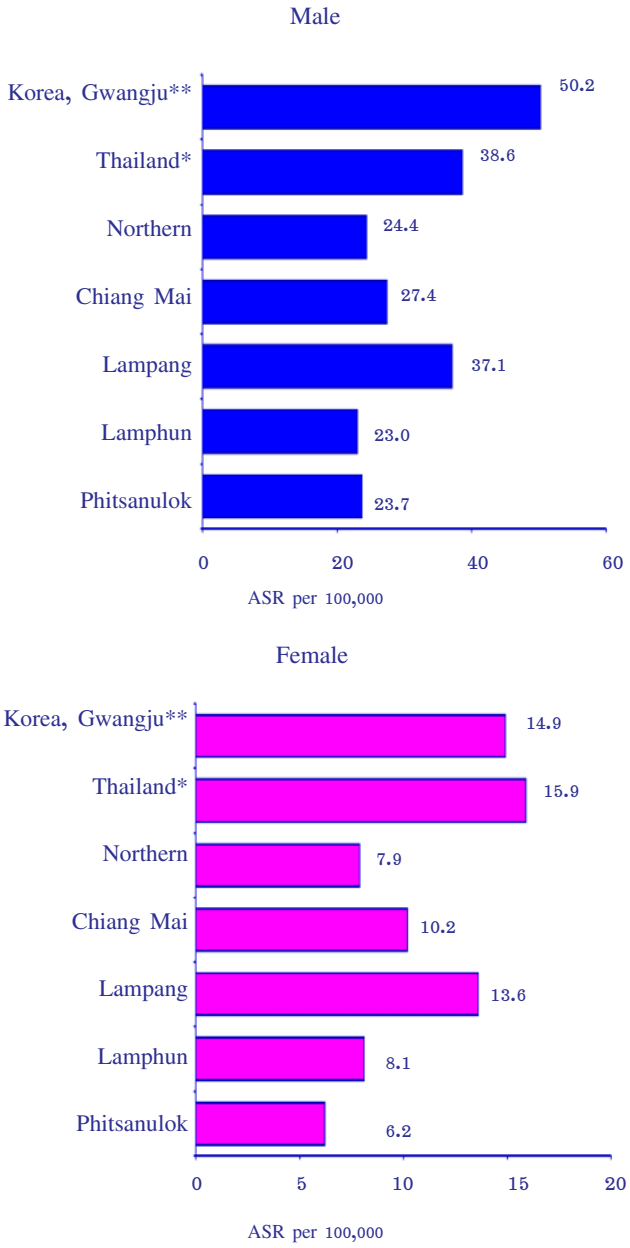
In Northern Thailand, the total number of new liver cancers was 11,278 cases, which were 8,345 among males and 2,933 among females. The sex ratio of males and females was approximately 2.8:1. The age – standardized incidence rates (ASR) of liver cancer were 24.4 per 100,000 population among males and 7.9 per 100,000 populations among females.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), among males, the highest age-standardized incidence rate of liver cancer was found in Lampang (ASR= 37.1 per 100,000 populations) while the lowest age-standardized incidence rate was found in Lamphun (ASR=23.0 per 100,000 populations). Among females, the highest age-standardized incidence rate of liver cancer was found in Lampang (ASR=13.6 per 100,000 populations) while the lowest age-standardized incidence rate was found in Phitsanulok (ASR=6.2 per 100,000 populations (Table 3.4.1 & Figure 3.4.1).

Table 3.4.1 *Age-standardized incidence rates (ASR) of liver cancer in Northern Thailand, 2003-2007*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	33,295	38.6	15,413	15.9
Northern	8,345	24.4	2,933	7.9
Chiang Mai	1,186	27.4	473	10.2
Lampang	926	37.1	378	13.6
Lamphun	295	23.0	108	8.1
Phitsanulok	524	23.7	153	6.2

Figure 3.4.1 *Comparisons of Age-standardized incidence rates (ASR) of liver cancer, 2003-2007*



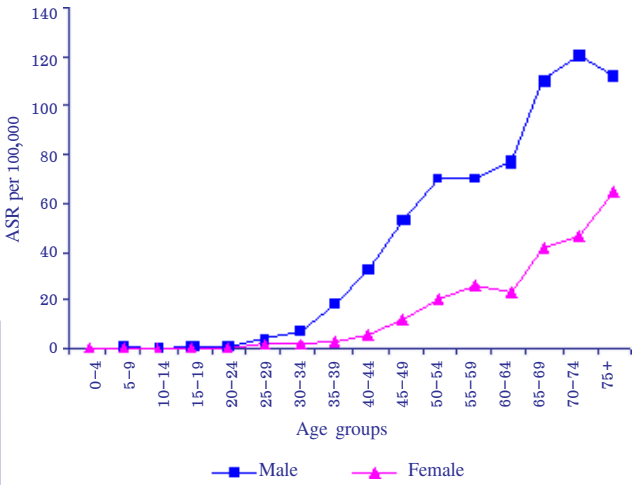
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of liver cancer showed higher incidence rate in males than females. The incidence by age groups increased after the age of 40 in both sexes (Figure 3.4.2).

Figure 3.4.2 *Age-specific incidence rates of liver cancer, 2003-2007*



Risk Factors for Liver Cancer

The most important risk factor for liver cancer is a chronic infection with the hepatitis B virus or the hepatitis C virus. These viruses can be passed from person to person through blood (such as by sharing needles) or sexual contact. An infant may catch these viruses from an infected mother. Cirrhosis is a disease that develops when liver cells are damaged and replaced with scar tissue. About 5 percent of people with cirrhosis develop liver cancer. Alfatoxins ingestion is also caused of liver cell cancer. Aflatoxin can form on peanuts, corn, and other nuts and grains. Men are twice as likely as women to get liver cancer. People who have family members with liver cancer may be more likely to get the disease.

Cholangiocarcinoma is another type of liver cancer. in the Western world, the most common of these is primary sclerosing cholangitis (PSC), an inflammatory disease of the bile ducts which is in turn closely associated with ulcerative colitis (UC). Certain parasitic liver diseases may be risk factors as well. Colonization with the liver flukes Opisthorchis viverrini or Clonorchis sinensis has been associated with the development of cholangiocarcinoma. Patients with chronic liver disease, whether in the form of viral hepatitis (e.g. hepatitis B or C)alcoholic liver disease, or cirrhosis from other causes, are at increased risk of cholangiocarcinoma. Congenital liver abnormalities, such as Caroli's syndrome or choledochal cysts, have been associated with an approximately 15% lifetime risk of developing cholangiocarcinoma.

CHAPTER III-5

Lung cancer in Northern Thailand, 2003-2007 (ICD-O: C34)

Nilubol Raunroadroong, M.D.
Somkiat Lalitwongsa, M.D.

Lung Cancer Incidence

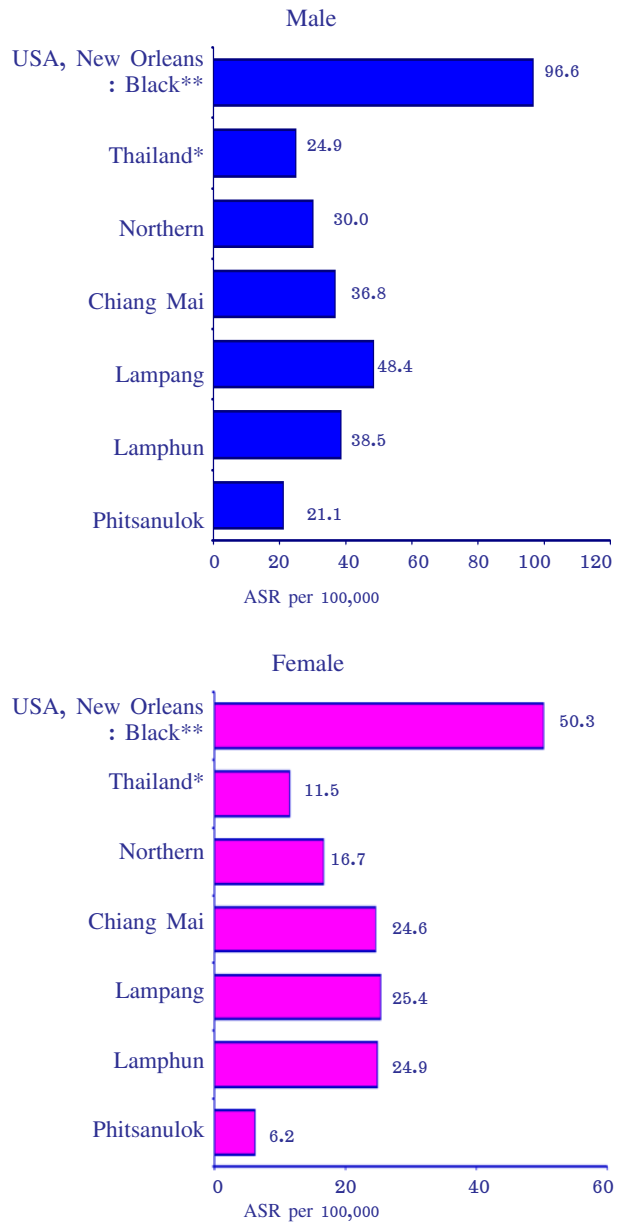
In Northern Thailand, the total number of new lung cancers was 15,604 cases, which were 9,603 among males and 6,001 among females. The sex ratio of males and females was approximately 1.6:1. The age-standardized incidence rates (ASR) of lung cancer were 30.0 per 100,000 population among males and 16.7 per 100,000 populations among females.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of lung cancer for both sexes was found in Lampang (ASR= 48.4 among males and 25.4 per 100,000 populations among females) while the lowest ASR was in Phitsanulok (ASR= 21.1 among males and 6.2 per 100,000 populations among females) (Table 3.51 & Figure 3.5.1).

Table 3.5.1 *Age-standardized incidence rates (ASR) of lung cancer in Northern Thailand, 2003-2007*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	20,554	24.9	11,196	11.5
Northern	9,603	30.0	6,001	16.7
Chiang Mai	1,521	36.8	1,125	24.6
Lampang	1,179	48.4	684	25.4
Lamphun	470	38.5	333	24.9
Phitsanulok	432	21.1	152	6.2

Figure 3.5.1 *Comparisons of Age-standardized incidence rates (ASR) of lung cancer, 2003-2007*

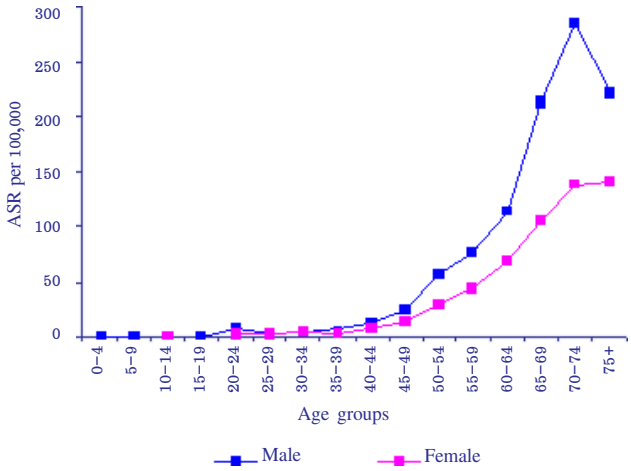


* From Cancer in Thailand Vol. V, 2001-2003
** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of lung cancer showed higher incidence rate in males than females. Before the age of 40 years lung cancer was rare. The incidence by age groups increased after the age of 60 and peaked incidence in the seventh decade (Figure 3.5.2).

Figure 3.5.2 *Age-specific incidence rates of lung cancer, 2003-2007*



Risk Factors for Lung Cancer

Lung cancer is predominantly a disease of smokers. Eighty-five percent of lung cancer occurs in active or former smokers, and an additional 5% of cases are estimated to as a consequence of passive exposure to tobacco smoke.

Tobacco smoke causes an increased incidence of all four histologic types of lung cancers, although adenocarcinoma (particularly the bronchoalveolar variant) is also found in nonsmokers. Other risk factors of lung cancer include exposure to asbestos or radon. Familial factors such as polymorphisms in carcinogen-metabolizing hepatic enzyme systems may also play a role in determining an individual's propensity to develop lung cancer.

CHAPTER III-6

Female breast cancer in Northern Thailand,2003-2007 (ICD-O: C 50)

Songphol Srisukho, M.D.

Female breast cancer incidence

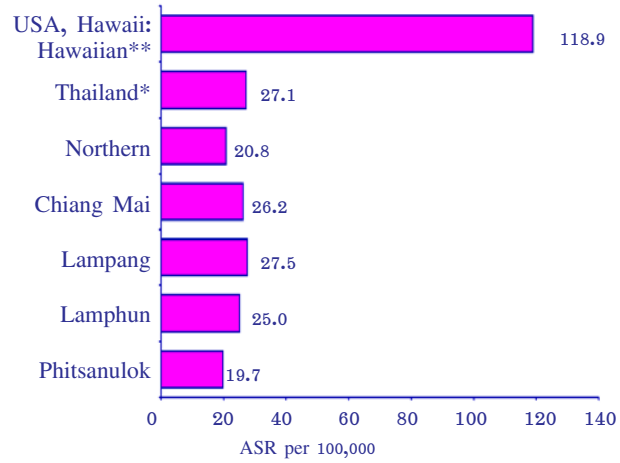
In Northern Thailand, the total number of new female breast cancer was 8,047cases. The age - standardized incidence rates (ASR) of female breast cancer was 20.8 per 100,000 female populations.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of breast cancer was found in Lampang (ASR= 27.5 per 100,000 populations) while the lowest age-standardized incidence rate was found in Phitsanulok (ASR=19.7 per 100,000 populations) (Table 3.6.1 & Figure 3.6.1).

Table 3.6.1 *Age-standardized incidence rates (ASR) of breast cancer in Northern Thailand, 2003-2007.*

Regions	Cases	ASR per 100,000
Thailand*	28,509	27.1
Northern	8,047	20.8
Chiang Mai	1,282	26.2
Lampang	751	27.5
Lamphun	352	25.0
Phitsanulok	522	19.7

Figure 3.6.1 *Comparisons of Age-standardized incidence rates (ASR) of breast cancer, 2003-2007*



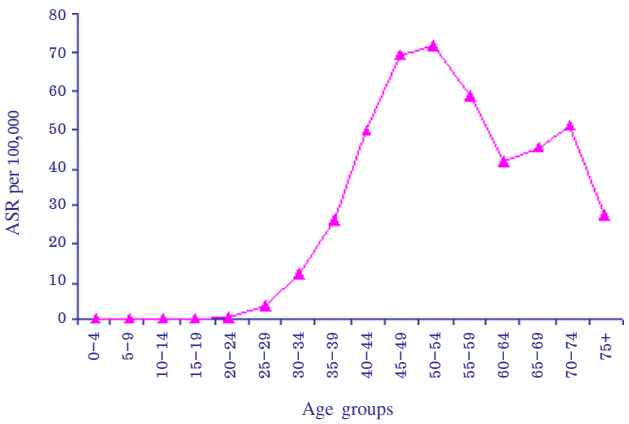
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of female breast cancer incidenced after age of 30, reaching the peak at the 50-54 (Figure 3.6.2).

Figure 3.6.2 *Age-specific incidence rates of breast cancer, 2003-2007*



Risk factors for breast cancer

Factors associated with increased risk of breast cancer are

1) **Age**: The incidence was increased with age. In Chiang Mai about 16.4% of invasive breast cancers are found in women younger than 40, while 44.2% of invasive breast cancers are found in women age 50 or older.

2) **Family history of breast cancer**: Breast cancer risk is higher among women whose first-degree relatives (mother, sister, or daughter) have this disease. Risk is approximately 5 times greater in women with 2 or more first-degree relatives with breast cancer.

3) **Hormonal factors**: Numerous studies have linked breast cancer risk to the life-time exposure to estrogens, as reflected by age at menarche, menopause and first pregnancy, and postmenopausal obesity. Conversely, women who undergo bilateral oophorectomy before menopause are at decreased risk, with the magnitude of

benefit increasing as the age at oophorectomy decreases. Studies of the effect of lactation on breast cancer risk have been inconclusive, but a long duration of lactation appears to reduce risk in premenopausal women. There is no convincing evidence for an effect of oral contraceptive use on breast cancer risk, despite extensive study, but use of combination postmenopausal hormone replacement therapy (estrogen plus progesterone), appears to be associated with a small increase in breast cancer risk.

4) **Genetic risk factors**: About 5% to 10% of breast cancer cases are thought to be hereditary, resulting directly from gene defects (called mutations) inherited from a parent. The most common cause of hereditary breast cancer is an inherited mutation in the BRCA1 and BRCA2 genes. There are few studies of BRCA1 and BRCA2 genes in Thailand.

5) **Benign breast lesions**: Certain benign breast conditions may have an increased risk of breast cancer. Benign breast lesions are classified as nonproliferative, proliferative, and proliferative with atypia. Nonproliferative lesions, which are not associated with an increased risk for breast cancer development, account for approximately 70% of palpable breast masses. Proliferative lesions without atypia are associated with a small increase in breast cancer risk. Proliferative lesions with atypia are associated with 4–5 times higher than normal.

6) **Personal history of breast cancer**: A woman with cancer in one breast has a 3–4 times increased risk of developing a new cancer in the other breast or in another part of the same breast. Also, women with lobular carcinoma in situ (LCIS) have a 7–11times increased risk of developing cancer in either breast.

7) **Environmental Factors and Diet**: Exposure to ionizing radiation, whether from a nuclear explosion or medical procedure, increases breast cancer risk. Patients who were treated with mantle irradiation for Hodgkin's lymphoma in their adolescent or childhood years are the group at risk on the basis of radiation exposure most commonly encountered today. There are evidence exists to support an association between alcohol intake and breast cancer risk.

Factors associated with decreased risk of breast cancer are

1) **Exercise**: Active exercise may reduce breast cancer risk, particularly in young women. Numerous observational studies have examined the relationship between physical activity and breast cancer risk. To reduce risk of breast cancer, the American Cancer Society recommends 45 to 60 minutes of intentional physical activity 5 or more days a week.

2) **Early pregnancy**: Women who have a full–term pregnancy before age 20 years have decreased breast cancer risk. There are studies show 50% decrease in breast cancer compared to nulliparous women or those who give birth after age 35 years.

3) **Breast–feeding**: Women who breast–feed have a decreased risk of breast cancer. The relative risk of breast cancer is decreased 4.3% for every 12 months of breast–feeding, in addition to 7% for each birth.

4) **Selective estrogen receptor modulators (SERMs)**: Treatment with tamoxifen or raloxifene reduces the incidence of breast cancer in postmenopausal women. Tamoxifen also reduced the risk of breast cancer in high–risk premenopausal women. The effects observed for tamoxifen show persistence several years after discontinuing active treatment. Treatment with tamoxifen can reduce breast cancer by about 50%. Treatment with raloxifene has a similar effect on reduction of invasive breast cancer but appears to be less effective for prevention of noninvasive tumors.

CHAPTER III-7

Cervical cancer in Northern Thailand,2003-2007 (ICD-O: C53)

Teerapong Tatiyapornkul, M.D.

Cervical Cancer Incidence

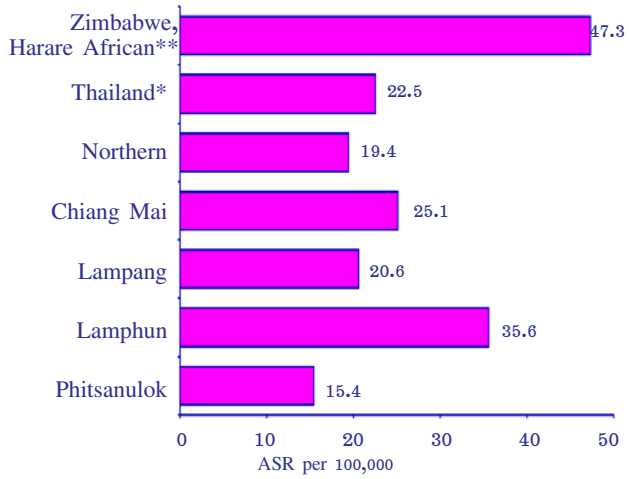
In Northern Thailand, the total number of new cervical cancer was 7,481 cases. The age-standardized incidence rates (ASR) of cervical cancer was 19.4 per 100,000 female populations.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of cervical cancer was found in Lamphun (ASR= 35.6 per 100,000 populations) while the lowest age-standardized incidence rate was found in Phitsanulok (ASR=15.4 per 100,000 populations) (Table 3.7.1 & Figure 3.7.1).

Table 3.7.1 *Age-standardized incidence rates (ASR) of cervical cancer in Northern Thailand, 2003-2007*

Regions	Cases	ASR per 100,000
Thailand*	23,648	22.5
Northern	7,481	19.4
Chiang Mai	1,238	25.1
Lampang	561	20.6
Lamphun	500	35.6
Phitsanulok	404	15.4

Figure 3.7.1 *Comparisons of Age-standardized incidence rates (ASR) of cervical cancer, 2003-2007*



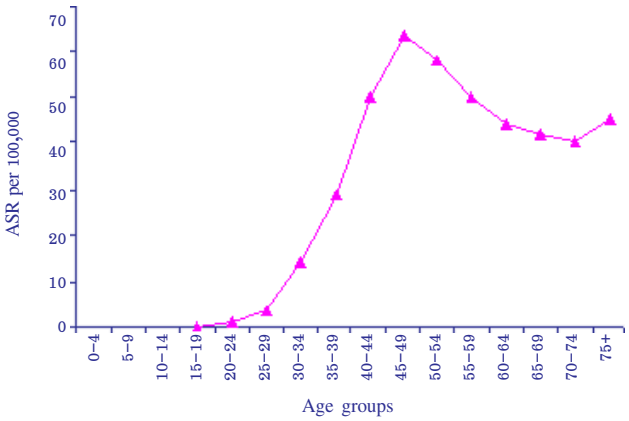
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of cervical cancer showed incidence rate increased at the age 30, reaching a peak at the 45-49 (Figure 3.7.2).

Figure 3.7.2 *Age-specific incidence rates of colorectal cancer, 2003-2007*



Risk Factors for Cervical Cancer

The most important risk factor for cervical cancer is infection by the human papilloma virus (HPV). HPV is a group of more than 100 related viruses that can infect cells on the surface of the skin, genitals, anus, mouth and throat and passed from one person to another during skin to skin contact. HPV can be spread during sex including vaginal intercourse, anal intercourse, and even during oral sex.

Certain types of HPV are called high risk types because they are often the cause of the many types of cervical cancer; squamous cell cancer and adenocarcinoma. These types include HPV 16, HPV 18, HPV 31 and HPV 45, as well as some others. About two-thirds of all cervical cancers are caused by HPV 16 and 18. The virus cancer link works by triggering alterations in the cells of the cervix, which can lead to the development of cervical intraepithelial neoplasia, which can lead to cancer.

Other factors include:

- Multiple sexual partners
- Young age at first sexual intercourse (< 16 years)
- History of sexual transmitted disease
- High parity
- Long time oral contraceptive pills
- Immunosuppression (AIDS, taking drugs to suppress immune system)
- Family history of cervical cancer
- Not attend for cervical cancer screening
- Cigarette smoking
- Low socioeconomic status

CHAPTER III-8

Prostate cancer in Northern Thailand,2003-2007 (ICD-O: C 61)

Surithorn Soontarnpun, M.D.

Prostate Cancer Incidence

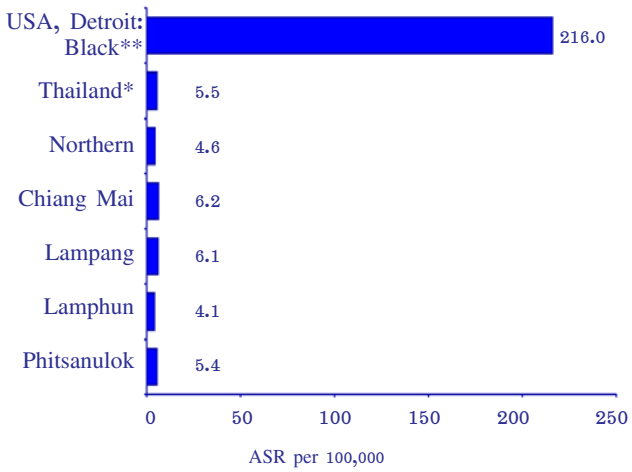
In Northern Thailand, the total number of new prostate cancer was 1,393 cases. The age-standardized incidence rates (ASR) of prostate cancer 4.6 per 100,000 populations.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of prostate cancer was found in Chiang Mai (ASR= 6.2 per 100,000 populations) while the lowest age-standardized incidence rate was found in Lamphun (ASR=4.1 per 100,000 populations) (Table 3.8.1 & Figure 3.8.1).

Table 3.8.1 *Age-standardized incidence rates (ASR) of prostate cancer in Northern Thailand, 2003-2007.*

Regions	Cases	ASR per 100,000
Thailand*	4,285	5.5
Northern	1,393	4.6
Chiang Mai	263	6.2
Lampang	155	6.1
Lamphun	54	4.1
Phitsanulok	110	5.4

Figure 3.8.1 *Comparisons of Age-standardized incidence rates (ASR) of prostate cancer, 2003-2007.*



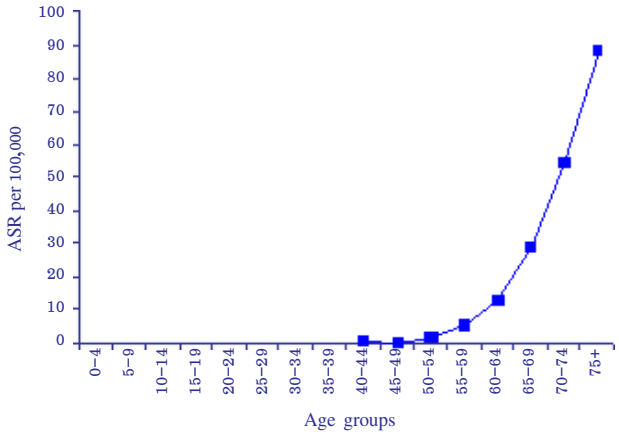
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

Prostate cancer is usually uncommon before age 50. It mainly occurred in older man. The age-specific rates of prostate cancer showed increased after the age of 60 and peaked in the age of 70 (Figure3.8.2).

Figure 3.8.2 *Age-specific incidence rates of prostate cancer, 2003-2007*



Risk Factors for Prostate Cancer

At least four factors have been possibly etiology of prostate cancer, these include genetic, hormonal influences, dietary and environmental factor and infection agents

Most prostate cancer is likely to be polygenic in origins. Relative risk increase according to the number of affected family members, their degree of related, and age at which there were affected. Relative of patients younger than 55 years are at higher risk for prostate cancer than are those with older affected relative (carter et al, 1993).

Androgens influence the development, maturation and maintenance of the prostate, Several observations supported the hormonal influence on prostate cancer such as prostate cancer does not occur in ennuchs, and castration produces dramatic regression of cancer growth, Estrogens have been postulated to protect against

prostate cancer by inhibition of prostate epithelial cell growth and there is low incidence of prostate cancer in culture with diet rich in phytoestrogen (Denis et, al, 1999)

Vitamin D (1,25-dihydoxyvitamin D3) is essential vitamin , Human sources are dietary intake and through sunlight exposure, which converts inactive to active vitamin D in the skin.

Vitamin D related to prostate cancer by several observations (Peehlet al, 2003) such as Men living in less sunlight exposure have higher mortality rate from prostate cancer, African Americans, whose skin melanin block ultraviolet radiation and inhibit activation of vitamin D have high incidence of prostate cancer, prostate cancer incidence and mortality rate correlate with average level of fat consumption, especially for poly unseturated fats (Bostwick, 2003) high level of dietary fat stimulate proliferation of prostate cancer cell too.

Cigarette smoke may be risk factor because it is a source of cadmium exposure, and cause significant cellular oxidative stress.

Infection may be the etiology of prostate cancer, two meta-analyses reported statistically significant associtation of prostate cancer with history of sexual transmitted disease (relative risk 1.4) or prostatitis (Dennis and Dawson, 2002). Chronic inflammation leading to cellular hyperproliferation to replaced damage tissue contributes to development of infection associated cancer included prostate cancer.

CHAPTER III-9

Bladder cancer in Northern Thailand, 2003-2007 (ICD-O: C67)

Surithorn Soontarnpun, M.D.

Bladder Cancer Incidence

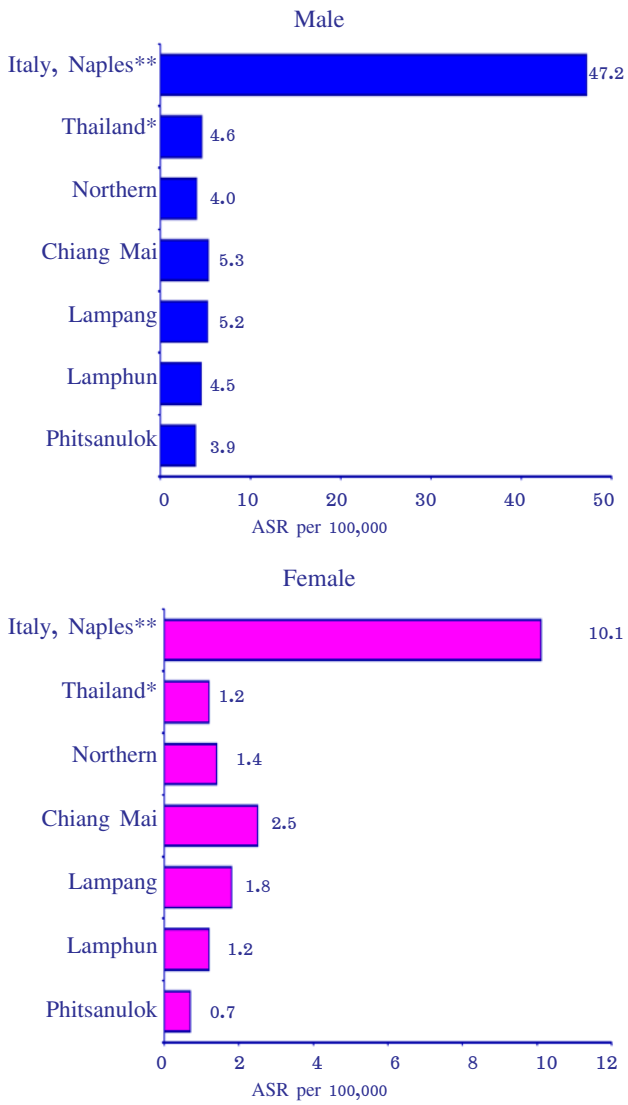
In Northern Thailand, the total number of new bladder cancer was 1,804 cases, which were 1,277 among males and 527 among females. The sex ratio of males and females was approximately 2.4:1. The age-standardized incidence rates (ASR) of bladder cancer 4.0 per 100,000 populations among males and 1.4 per 100,000 populations among females.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), among males, the highest age-standardized incidence rate of bladder cancer was found in Chiang Mai (ASR=5.3 per 100,000 populations) while the lowest age - standardized incidence rate was found in Phitsanulok (ASR=3.9 per 100,000 populations). Among females, the highest age-standardized incidence rate of bladder cancer was found in Chiang Mai (ASR=2.5 per 100,000 populations) while the lowest age-standardized incidence rate was found in Phitsanulok (ASR= 0.7 per 100,000 populations) (Table 3.9.1 & Figure 3.9.1).

Table 3.9.1 *Age-standardized incidence rates (ASR) of bladder cancer in Northern Thailand, 2003-2007.*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	3,761	4.6	1,149	1.2
Northern	1,277	4.0	527	1.4
Chiang Mai	229	5.3	115	2.5
Lampang	129	5.2	53	1.8
Lamphun	57	4.5	17	1.2
Phitsanulok	83	3.9	18	0.7

Figure 3.9.1 *Comparisons of Age-standardized incidence rates (ASR) of bladder cancer, 2003-2007.*



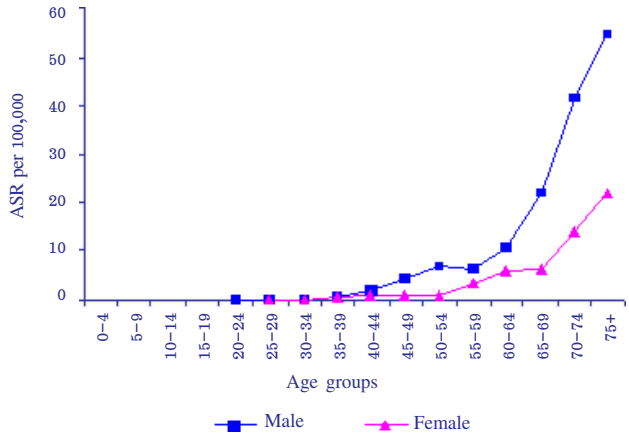
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of bladder cancer showed higher incidence rate in males than females. The incidence by age groups increased after the age of 60 (Figure 3.9.2).

Figure 3.9.2 *Age-specific incidence rates of bladder cancer, 2003-2007*



Risk Factors for Bladder Cancer

There are many risk factors for bladder cancer and most are urine borne carcinogens. The exception is ionized radiations which are used for treatment of cervical cancer. In most developed countries the main etiology is cigarette smoking, cigarette smoke contain at least two urothetial carcinogens, 2- naphylamine and 4 - amino biphenyl. The risk is related to the type of tobacco and the duration of exposure. It is likely those bladder cancer patients who give up smoking have reduced the risk of recurrence or progression of the cancer over the follow up period.

Workers in the chemical dye, rubber, petroleum and leather are at increase risk too, Occupational carcinogens include Benzedrine, beta-nephthylamine, the Aromatic amine are easily absorbed through skin or mucous membranes are metabolized in the liver and excreted in the urine.

Nitrosamine is the urothetial carcinogen which could be produced in the bladder by action of bacteria on urinary amine and nitrate that occur in long term catheterized paraplegic patients.

Patients who have received cyclophosphamide for management of malignancy are also at increase risk of bladder cancer.

Genetic are also risk factor and most common are deletion on chromosome 9.

CHAPTER III-10

Lymphoma in Northern Thailand, 2003-2007 (ICD-O: C77)

Udomluck Chenbhanich, M.D

Lymphoma Incidence

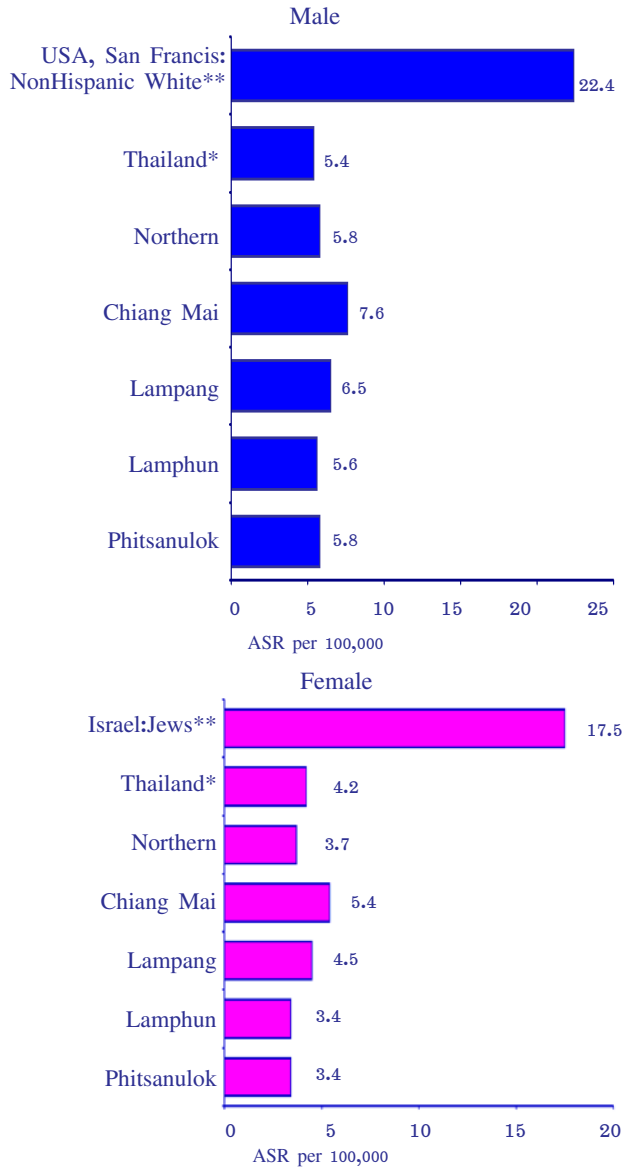
In Northern Thailand, the new cases of lymphoma were 3,210 cases, which were 1,872 among males and 1,338 among females. The sex ratio of males and females was approximately 1.3:1. The age-standardized incidence rates (ASR) of lymphoma 5.8 per 100,000 population among males and 3.7 per 100,000 populations among females.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of lymphoma was found in Chiang Mai both sexes (ASR= 7.6 among males and 5.4 per 100,000 populations among females) while the lowest age-standardized incidence rate was found in Lamphun among males (ASR= 5.6 per 100,000 populations), Lamphun and Phitsanulok was lowest age-standardized incidence rate among females (3.4 per 100,000 populations) (Table 3.10.1 & Figure 3.10.1).

Table 3.10.1 *Age-standardized incidence rates (ASR) of lymphoma in Northern Thailand, 2003-2007.*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	4,814	5.4	4,170	4.2
Northern	1,872	5.8	1,338	3.7
Chiang Mai	321	7.6	249	5.4
Lampang	158	6.5	120	4.5
Lamphun	63	5.6	46	3.4
Phitsanulok	122	5.8	83	3.4

Figure 3.10.1 *Comparisons of Age-standardized incidence rates (ASR) of lymphoma, 2003-2007.*



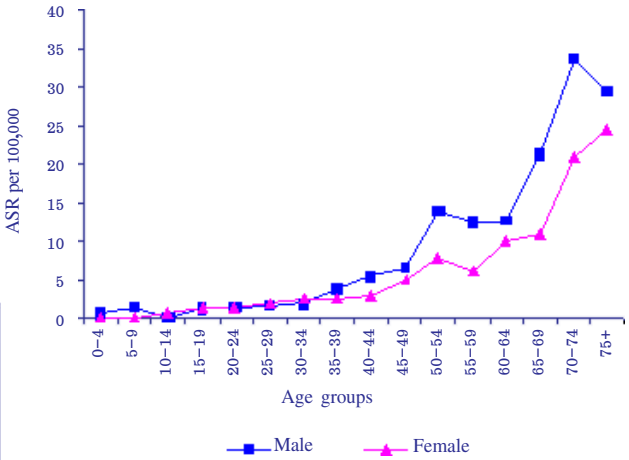
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

The age-specific rates of lymphoma showed higher incidence rate in males than females. The majority of cases occur after the age of 50. Lymphoma is usually a disease of elderly population, however the disease is seen before age fifteen (Figure 3.10.2).

Figure 3.10.2 *Age-specific incidence rates of lymphoma, 2003-2007*



Risk Factors for Lymphoma

Human immunodeficiency virus (HIV), defect in immune system, patients who get organ transplantation need to take medications which suppress the immune system and inherited diseases affecting the immune system e.g., ataxia telangiectasia are risk factor of lymphoma. In addition, infections of HTLV-1, Epstein-Barr (EBV) virus, Hepatitis C virus, Helicobacter pylori may cause lymphomas of the stomach. For environmental risk factors, long-term exposures to some chemicals have also been associated with lymphomas. They include benzene, herbicides, pesticides, chemotherapy. Age and sex chances of getting lymphoma increases as you get older. It is also more common in men than women.

CHAPTER III-11

Leukemia in Northern Thailand, 2003-2007 (ICD-O: C42)

Udomluck Chenbhanich, M.D

Leukemia incidence

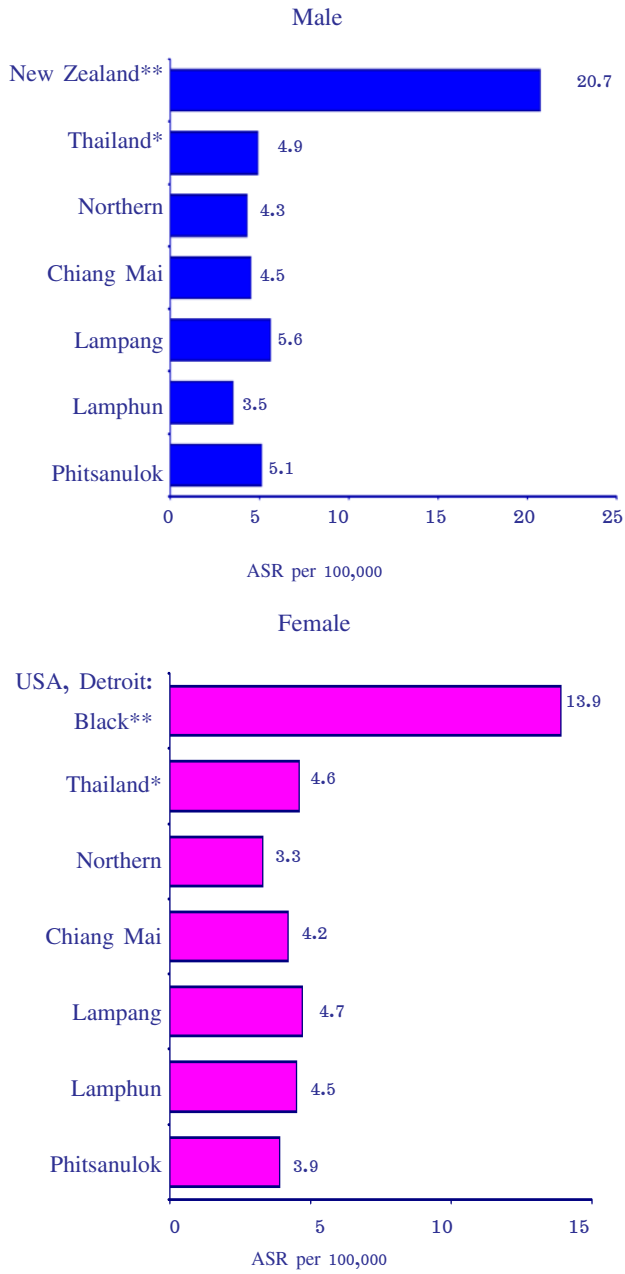
In Northern Thailand, the new cases of leukemia were 2,264 cases, which were 1,225 among males and 1,039 among females. The sex ratio of males and females was approximately 1.2:1. The age-standardized incidence rates (ASR) of Leukemia 4.3 per 100,000 populations in male and 3.3 per 100,000 populations in female.

During 2003-2007, Comparisons of 4 registries in Northern Thailand (Chiang Mai, Lampang, Lamphun and Phitsanulok), the highest age-standardized incidence rate of leukemia was found in Lampang both sexes (ASR= 5.6 among males and 4.7 per 100,000 populations among females) while the lowest age-standardized incidence rate was found in Lamphun among males (ASR= 3.5 per 100,000 populations) and Phitsanulok among females (3.9 per 100,000 populations) (Table 3.11.1 & Figure 3.11.1)

Table 3.11.1 *Age-standardized incidence rates (ASR) of leukemia in Northern Thailand, 2003-2007.*

Regions	Male		Female	
	Cases	ASR per 100,000	Cases	ASR per 100,000
Thailand*	4,201	4.9	4,232	4.6
Northern	1,225	4.3	1,039	3.3
Chiang Mai	170	4.5	162	4.2
Lampang	113	5.6	104	4.7
Lamphun	34	3.5	44	4.5
Phitsanulok	99	5.1	87	3.9

Figure 3.11.1 *Comparisons of Age-standardized incidence rates (ASR) of leukemia, 2003-2007.*



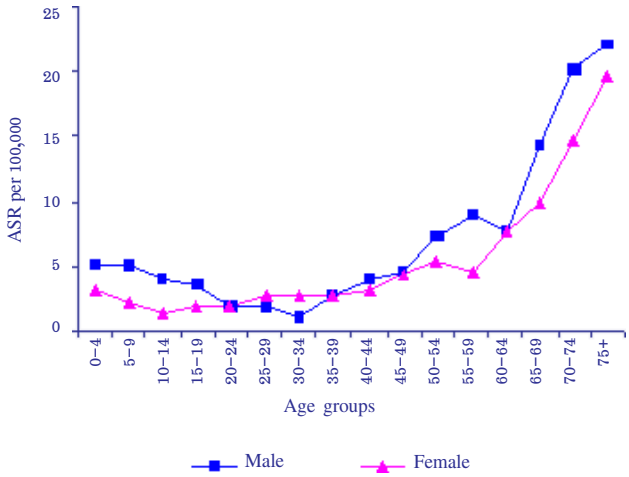
* From Cancer in Thailand Vol. V, 2001-2003

** From CIV vol. IX, 1998-2002

Age-Specific Rate

Leukemia is the most common cancer of childhood cancer. The age-specific rates of Leukemia showed higher incidence rate in males than females. The majority of cases occur in the younger age groups; however the disease is seen after age twenty (Figure 3.11.2).

Figure 3.11.2 *Age-specific incidence rates of leukemia, 2003-2007*



Risk factors for leukemia

The major risk factors of leukemia are environmental risk factors; Ionizing and nonionizing radiation. The risk depends on dose of radiation, duration of exposure, and the age of individual at the time of exposure. Medical treatment that uses radiation can be another source of high-level exposure. Radiation used for diagnosis, however, exposes people to much lower levels of radiation and is not linked to leukemia. Chemicals exposure to high levels of benzene which is a solvent used in the rubber industry, oil refineries, chemical plants, shoe manufacturing, and gasoline related industries, and is also present in cigarette smoke, and some glues, cleaning products, pesticide, chemotherapy such as alkylating agents; mechlorethamine, procarbazine, chlorambucil, melphalan, etoposide, teniposide and cyclophosphamide for long term used. Combining these drugs with radiation therapy further increases the risk. For genetic factor, Down syndrome and some genetics defect Human T-cell Leukemia Virus-I (HTLV-I), Myelodysplastic syndrome and myeloproliferative disorders are risk factors of leukemia.

APPENDIX A

Cancer Incidence in ChiangMai Thailand, 2003-2007

Puttachart Maneesai, R.N
Narate Waisri, R.N
Luckkana Thetpiam, R.N

APPENDIX A

Cancer Incidence in Chiang Mai Thailand, 2003-2007

Puttachart Maneesai, R.N
Narate Waisri, R.N
Luckkana Thetpiam, R.N

Background

Chiang Mai province is the second civilized city of Thailand, situated in the upper part of Northern Thailand with the land area of 20,107 square kilometers. It is 310 meters above sea level at latitude 16-18^{0}N and longitude 99 ^{0}E. It has common boundary with Myanmar in the north, Chiang Rai, Lamphun and Lampang in the east, Tak in the South as well as Mae Hong Sorn in the west. Chiang Mai was composed of 22 districts; Muang, Saraphi, San Kamphaeng, Doi Saket, San Sai, Mae Rim, Hang Dong, San Pa Tong, Phrao, Chiang Dao, Mae Taeng, Hot, Doi Tao, Chom Thong, Samoeng, Mae Chaem, Omkoi,Fang, Mae Ai, Wiang Haeng, Chai Prakan, Mae Wang and 2 sub districts; Mae On and Dai Law (Figure 1). About 92% of populations are Buddhists, the remainder mainly Christians or Muslims. The average population density is about 84 persons per square kilometer (National Statistics Office, Thailand, 2008).

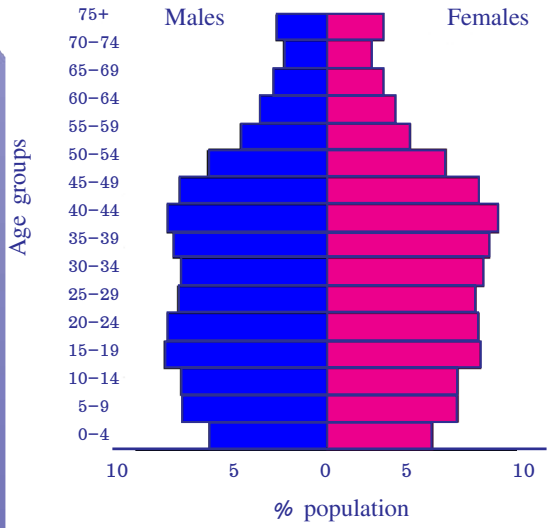
Most important occupations are farming of rice, onions, langans, lychees, oranges, etc. The most of small industries in Chiang Mai are Weaving, wood-carving and handicrafts and the most of large industries in Chiang Mai are food and beverage, transportation and agriculture. The climate of Chiang Mai is cool all year with average temperature 25 oC and it has 3 seasons; summer season from February to April, the rainy season from May to October and in winter season from November to January. For important behavior risks of population in Chiang Mai; smoking was 23.6 % and alcohol consumption was 37.3 in both sexes (National Statistics Office, Thailand, 2005).

The total population at 2000 census was 1,500,127 with 741,726 males and 758,401 females. The population dominators used for the calculation of average incidence rate estimated from extra-census projection population at 2005 was 1,533,206 with 749,735 males and 783,471 female's population (Figure 2).

Figure 1. *Map of Chiang Mai province, Thailand*

Figure 2. *Population of Chiang Mai (estimated population, 2005)*

Age	Male	Female
0–4	46,122	44,182
5–9	56,611	54,391
10–14	57,261	54,336
15–19	64,038	63,566
20–24	62,753	62,981
25–29	58,722	61,244
30–34	57,934	64,680
35–39	60,343	66,773
40–44	62,823	70,454
45–49	58,264	63,135
50–54	46,975	49,189
55–59	33,779	34,894
60–64	26,605	28,334
65–69	21,348	22,937
70–74	16,805	18,825
75+	19,352	23,551
Total	749,735	783,471



Medical services

In Chiang Mai province, health care service is provided in 21 community hospitals, one provincial hospital (Nakhon Ping Hospital) in Mae Rim District, one municipal hospital, sixteen private hospitals, three military hospitals and one big university hospital (Maharaj Nakhon Chiang Mai Hospital). For cancer care, most of cancer cases are referred to Chiang Mai provincial hospital, big private hospitals and Chiang Mai university hospital for cancer diagnostic services (including CT scan, clinical consultations and radiological, pathological investigations), cancer surgery services and chemotherapy but radiation therapy was available only in Chiang Mai university hospital. All hospitals in the province provide palliative care. The ratio of doctors to population is 1:1,409. The ratio between registered nurses to population is 1:461. (Ministry of public Health, 2007)

Registry structure and methods

Chiang Mai cancer registry, faculty of Medicine Chiang Mai university has been carried out the hospital based cancer registry in 1963 and the population based cancer registration in Chiang Mai province established in 1985. The registry awarded the voting member of International Association for Cancer Registry (IACR). Information on newly diagnosed cancer cases was based on data collected by the Chiang Mai Cancer Registry. The data were actively collected by the Registry's staff from all hospitals in Chiang Mai province: one university hospital, 15 private hospitals and 21 community hospitals. The data were collected from medical clinics and pathology clinics in Chiang Mai province. The case record form include patients demography, date of diagnoses, tumor site, histology, extent of disease, method of diagnosis treatment, The follow up cases are also brought to update the patients status as dead or alive. Follow up used a combination of both active and passive methods. Death certificates were obtained from Bureau of Policy and Strategy, Ministry of Public Health.

ICD-O version 3 is used in coding of the primary site of tumor and histology. The case record forms are reviewed by the part time doctors who take care of the registry. Multiple primary registration followed IARC/IACR criteria.

The completed data forms were checked manually, and entered into the database file in a personal computer at Chiang Mai Cancer Registry, using Canreg 3 software for data entry and edit.

Results

Cancer incidence in Chiang Mai

Among Chiang Mai residents, during the period of 2003–2007, the total number of new cancers was 13,902 cases (6,454 in males and 7,448 in females) with sex ratio of new cancer in males and females approximately 1:1.5. The number of new cancer in each year varied from 1,234 to 1,345 cases among males and from 1,425 to 1,581 among females. The age-standardized incidence rate in each year varied from 143.6 to 158.9 among males and from 148.5 to 163.8 among females. The average age-standardized incidence rate was 153.2 among males and 158.2 among females (Table 1).

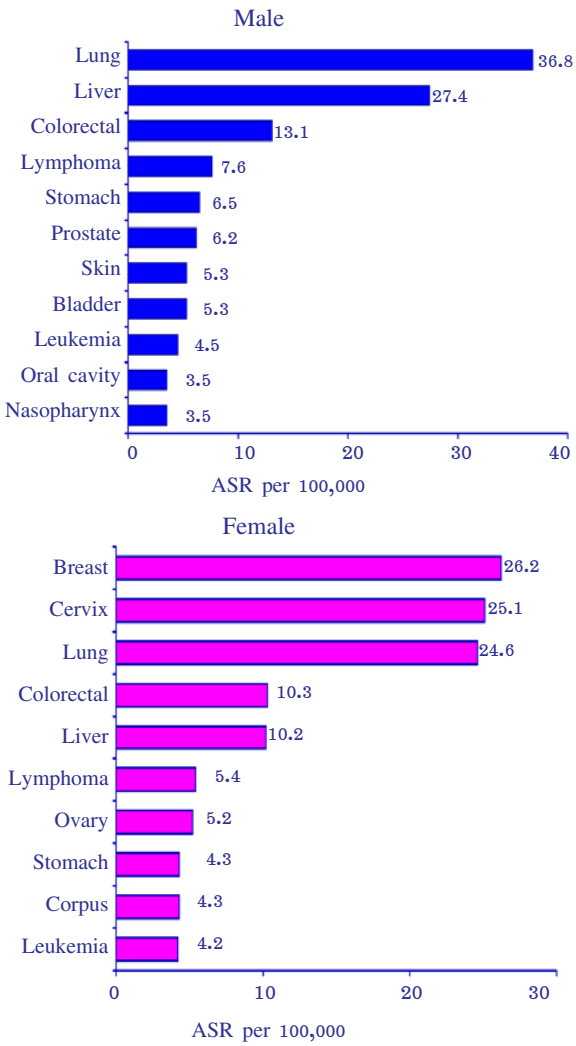
Table 1 *Number of cancer cases and ASR in Chiang Mai, 2003-2007*

Year	Male		Female	
	Number of new cancer cases	ASR	Number of new cancer cases	ASR
2003	1,302	158.9	1,513	163.8
2004	1,262	152.5	1,489	162.2
2005	1,311	155.9	1,440	152.0
2006	1,234	143.6	1,425	148.5
2007	1,345	155.2	1,581	160.0
Total	6,454	153.2	7,448	158.2

Leading Cancers in Chiang Mai

In Chiang Mai, lung cancer was the most common cancer in males followed by liver cancer and colorectal cancer. In females, the most common cancer was breast cancer followed by cervix cancer and lung cancer (Figure 3).

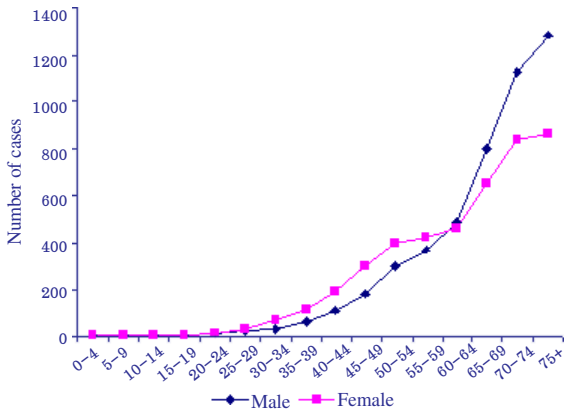
Figure 3 *Leading cancer incidence in Chiang Mai, 2003-2007*



Age-Specific Rate

Age-specific rates of all cancers showed higher incidence rate of cancer among females than males during the age of 25-59 while higher incidence among males after the age of 60 (Figure 4).

Figure 4 *Age-specific rates of all cancers in Chiang Mai, 2003-2007.*



Cancer by Age Group

Cancer varied according to age. (Figure 5& 6). During the age 0-14, Leukemia, brain and lymphoma cancer were the most common cancers in both sexes.

During the age 15-24, leukemia, cancer of bone and connective tissue and lymphoma were the most common cancers in males while ovary, thyroid, leukemia and Lymphoma were the most common cancer among females.

In young adult (age 25-59), cancers of liver, lung and colorectal cancers were the most common cancers among males while breast, cervix and lung cancers were the most common cancer among females.

For older age groups (age 60-74), the most common cancers were lung, liver and colorectal cancer among males while lung, cervix and breast cancer were the most common cancers among females.

The age over 75, cancer of lung, liver and colorectal were the most common cancers among males while cancer of lung, colorectal, liver and skin were the most common among females.

Figure 5 *Leading cancer site by age (male), Chiang Mai, 2003–2007*

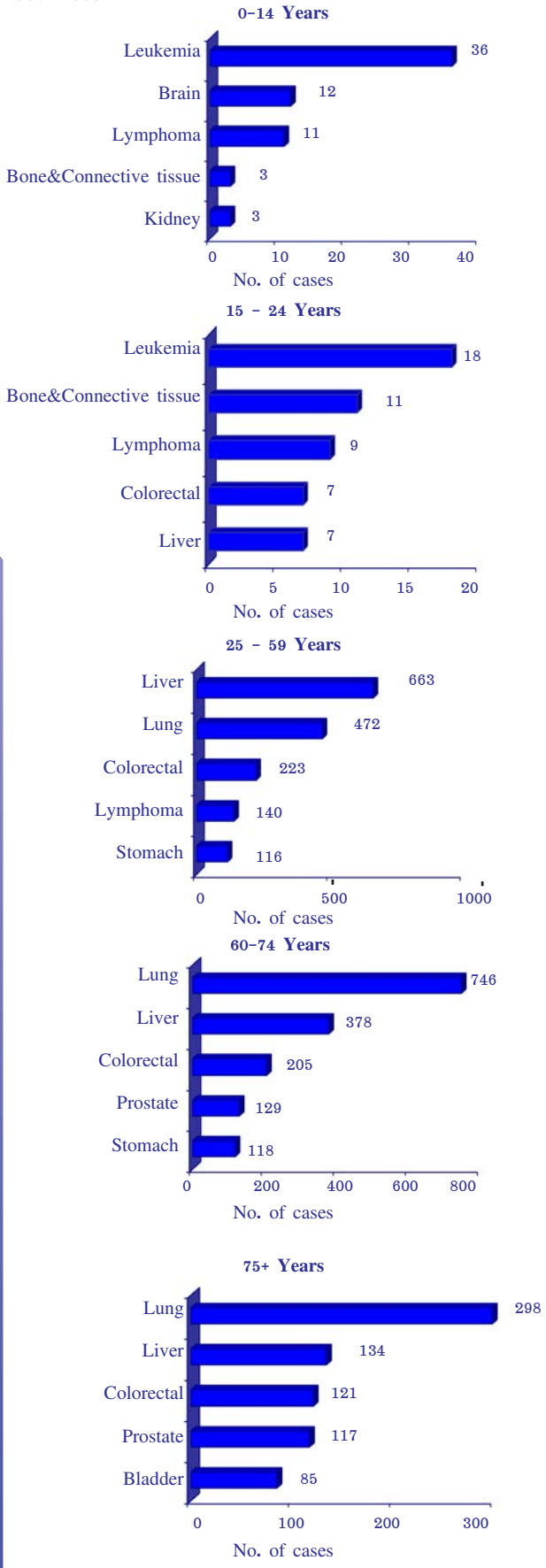
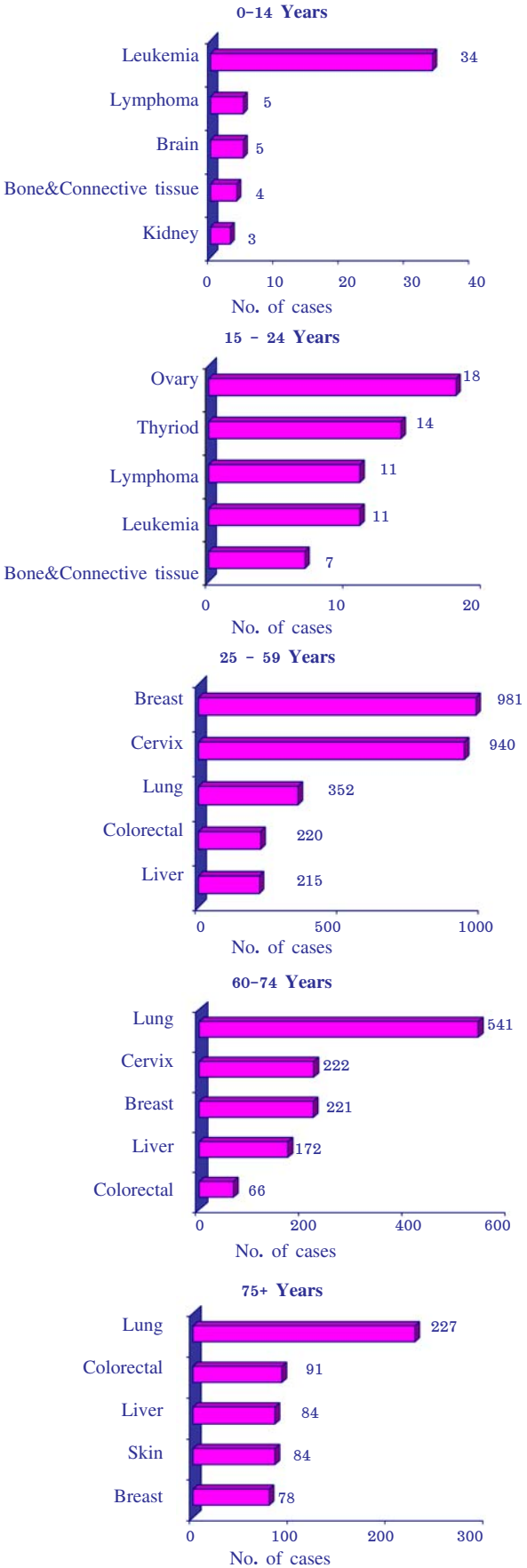


Figure 6 *Leading cancer site by age (female), Chiang Mai, 2003–2007*



Data quality

The data quality of Chiang Mai registration was quite good. The average percentage of Histological Verified was 72.1%. Male was lower than in females (65.0% and 78.3% respectively). Cancer sites with Histology Verified over 90 % found in cancer of head and neck (oral cavity, nasopharyngeal and larynx cancer), skin , breast, cervix, ovary, penis, bladder, thyriod, lymphoma and leukemia but Histology Verified under 50 % found in liver cancer and Brain cancer. During this period, The percentage of Death Certificate Only (DCO) were better than other provinces in this area, the average percentage of death certificate only was 2.5% in both sexes, 3.0% among males and 2.1% in females (Table 2).

The average mortality incidence ratio 27.8 percent overall, in males is 33.3 percent slightly higher than in female (23.0 percent).The mortality incidence ratio by site and sex are shown in table 3.

Table 2 *Percentage of Morphological Verified and Death Certificate Only by sex and sites, Chiang Mai, 2003-2007*

Cancer sites	Male			Female			Total		
	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO
Oral cavity	146	93.2	2.1	119	95.8	3.4	265	94.3	2.6
Nasopharynx	149	94.6	1.3	67	92.5	3.0	216	94.0	1.9
Pharynx unspec.	100	95.0	1.0	34	94.1	5.9	134	94.8	2.2
Oesophagus	64	73.4	4.7	22	63.6	9.1	86	70.9	5.8
Stomach	275	88.7	4.4	199	82.9	5.0	474	86.3	4.6
Colon and Rectum	550	86.4	3.5	465	87.7	3.2	1,015	87.0	3.3
Liver and Gallbladder etc	1,276	21.1	15.9	582	28.4	14.8	1,858	23.4	15.6
Larynx	92	91.3	0.0	29	69.0	0.0	121	86.0	0.0
Bronchus, lung	1,521	60.1	11.2	1,125	53.0	12.1	2,646	57.1	11.6
Skin and melanoma	235	97.4	2.1	210	99.0	1.0	445	98.2	1.6
Breast	23	95.7	0.0	1,282	96.6	1.2	1,305	96.6	1.1
Cervix uteri				1,238	97.0	1.1	1,238	97.0	1.1
ovary				251	90.0	2.0	251	90.0	2.0
Penis	69	98.6	0.0				69	98.6	0.0
Prostate	263	89.0	0.4				263	89.0	0.4
Urinary tract	323	92.9	1.2	158	88.0	0.0	481	87.1	0.8
Brain, nervous system	70	50.0	14.3	82	45.1	9.8	152	47.4	11.8
Thyroid	46	95.7	4.3	178	97.8	0.0	224	97.3	0.9
Lymphoma	321	100.0	1.9	249	100.0	4.0	570	100.0	2.8
Leukaemia	170	95.3	1.2	162	98.1	0.6	332	96.7	0.9
Other & unspecified	761	51.8	8.0	996	62.7	6.6	1,757	58.0	7.2
All sites	6,454	65.0	3.0	7,448	78.3	2.1	13,902	72.1	2.5

Table3 *Percentage of mortality incidence ratio by sex and sites, Chiang Mai, 2003–2007.*

Cancer sites	Male			Female			Total		
	New	Death	M/I	New	Death	M/I	New	Death	M/I
Oral cavity	146	61	41.8	119	52	43.7	265	113	42.6
Nasopharynx	149	49	32.9	67	20	29.9	216	69	31.9
Pharynx unspec.	100	23	23.0	14	6	42.9	114	29	25.4
Oesophagus	64	38	59.4	22	18	81.8	86	56	65.1
Stomach	275	70	25.5	199	69	34.7	474	139	29.3
Colon and Rectum	556	68	12.2	481	81	16.8	1,037	149	14.4
Liver and Gallbladder etc	1,276	590	46.2	582	236	40.5	1,858	826	44.5
Larynx	92	30	32.6	29	12	41.4	121	42	34.7
Bronchus, lung	1,521	548	36.0	1,125	332	29.5	2,646	880	33.3
Skin and melanoma	235	28	11.9	210	15	7.1	445	43	9.7
Breast	23	6	26.1	1,282	106	8.3	1,305	112	8.6
Cervix uteri				1,238	200	16.2	1,238	200	16.2
ovary				251	62	24.7	251	62	24.7
Penis	69	12	17.4				69	12	17.4
Prostate	263	24	9.1				263	24	9.1
Urinary tract	323	79	24.5	158	95	60.1	481	174	36.2
Brain, nervous system	70	41	58.6	82	30	36.6	152	71	46.7
Thyroid	46	14	30.4	178	26	14.6	224	40	17.9
Lymphoma	321	128	39.9	249	88	35.3	570	216	37.9
Leukaemia	170	104	61.2	162	88	54.3	332	192	57.8
Other & unspecified	761	236	31.0	1,000	176	17.6	1,761	412	23.4
All sites	6,460	2,149	33.3	7,448	1,712	23.0	13,908	3,861	27.8

Table 4 *Average age – standardized incidence rate, Chiang Mai, 2003–2007*

CANCER / SITE	Male				Female				ICD (10th)
	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	
Lip	11	0.2	0.3	0.3	23	0.3	0.3	0.5	C00
Tongue	57	0.9	1.5	1.3	23	0.3	0.3	0.5	C01–C02
Salivary gland	20	0.3	0.5	0.5	25	0.3	0.3	0.5	C07–C08
Mouth	58	0.9	1.5	1.4	48	0.6	0.6	1	C03–C06
Oropharynx	44	0.7	1.2	1.0	19	0.3	0.3	0.4	C09–C10
Nasopharynx	149	2.3	4	3.5	67	0.9	0.9	1.4	C11
Hypopharynx	51	0.8	1.4	1.2	14	0.2	0.2	0.3	C12–C13
Pharynx unspec.	5	0.1	0.1	0.1	1	0	0	0	C14
Oesophagus	64	1.0	1.7	1.5	22	0.3	0.3	0.5	C15
Stomach	275	4.3	7.3	6.5	199	2.7	2.7	4.3	C16
Small intestine	20	0.3	0.5	0.5	12	0.2	0.2	0.3	C17
Colon	311	4.8	8.3	7.3	264	3.5	3.5	5.7	C18
Rectum	245	3.8	6.5	5.8	217	2.9	2.9	4.6	C19–C21
Liver	1186	18.4	31.6	27.4	473	6.4	6.4	10.2	C22
Gallbladder etc.	90	1.4	2.4	2.2	109	1.5	1.5	2.2	C23–C24
Pancreas	79	1.2	2.1	1.9	89	1.2	1.2	1.9	C25
Nose, sinuses etc.	28	0.4	0.7	0.7	20	0.3	0.3	0.4	C30–C31
Larynx	92	1.4	2.5	2.1	29	0.4	0.4	0.7	C32
Bronchus, lung	1521	23.6	40.6	36.8	1125	15.1	15.1	24.6	C33–C34
Other Thoracic organs	16	0.2	0.4	0.4	16	0.2	0.2	0.3	C37–C38
Bone	33	0.5	0.9	0.8	26	0.3	0.3	0.6	C40–C41
Connective tissue	42	0.7	1.1	1.0	32	0.4	0.4	0.8	C47;C49
Kaposi's sarcoma	3	0.0	0.1	0.1	3	0	0	0.1	C46
Melanoma of skin	29	0.4	0.8	0.6	18	0.2	0.2	0.4	C43
Other skin	206	3.2	5.5	4.8	192	2.6	2.6	3.9	C44
Breast	23	0.4	0.6	0.5	1282	17.2	17.2	26.2	C50
Uterus unspec.					5	0.1	0.1	0.1	C55
Cervix uteri					1238	16.6	16.6	25.1	C53
Placenta					10	0.1	0.1	0.2	C58
Corpus uteri					198	2.7	2.7	4.3	C54
Ovary etc.					251	3.4	3.4	5.2	C56
Other female genital					58	0.8	0.8	1.2	C51–C52;C57
Prostate	263	4.1	7	6.2					C61
Testis	29	0.4	0.8	0.7					C62
Penis	69	1.1	1.8	1.6					C60
Other male genital	3	0.0	0.1	0.1					C63
Bladder	229	3.5	6.1	5.3	115	1.5	1.5	2.5	C67
Kidney etc.	94	1.5	2.5	2.3	43	0.6	0.6	1	C64–C66;C68
Eye	13	0.2	0.3	0.3	10	0.1	0.1	0.3	C69
Brain, nervous system	70	1.1	1.9	1.9	82	1.1	1.1	1.9	C70–C72
Thyroid	46	0.7	1.2	1.0	178	2.4	2.4	3.7	C73
Other endocrine	7	0.1	0.2	0.2	9	0.1	0.1	0.2	C74–C75
Hodgkin's disease	29	0.4	0.8	0.7	17	0.2	0.2	0.4	C81
Non–Hodgkin lymphoma	292	4.5	7.8	6.9	232	3.1	3.1	5	C82–C85;C96
Multiple myeloma	29	0.4	0.8	0.7	26	0.3	0.3	0.6	C88;C90
Lymphoid leukaemia	46	0.7	1.2	1.5	38	0.5	0.5	1.3	C91
Myeloid leukaemia	104	1.6	2.8	2.6	105	1.4	1.4	2.6	C92
Monocytic leukaemia	2	0.0	0.1	0.0	6	0.1	0.1	0.1	C93
Other leukaemia	2	0.0	0.1	0.0	2	0	0	0	C94
Leukaemia unspec.	16	0.2	0.4	0.4	11	0.1	0.1	0.2	C95
Other & unspecified	453	7.0	12.1	10.6	466	6.3	6.3	10.1	O&U
All sites	6454	100.0	172.2	153.2	7448	100	190.1	158.2	ALL

Table 5 : Number of New Cancers by Age Group (Male), Chiang Mai, 2003–2007

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	11	0	0	0	0	0	0	0	0	1	0	1	0	1	2	1	2	3	0.2	C00
Tongue	57	0	0	0	0	0	1	0	1	1	3	6	10	7	8	2	11	6	0.9	C01–C02
Salivary gland	20	0	0	0	0	0	0	2	1	0	1	2	1	0	3	1	3	6	0.3	C07–C08
Mouth	58	0	0	0	0	0	1	1	0	0	1	3	10	7	5	8	5	17	0.9	C03–C06
Oropharynx	44	0	0	0	0	0	0	1	0	0	3	9	2	4	3	6	8	8	0.7	C09–C10
Nasopharynx	149	0	0	0	0	3	4	6	3	5	14	19	28	28	10	18	7	4	2.3	C11
Hypopharynx	51	0	0	0	0	0	0	0	0	0	0	5	8	4	3	5	6	20	0.8	C12–C13
Pharynx unspec.	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	2	0.1	C14
Oesophagus	64	0	0	0	0	0	0	0	0	2	1	2	10	10	2	12	10	15	1	C15
Stomach	275	0	0	0	0	0	2	3	7	5	11	29	35	26	21	45	52	39	4.3	C16
Small intestine	20	0	1	1	0	1	0	0	0	0	2	0	2	0	2	2	3	6	0.3	C17
Colon	311	0	0	0	0	0	2	7	5	18	13	24	32	33	32	35	43	66	4.8	C18
Rectum	245	0	0	0	0	0	3	1	1	8	19	17	24	21	26	39	30	55	3.8	C19–C21
Liver	1186	0	0	0	3	1	4	5	21	65	106	164	165	137	123	131	124	134	18.4	C22
Gallbladder etc.	90	0	0	0	0	0	0	0	0	3	4	7	7	6	12	13	24	14	1.4	C23–C24
Pancreas	79	0	0	0	0	0	0	0	0	0	2	9	11	9	8	17	10	13	1.2	C25
Nose, sinuses etc.	28	0	0	0	0	0	0	1	1	2	1	4	1	5	3	3	2	5	0.4	C30–C31
Larynx	92	0	0	0	0	0	0	0	0	0	5	4	13	9	12	7	13	28	1.4	C32
Bronchus, lung	1521	0	1	1	1	0	3	9	13	17	45	77	143	168	189	282	275	298	23.6	C33–C34
Other Thoracic organs	16	0	0	0	1	1	1	1	1	0	0	0	2	2	2	0	1	3	0.2	C37–C38
Bone	33	0	1	1	0	1	5	3	2	0	2	3	3	0	0	4	3	3	0.5	C40–C41
Connective tissue	42	0	0	0	1	0	2	1	1	1	1	3	5	6	7	5	4	4	0.7	C47;C49
Mesothelioma	3	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	C45
Kaposi's sarcoma	29	0	0	0	0	0	0	1	0	0	3	0	4	4	1	0	6	10	0.4	C46
Melanoma of skin	206	0	0	0	0	1	6	4	5	2	9	11	17	13	22	24	24	68	3.2	C43
Other skin	23	0	0	0	0	0	0	0	1	3	5	3	3	1	2	1	3	1	0.4	C44
Breast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C50
Prostate	263	0	0	0	0	0	0	0	0	0	0	1	5	11	27	37	65	117	4.1	C61
Testis	29	0	2	2	0	0	2	5	4	4	1	2	3	1	1	1	1	1	0.4	C62
Penis	69	0	0	0	0	0	0	3	5	2	5	6	6	3	5	7	12	15	1.1	C60
Other male genital	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	C63
Bladder	229	0	0	0	0	0	1	0	0	1	8	13	18	15	17	22	49	85	3.5	C67
Kidney etc.	94	0	2	2	1	0	0	2	0	4	6	9	11	6	8	14	15	16	1.5	C64–C66;C68
Eye	13	0	2	2	0	0	0	0	0	1	2	1	2	1	1	1	0	2	0.2	C69
Brain, nervous system	70	0	5	5	3	4	2	3	6	4	5	4	6	4	4	6	6	4	1.1	C70–C72
Thyroid	46	0	0	0	0	1	5	0	3	1	8	5	4	2	3	3	4	7	0.7	C73
Other endocrine	7	0	1	1	1	3	1	0	0	0	0	0	0	0	0	1	0	0	0.1	C74–C75
Hodgkin's disease	29	0	0	0	0	4	1	3	2	0	0	1	4	1	1	5	2	4	0.4	C81
Non–Hodgkin lymphoma	292	0	3	3	2	2	3	5	9	14	17	23	40	21	27	25	47	50	4.5	C82–C85;C96
Multiple myeloma	29	0	0	0	0	0	1	0	0	0	2	3	3	6	5	3	2	4	0.4	C88;C90
Lymphoid leukaemia	46	0	8	8	11	4	0	0	1	3	1	2	1	2	0	1	1	6	0.7	C91
Myeloid leukaemia	104	0	2	2	4	5	6	8	3	6	9	9	10	4	4	7	10	12	1.6	C92
Monocytic leukaemia	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	C93
Other leukaemia	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	C94
Leukaemia unspec.	16	0	1	1	0	1	0	1	0	1	2	1	1	2	0	2	0	3	0.2	C95
Other & unspecified	453	0	1	1	0	1	3	5	6	15	32	47	53	43	45	59	58	82	7	
All sites	6454	0	30	28	33	37	60	81	102	190	349	529	707	624	646	856	942	1240	100	

Table 6 : Number of New Cancers by Age Group (Female), Chiang Mai, 2003–2007

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	23	0	0	0	0	0	0	0	0	0	0	0	4	1	1	6	7	4	0.3	C00
Tongue	23	0	0	0	1	0	0	0	1	1	0	6	5	2	2	0	1	4	0.3	C01–C02
Salivary gland	25	0	0	0	0	0	0	1	3	3	4	2	3	0	1	2	5	1	0.3	C07–C08
Mouth	48	0	0	0	0	0	0	1	0	1	0	2	4	5	3	3	9	20	0.6	C03–C06
Oropharynx	19	0	0	0	0	1	0	0	0	0	1	2	0	3	0	4	0	8	0.3	C09–C10
Nasopharynx	67	0	0	0	1	1	0	3	2	9	9	6	7	6	6	6	7	4	0.9	C11
Hypopharynx	14	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	4	5	0.2	C12–C13
Pharynx unspec.	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	C14
Oesophagus	22	0	0	0	0	0	0	0	0	0	1	2	1	1	2	2	6	7	0.3	C15
Stomach	199	0	0	0	0	1	1	4	6	8	13	17	30	17	17	27	31	27	2.7	C16
Small intestine	12	0	0	0	0	0	0	0	0	0	1	2	1	4	1	1	2	0	0.2	C17
Colon	264	0	0	0	0	1	1	4	6	10	12	27	25	28	35	32	27	56	3.5	C18
Rectum	217	0	0	0	0	0	2	3	6	4	17	33	26	19	20	27	25	35	2.9	C19–C21
Liver	473	1	1	0	1	0	0	4	8	13	24	44	61	61	44	72	56	84	6.4	C22
Gallbladder etc.	109	0	0	0	0	0	0	0	0	1	2	8	17	8	8	12	14	39	1.5	C23–C24
Pancreas	89	0	0	0	0	0	0	0	1	2	5	6	13	9	8	10	17	18	1.2	C25
Nose, sinuses etc.	20	0	0	0	0	0	2	0	1	1	1	3	4	0	3	2	2	1	0.3	C30–C31
Larynx	29	0	0	0	0	0	0	1	0	0	0	0	3	4	6	5	4	6	0.4	C32
Bronchus, lung	1125	0	0	0	1	0	4	2	16	12	29	61	108	124	143	183	215	227	15.1	C33–C34
Other Thoracic organs	16	0	0	0	0	1	0	2	0	2	1	1	0	1	1	1	3	3	0.2	C37–C38
Bone	26	0	0	1	1	3	2	1	3	1	1	6	3	0	2	0	1	1	0.3	C40–C41
Connective tissue	32	1	1	1	0	0	2	1	2	2	1	4	3	4	6	1	0	4	0.4	C47;C49
Kaposi's sarcoma	3	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	C46
Melanoma of skin	18	0	0	0	0	1	0	0	0	0	0	3	2	3	1	3	2	3	0.2	C43
Other skin	192	0	0	0	0	1	1	1	0	5	9	10	9	15	12	23	25	81	2.6	C44
Breast	1282	0	0	0	0	0	2	16	49	99	188	268	220	141	85	79	57	78	17.2	C50
Uterus unspec.	5	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	1	0.1	C55
Cervix uteri	1238	0	0	0	0	1	4	17	51	107	213	265	174	113	86	75	61	71	16.6	C53
Placenta	10	0	0	0	0	2	0	3	1	1	1	1	1	0	0	0	0	0	0.1	C58
Corpus uteri	198	0	0	0	0	0	1	0	2	6	11	19	45	32	25	19	23	15	2.7	C54
Ovary etc.	251	0	0	1	1	7	11	7	13	24	32	42	53	19	13	11	8	9	3.4	C56
Other female genital	58	0	0	0	0	0	2	1	4	0	4	7	7	5	5	5	6	12	0.8	C51–C52;C57
Bladder	115	0	0	0	0	0	0	0	1	1	5	3	5	10	16	15	23	36	1.5	C67
Kidney etc.	43	2	2	1	0	0	0	1	0	1	2	4	4	5	4	6	8	5	0.6	C64–C66;C68
Eye	10	2	2	0	0	0	0	1	2	1	0	0	0	1	0	0	0	3	0.1	C69
Brain, nervous system	82	3	3	2	0	5	2	3	4	13	5	11	8	8	6	5	2	5	1.1	C70–C72
Thyroid	178	0	0	0	2	4	10	14	20	14	32	20	18	7	5	13	10	9	2.4	C73
Other endocrine	9	1	1	0	1	0	0	1	0	2	0	1	1	0	1	0	1	0	0.1	C74–C75
Hodgkin's disease	17	0	0	1	0	1	0	2	2	2	0	2	1	1	1	1	2	1	0.2	C81
Non–Hodgkin lymphoma	232	0	0	0	4	5	5	11	11	16	12	20	33	17	17	18	32	31	3.1	C82–C85;C96
Multiple myeloma	26	0	0	0	0	0	0	0	0	0	1	2	3	5	5	3	3	4	0.3	C88;C90
Lymphoid leukaemia	38	7	7	10	4	0	4	3	2	2	0	1	1	0	1	1	2	0	0.5	C91
Myeloid leukaemia	105	7	7	1	5	5	1	6	4	6	12	7	10	4	8	9	11	9	1.4	C92
Monocytic leukaemia	6	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	2	0	0.1	C93
Other leukaemia	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	C94
Leukaemia unspec.	11	0	0	0	0	0	0	0	2	0	1	0	1	0	2	1	1	3	0.1	C95
Other & unspecified	466	3	3	0	1	0	1	11	13	19	24	38	42	57	44	62	68	83	6.3	
All sites	7448	27	27	19	23	40	60	125	237	390	675	958	958	742	648	749	783	1014	100	

Table 7 *Average Incidence per 100,000 by Age group (Male),Chiang Mai, 2003-2007*

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	11	0	0	0	0	0	0	0	0	0.3	0	0.3	0	0.6	1.5	0.9	2.4	3.1	0.3	0.3	C00
Tongue	57	0	0	0	0	0.3	0.3	0	0.3	0.3	1	2.1	4.3	4.1	6	1.9	13.1	6.2	1.5	1.3	C01-C02
Salivary gland	20	0	0	0	0	0	0	0.7	0.3	0	0.3	0.7	0.4	0	2.3	0.9	3.6	6.2	0.5	0.5	C07-C08
Mouth	58	0	0	0	0	0	0.3	0.3	0	0	0.3	1	4.3	4.1	3.8	7.5	6	17.6	1.5	1.4	C03-C06
Oropharynx	44	0	0	0	0	0	0	0.3	0	0	1	3.1	0.9	2.4	2.3	5.6	9.5	8.3	1.2	1	C09-C10
Nasopharynx	149	0	0	0	1	0	1.3	2	1	1.7	4.5	6.5	11.9	16.6	7.5	16.9	8.3	4.1	4	3.5	C11
Hypopharynx	51	0	0	0	0	0	0	0	0	0	0	1.7	3.4	2.4	2.3	4.7	7.1	20.7	1.4	1.2	C12-C13
Pharynx unspec.	5	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0	1.2	2.1	0.1	0.1	C14
Oesophagus	64	0	0	0	0	0	0	0	0	0.7	0.3	0.7	4.3	5.9	1.5	11.2	11.9	15.5	1.7	1.5	C15
Stomach	275	0	0	0	0	0	0.6	1	2.4	1.7	3.5	10	14.9	15.4	15.8	42.2	61.9	40.3	7.3	6.5	C16
Small intestine	20	1	0.4	0	0.3	0.3	0	0	0	0	0.6	0	0.9	0	1.5	1.9	3.6	6.2	0.5	0.5	C17
Colon	311	0	0	0	0	0.3	0.6	2.4	1.7	6	4.1	8.2	13.6	19.5	24.1	32.8	51.2	68.2	8.3	7.3	C18
Rectum	245	0	0	0	0	0.3	1	0.3	0.3	2.7	6	5.8	10.2	12.4	19.5	36.5	35.7	56.8	6.5	5.8	C19-C21
Liver	1186	0	0	1.1	0.3	0.9	1.3	1.7	7.2	21.5	33.7	56.3	70.3	81.1	92.5	122.7	147.6	138.5	31.6	27.4	C22
Gallbladder etc.	90	0	0	0	0	0	0	0	0	1	1.3	2.4	3	3.6	9	12.2	28.6	14.5	2.4	2.2	C23-C24
Pancreas	79	0	0	0	0	0	0	0	0	0	0.6	3.1	4.7	5.3	6	15.9	11.9	13.4	2.1	1.9	C25
Nose, sinuses etc.	28	0	0	0	0	0	0	0.3	0.3	0.7	0.3	1.4	0.4	3	2.3	2.8	2.4	5.2	0.7	0.7	C30-C31
Larynx	92	0	0	0	0	0.3	0	0	0	0	1.6	1.4	5.5	5.3	9	6.6	15.5	28.9	2.5	2.1	C32
Bronchus, lung	1521	1	0.4	0.4	0	0	1	3.1	4.5	5.6	14.3	26.4	60.9	99.5	142.1	264.2	327.3	308	40.6	36.8	C33-C34
Other Thoracic organs	16	0	0	0.4	0.3	0.3	0.3	0.3	0.3	0	0	0	0.9	1.2	1.5	0	1.2	3.1	0.4	0.4	C37-C38
Bone	33	1	0.4	0	0.3	0.9	1.6	1	0.7	0	0.6	1	1.3	0	0	3.7	3.6	3.1	0.9	0.8	C40-C41
Connective tissue	42	0	0	0.4	0	0.3	0.6	0.3	0.3	0.3	0.3	1	2.1	3.6	5.3	4.7	4.8	4.1	1.1	1	C47;C49
Mesothelioma	3	0	0	0	0	0	0.3	0	0	0	0	0	0	0.6	0	0	0	1	0.1	0.1	C45
Kaposi's sarcoma	29	0	0	0	0	0	0	0.3	0	0	1	0	1.7	2.4	0.8	0	7.1	10.3	0.8	0.6	C46
Melanoma of skin	206	0	0	0	0.3	0	1.9	1.4	1.7	0.7	2.9	3.8	7.2	7.7	16.5	22.5	28.6	70.3	5.5	4.8	C43
Other skin	23	0	0	0	0	0	0	0	0.3	1	1.6	1	1.3	0.6	1.5	0.9	3.6	1	0.6	0.5	C44
Breast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C50
Prostate	263	0	0	0	0	0	0	0	0	0	0	0.3	2.1	6.5	20.3	34.7	77.4	120.9	7	6.2	C61
Testis	29	2	0.9	0	0	0.3	0.6	1.7	1.4	1.3	0.3	0.7	1.3	0.6	0.8	0.9	1.2	1	0.8	0.7	C62
Penis	69	0	0	0	0	0	0	1	1.7	0.7	1.6	2.1	2.6	1.8	3.8	6.6	14.3	15.5	1.8	1.6	C60
Other male genital	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	2.1	0.1	0.1	C63
Bladder	229	0	0	0	0	0	0.3	0	0	0.3	2.5	4.5	7.7	8.9	12.8	20.6	58.3	87.8	6.1	5.3	C67
Kidney etc.	94	2	0.9	0.4	0	0	0	0.7	0	1.3	1.9	3.1	4.7	3.6	6	13.1	17.9	16.5	2.5	2.3	C64-C66;C68
Eye	13	2	0.9	0	0	0	0	0	0	0.3	0.6	0.3	0.9	0.6	0.8	0.9	0	2.1	0.3	0.3	C69
Brain, nervous system	70	5	2.2	1.1	1.4	1.2	0.6	1	2.1	1.3	1.6	1.4	2.6	2.4	3	5.6	7.1	4.1	1.9	1.9	C70-C72
Thyroid	46	0	0	0	0.3	0	1.6	0	1	0.3	2.5	1.7	1.7	1.2	2.3	2.8	4.8	7.2	1.2	1	C73
Other endocrine	7	1	0.4	0.4	1	0	0.3	0	0	0	0	0	0	0	0	0.9	0	0	0.2	0.2	C74-C75
Hodgkin's disease	29	0	0	0	1.4	0.3	0.3	1	0.7	0	0	0.3	1.7	0.6	0.8	4.7	2.4	4.1	0.8	0.7	C81
Non-Hodgkin lymphoma	292	3	1.3	0.7	0.7	1.2	1	1.7	3.1	4.6	5.4	7.9	17	12.4	20.3	23.4	55.9	51.7	7.8	6.9	C82-C85;C96
Multiple myeloma	29	0	0	0	0	0	0.3	0	0	0	0.6	1	1.3	3.6	3.8	2.8	2.4	4.1	0.8	0.7	C88;C90
Lymphoid leukaemia	46	8	3.5	3.9	1.4	1.6	0	0	0.3	1	0.3	0.7	0.4	1.2	0	0.9	1.2	6.2	1.2	1.5	C91
Myeloid leukaemia	104	2	0.9	1.4	1.7	1.6	1.9	2.7	1	2	2.9	3.1	4.3	2.4	3	6.6	11.9	12.4	2.8	2.6	C92
Monocytic leukaemia	2	0	0	0	0	0	0	0	0	0.3	0	0	0.4	0	0	0	0	0	0.1	0	C93
Other leukaemia	2	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	1	0.1	0	C94
Leukaemia unspec.	16	1	0.4	0	0.3	0.3	0	0.3	0	0.3	0.6	0.3	0.4	1.2	0	1.9	0	3.1	0.4	0.4	C95
Other & unspecified	453	1	0.4	0	0.3	0.9	1	1.7	2.1	5	10.2	16.1	22.6	25.5	33.8	55.3	69	84.7	12.1	10.6	
All sites	6454	30	13	9.9	11.5	11.6	19.1	27.6	35.2	63	111.1	181.6	301	369.5	485.6	801.9	1121.1	1281.5	172.2	153.2	

Table 8 : Average Incidence per 100 000 by Age group (Female), Chiang Mai, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	23	0	0	0	0	0	0	0	0	0	0	0	1.6	0.6	0.7	5.2	7.4	3.4	0.6	0.5	C00
Tongue	23	0	0	0	0.4	0	0	0	0.3	0.3	0	1.9	2	1.1	1.4	0	1.1	3.4	0.6	0.5	C01-C02
Salivary gland	25	0	0	0	0	0	0	0.3	0.9	0.9	1.1	0.6	1.2	0	0.7	1.7	5.3	0.8	0.6	0.5	C07-C08
Mouth	48	0	0	0	0	0	0	0.3	0	0.3	0	0.6	1.6	2.9	2.1	2.6	9.6	17	1.2	1	C03-C06
Oropharynx	19	0	0	0	0	0.3	0	0	0	0	0.3	0.6	0	1.7	0	3.5	0	6.8	0.5	0.4	C09-C10
Nasopharynx	67	0	0	0	0.4	0.3	0	1	0.6	2.7	2.6	1.9	2.8	3.4	4.2	5.2	7.4	3.4	1.7	1.4	C11
Hypopharynx	14	0	0	0	0	0	0	0	0	0	0	0.3	0	0.6	0.7	1.7	4.2	4.2	0.4	0.3	C12-C13
Pharynx unspec.	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0	C14
Oesophagus	22	0	0	0	0	0	0	0	0	0	0.3	0.6	0.4	0.6	1.4	1.7	6.4	5.9	0.6	0.5	C15
Stomach	199	0	0	0	0	0.3	0.3	1.3	1.9	2.4	3.7	5.4	12.2	9.7	12	23.5	32.9	22.9	5.1	4.3	C16
Small intestine	12	0	0	0	0	0	0	0	0	0	0.3	0.6	0.4	2.3	0.7	0.9	2.1	0	0.3	0.3	C17
Colon	264	0	0	0	0	0.3	0.3	1.3	1.9	3	3.4	8.6	10.2	16	24.7	27.9	28.7	47.6	6.7	5.7	C18
Rectum	217	0	0	0	0	0	0.6	1	1.9	1.2	4.8	10.5	10.6	10.9	14.1	23.5	26.6	29.7	5.5	4.6	C19-C21
Liver	473	1	0.5	0	0.4	0	0	1.3	2.5	3.9	6.8	13.9	24.8	35	31.1	62.8	59.5	71.3	12.1	10.2	C22
Gallbladder etc.	109	0	0	0	0	0	0	0	0	0.3	0.6	2.5	6.9	4.6	5.6	10.5	14.9	33.1	2.8	2.2	C23-C24
Pancreas	89	0	0	0	0	0	0	0	0.3	0.6	1.4	1.9	5.3	5.2	5.6	8.7	18.1	15.3	2.3	1.9	C25
Nose, sinuses etc.	20	0	0	0	0	0	0.6	0	0.3	0.3	0.3	1	1.6	0	2.1	1.7	2.1	0.8	0.5	0.4	C30-C31
Larynx	29	0	0	0	0	0	0	0.3	0	0	0	0	1.2	2.3	4.2	4.4	4.2	5.1	0.7	0.7	C32
Bronchus, lung	1125	0	0	0	0.4	0	1.3	0.7	4.9	3.6	8.2	19.3	43.9	71.1	100.9	159.6	228.4	192.8	28.7	24.6	C33-C34
Other Thoracic organs	16	0	0	0	0	0.3	0	0.7	0	0.6	0.3	0.3	0	0.6	0.7	0.9	3.2	2.5	0.4	0.3	C37-C38
Bone	26	0	0	0.4	0.4	0.9	0.6	0.3	0.9	0.3	0.3	1.9	1.2	0	1.4	0	1.1	0.8	0.7	0.6	C40-C41
Connective tissue	32	1	0.5	0.4	0	0	0.6	0.3	0.6	0.6	0.3	1.3	1.2	2.3	4.2	0.9	0	3.4	0.8	0.8	C47;C49
Kaposi's sarcoma	3	0	0	0.4	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0.1	0.1	C46
Melanoma of skin	18	0	0	0	0	0.3	0	0	0	0	0	1	0.8	1.7	0.7	2.6	2.1	2.5	0.5	0.4	C43
Other skin	192	0	0	0	0	0.3	0.3	0.3	0	1.5	2.6	3.2	3.7	8.6	8.5	20.1	26.6	68.8	4.9	3.9	C44
Breast	1282	0	0	0	0	0	0.6	5.2	15.2	29.7	53.4	84.9	89.5	80.8	60	68.9	60.6	66.2	32.7	26.2	C50
Uterus unspec.	5	0	0	0	0	0	0	0	0	0	0.3	0.3	0	0	0	1.7	0	0.8	0.1	0.1	C56
Cervix uteri	1238	0	0	0	0	0.3	1.3	5.6	15.8	32	60.5	83.9	70.7	64.8	60.7	65.4	64.8	60.3	31.6	25.1	C53
Placenta	10	0	0	0	0	0.6	0	1	0.3	0.3	0.3	0.3	0.4	0	0	0	0	0	0.3	0.2	C58
Corpus uteri	198	0	0	0	0	0	0.3	0	0.6	1.8	3.1	6	18.3	18.3	17.6	16.6	24.4	12.7	5.1	4.3	C54
Ovary etc.	251	0	0	0.4	0.4	2.2	3.5	2.3	4	7.2	9.1	13.3	21.5	10.9	9.2	9.6	8.5	7.6	6.4	5.2	C56
Other female genital	58	0	0	0	0	0	0.6	0.3	1.2	0	1.1	2.2	2.8	2.9	3.5	4.4	6.4	10.2	1.5	1.2	C51-52, C57
Bladder	115	0	0	0	0	0	0	0	0.3	0.3	1.4	1	2	5.7	11.3	13.1	24.4	30.6	2.9	2.5	C67
Kidney etc.	43	2	0.9	0.4	0	0	0	0.3	0	0.3	0.6	1.3	1.6	2.9	2.8	5.2	8.5	4.2	1.1	1	C64-C66;C68
Eye	10	2	0.9	0	0	0	0	0.3	0.6	0.3	0	0	0	0.6	0	0	0	2.5	0.3	0.3	C69
Brain, nervous system	82	3	1.4	0.7	0	1.6	0.6	1	1.2	3.9	1.4	3.5	3.3	4.6	4.2	4.4	2.1	4.2	2.1	1.9	C70-C72
Thyroid	178	0	0	0	0.7	1.3	3.2	4.6	6.2	4.2	9.1	6.3	7.3	4	3.5	11.3	10.6	7.6	4.5	3.7	C73
Other endocrine	9	1	0.5	0	0.4	0	0	0.3	0	0.6	0	0.3	0.4	0	0.7	0	1.1	0	0.2	0.2	C74-C75
Hodgkin's disease	17	0	0	0.4	0	0.3	0	0.7	0.6	0.6	0	0.6	0.4	0.6	0.7	0.9	2.1	0.8	0.4	0.4	C81
Non-Hodgkin lymphoma	232	0	0	0	1.5	1.6	1.6	3.6	3.4	4.8	3.4	6.3	13.4	9.7	12	15.7	34	26.3	5.9	5	C82-C85;C96
Multiple myeloma	26	0	0	0	0	0	0	0	0	0	0.3	0.6	1.2	2.9	3.5	2.6	3.2	3.4	0.7	0.6	C88;C90
Lymphoid leukaemia	38	7	3.2	3.7	1.5	0	1.3	1	0.6	0.6	0	0.3	0.4	0	0.7	0.9	2.1	0	1	1.3	C91
Myeloid leukaemia	105	7	3.2	0.4	1.8	1.6	0.3	2	1.2	1.8	3.4	2.2	4.1	2.3	5.6	7.8	11.7	7.6	2.7	2.6	C92
Monocytic leukaemia	6	0	0	0	0	0	0.3	0	0	0	0	0	0.4	0.6	0.7	0	2.1	0	0.2	0.1	C93
Other leukaemia	2	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0.8	0.1	0	C94
Leukaemia unspec.	11	0	0	0	0	0	0	0	0.6	0	0.3	0	0.4	0	1.4	0.9	1.1	2.5	0.3	0.2	C95
Other & unspecified	466	3	1.4	0	0.4	0	0.3	3.6	4	5.7	6.8	12	17.1	32.7	31.1	54.1	72.2	70.5	11.9	10.1	
All sites	7448	27	12.2	7	8.5	12.6	19.1	40.8	73.3	116.8	191.6	303.5	389.5	425.3	457.4	653.1	831.9	861.1	190.1	158.2	

APPENDIX B

Cancer Incidence in Lampang Thailand, 2003-2007

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Karnchana Daoprasert, R.N.
Nilubol Raunroadroong, M.D.

APPENDIX B

Cancer Incidence in Lampang Thailand, 2003-2007

Thanyaphat Phonglaohaphan, M.D.
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Background

Lampang is a province among 17 provinces located in the north of Thailand between latitude 17-19 °N and longitude 98-100 °E. It is 268.8 meters above sea level with the land area of 12,534 square kilometers. It has common boundary with Chiang Mai and Phayao in the north, Phrae in the east, Tak and Sukhothai in the South as well as Lamphun and Chiang Mai in the west. Lampang was divided into 13 districts; Muang, Koh Kha, Ngao, Chae Hom, Theon, Mae Tha, Mae Phrik, Mae Moh, Wang Nua, Sop Prap, Soem Ngam, Hang Chat and Muang Pan (Figure 7). About 30% of the populations live in urban areas; 97% are Buddists, the remainder mainly Christians or Muslims. The average population density is about 61.2 persons per square kilometer (National Statistics Office, Thailand, 2008).

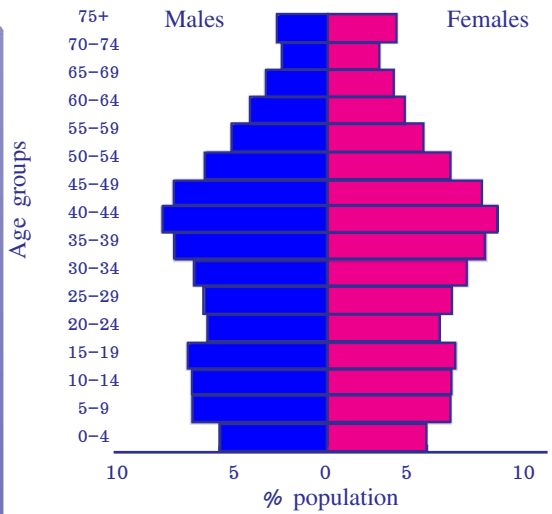
Most important occupations are farming of rice, peanuts, sugar beans and pineapple. Weaving, wood-carving and handicrafts are the small industries. There are large industries in Lampang such as the largest power plant in Thailand is located in Mae Moh district near the lignite mining area. The Moe Moh power plant uses the abundant lignite as fuel. It started in 1978 and these plants are working with Flue Gas Desulfurization System since 2000. In addition, there are more than 200 ceramic factories and the largest concrete plant is also situated in Lampang. For important behavior risks of population in lampang; smoking was 23.5% and alcohol consumption was 36.4% in both sexes (National Statistics Office, Thailand, 2005).

The total population at 2000 census was 782,152 with 390,256 males and 391,896 females. The population dominators used for the calculation of average incidence rates estimated from extra-census projection population at 2005 was 786,880 with 389,801 males and 397,079 females population (Figure 8).

Figure 7. *Map of Lampang province, Thailand.*

Figure 8. *Population of Lampang (estimated population, 2005)*

Age	Male	Female
0–4	22,900	21,560
5–9	28,953	26,977
10–14	28,864	27,171
15–19	29,702	28,117
20–24	25,825	24,396
25–29	26,204	27,253
30–34	28,541	30,417
35–39	32,742	34,454
40–44	35,266	37,141
45–49	33,349	33,978
50–54	26,448	26,660
55–59	20,527	20,979
60–64	16,236	16,920
65–69	13,196	14,384
70–74	9,728	11,483
75+	11,320	15,189
Total	389,801	397,079



Medical services

In Lampang province, health care service is provided in 12 community hospitals, one Lampang provincial hospital, two private hospitals, one military hospital and one cancer center (Lampang Cancer Center). For cancer care, these hospitals have cancer diagnostic services (including CT scan, clinical consultations and radiological, pathological investigations), cancer surgery services and chemotherapy are available in Lampang cancer center and Lampang provincial hospital. Radiation therapy was available only in Lampang Cancer Center. There were one simulator, two cobalt-60 machines, one linear accelerator, one dual energy linear accelerator with multi leaf collimator, one High Dose Rate and two Low Dose Rate for brachytherapy are provided in Lampang Cancer Center. All hospitals in the province provide palliative care. The ratio of doctors to population is 1:2,925. The ratio between registered nurses to population is 1:538. (Ministry of public Health, 2007)

Registry structure and methods

The registry unit is located within Lampang Cancer Center. Lampang Cancer Center, one of the six regional cancer centers was established in 1994, under the supervision of the National Cancer Institute for cancer prevention and control in the northern part of Thailand as a result the population-based cancer registration in the province has been set up. The Lampang registry was set up since 1995 with the back up data of some cancer cases in Lampang since 1963 which collected by Dr.Nimit Martin, our expert consultant. Since 2002, Lampang Cancer Registry awarded the voting member of International Association for Cancer Registry (IACR) which provides links with cancer registries throughout the world. Lampang Cancer Registry was collaborated in Cancer Incidence in Five Continents volume VIII and IX, which is the standard reference of cancer incidence of the world.

The registration uses passive methods by notification from 21 sources of data consisting of cancer centers, general hospitals, all community hospitals, 2 private hospitals, Chiang Mai university hospital, provincial public health service of Lampang and pathological laboratories. The cancer cases are collected from all hospitals in Lampang. However, some patients are referred to Chiang Mai university hospital and National Cancer Institute in Bangkok. These cases have also been collected in the registry.

New cancer cases from all hospitals were collected from out and in patient departments, radiotherapy unit, surgical unit, pathological service, cytological unit, laboratory unit, medical record and autopsy service. The data information collection includes demographic details for each cancer patient that consists of registry number, name, residential address, date of birth, age, sex, date of diagnosis, site of cancer, histology of cancer, staging, extension of disease, method of diagnosis, treatment, date of last contact and vital status of cancer patients.

The primary site and histology were coded according to ICD-O third edition (Fritz et al., 2000). Second primary cancer was also registered; a new registration number was given for each new primary cancer. All death certificates are matched with the incidence case records of the registry. Death certificates were obtained from Bureau of Policy and Strategy, Ministry of Public

Health. In addition, ascertainment has probably been more complete. Individual certified as having died of cancer are registered as "Death Certificate Only (DCO)" cases if no other information about the individual can be traced from the other sources.

The follow-up of all registered cases were carried out by passive methods with linking database of National Health Security office.

The computed data form was checked and extended into data base files, using the CanReg4 program for data entry and analysis. Cases of carcinoma in situ were registered but not included in the analysis.

Results

Cancer incidence in Lampang

Among Lampang residents, during the period of 2003-2007, the total number of new cancers was 8,396 cases (4,168 in males and 4228 in females) with sex ratio of new cancer in males and females approximately 1:1. The number of new cancer in each year varied from 804 to 861 cases among males and from 806 to 876 among females. The age-standardized incidence rate in each year varied from 166.9 to 176.8 among males and from 149.9 to 162.5 among females. The average age-standardized incidence rate was 170.5 among males and 157.2 among females (Table 9).

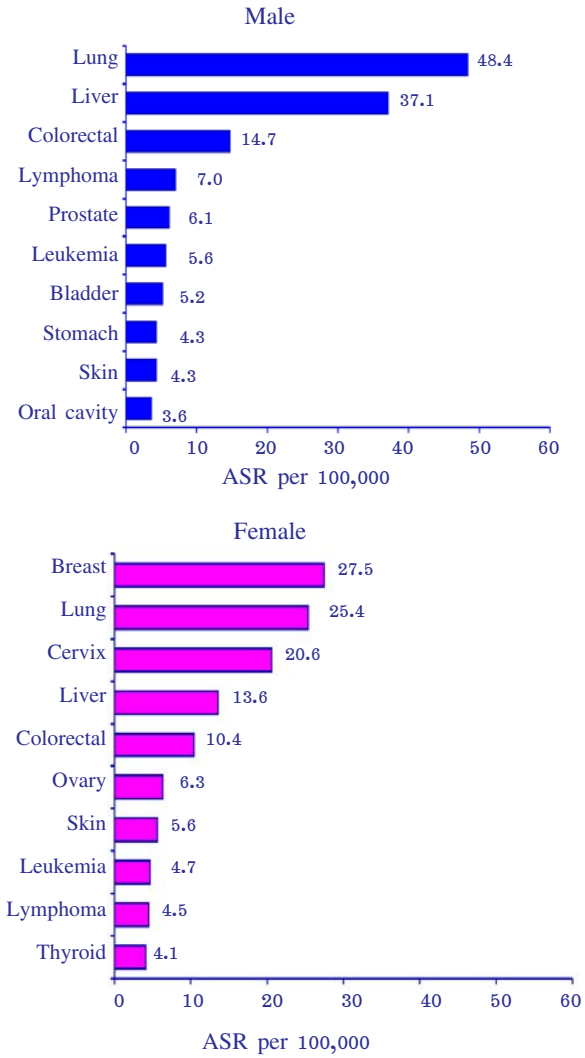
Table 9 *Number of cancer cases and ASR in Lampang, 2003-2007*

Year	Male		Female	
	Number of new cancer cases	ASR	Number of new cancer cases	ASR
2003	804	171.7	834	162.5
2004	814	169.0	845	161.6
2005	857	176.8	806	149.9
2006	832	166.9	876	158.0
2007	861	167.1	867	152.8
Total	4168	170.5	4228	157.2

Leading Cancers in Lampang

Lung cancer was the most common cancer in males followed by liver cancer and colorectal cancer. In females, the most common cancer was breast cancer followed by lung cancer and cervical cancer (Figure 9).

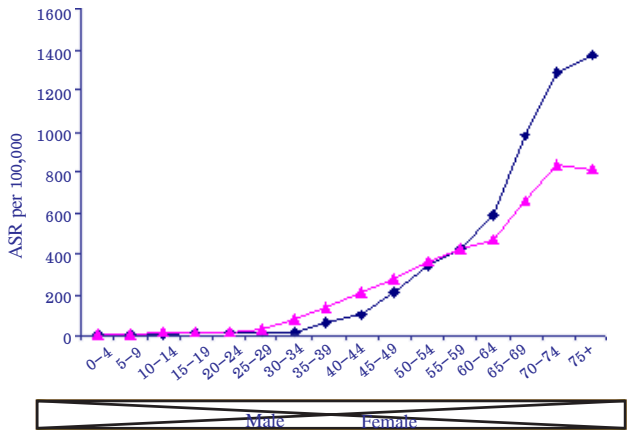
Figure 9 Leading cancer incidence in Lampang, 2003-2007



Age-Specific Rate

Age-specific rates of all cancers showed higher incidence rate of cancer among females than males during the age of 25-59 while higher incidence among males after the age of 60 (Figure 10).

Figure 10 *Age-specific rates of all cancers in Lampang, 2003-2007.*



Cancer by Age Group

Cancer varied according to age (Figure 11 & 12). During the age 0-14, Leukemia, brain and eye cancer were the most common cancers in boys, whereas leukemia, ovary and cancer of bone and connective tissue were the most common cancers in girls.

During the age 15-24, leukemia, lymphoma and cancer of bone and connective tissue were the most common cancers in males while leukemia, thyroid and lymphoma were the most common cancer among females.

In young adult (age 25-59), cancers of liver, lung and colorectal cancers were the most common cancers among males while breast, cervix and lung cancers were the most common cancer among females.

For older age groups (age 60-74), the most common cancers were lung, liver and colorectal cancer among males while lung, breast and liver were the most common cancers among females.

The age over 75, cancer of lung, liver and prostate were the most common cancers among males while cancer of lung, liver and colorectal were the most common among females.

Figure 11 *Leading cancer site by age (male), Lampang, 2003-2007.*

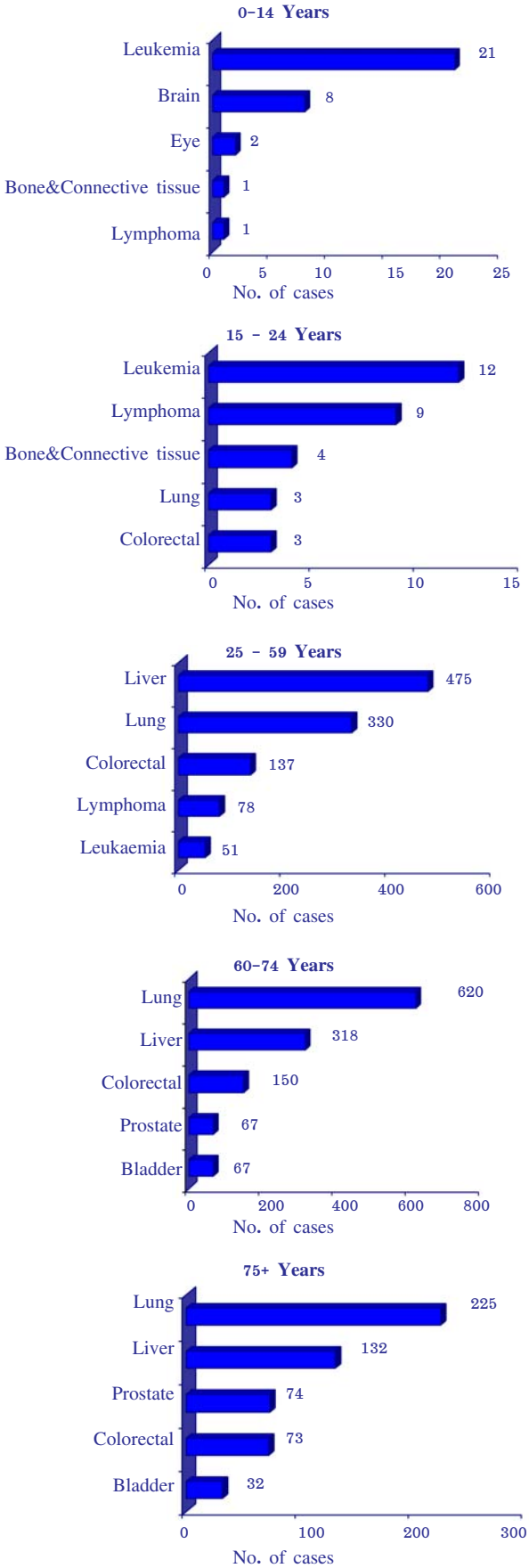
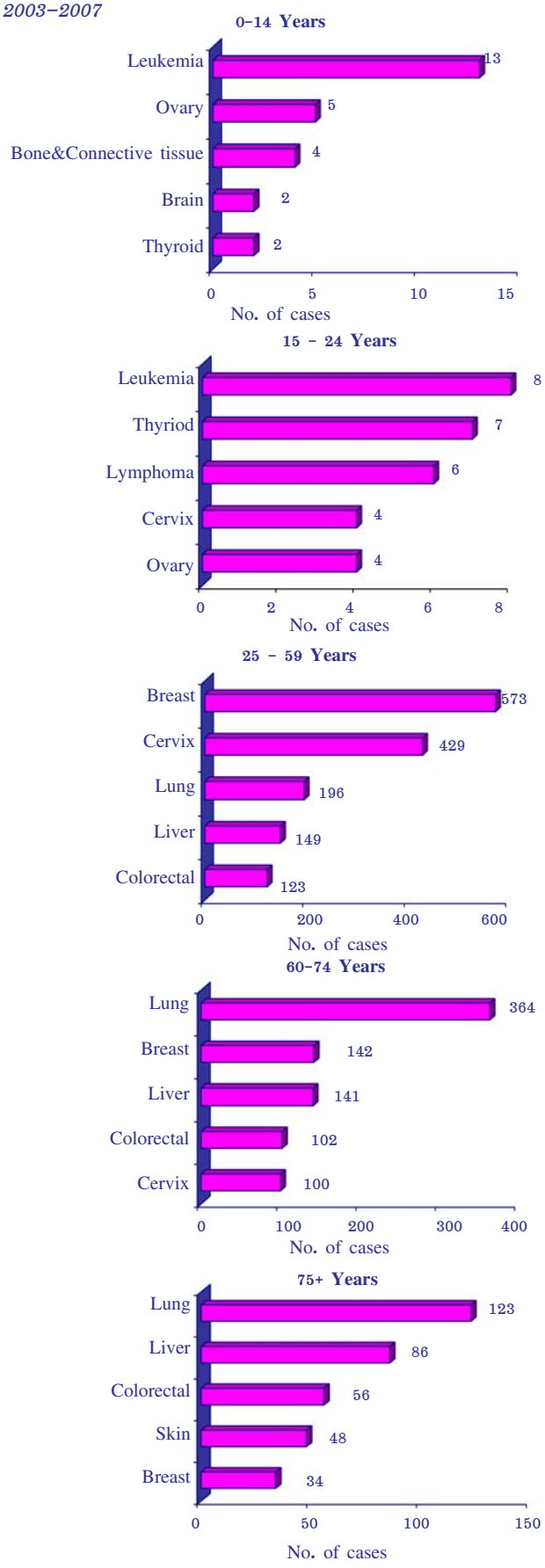


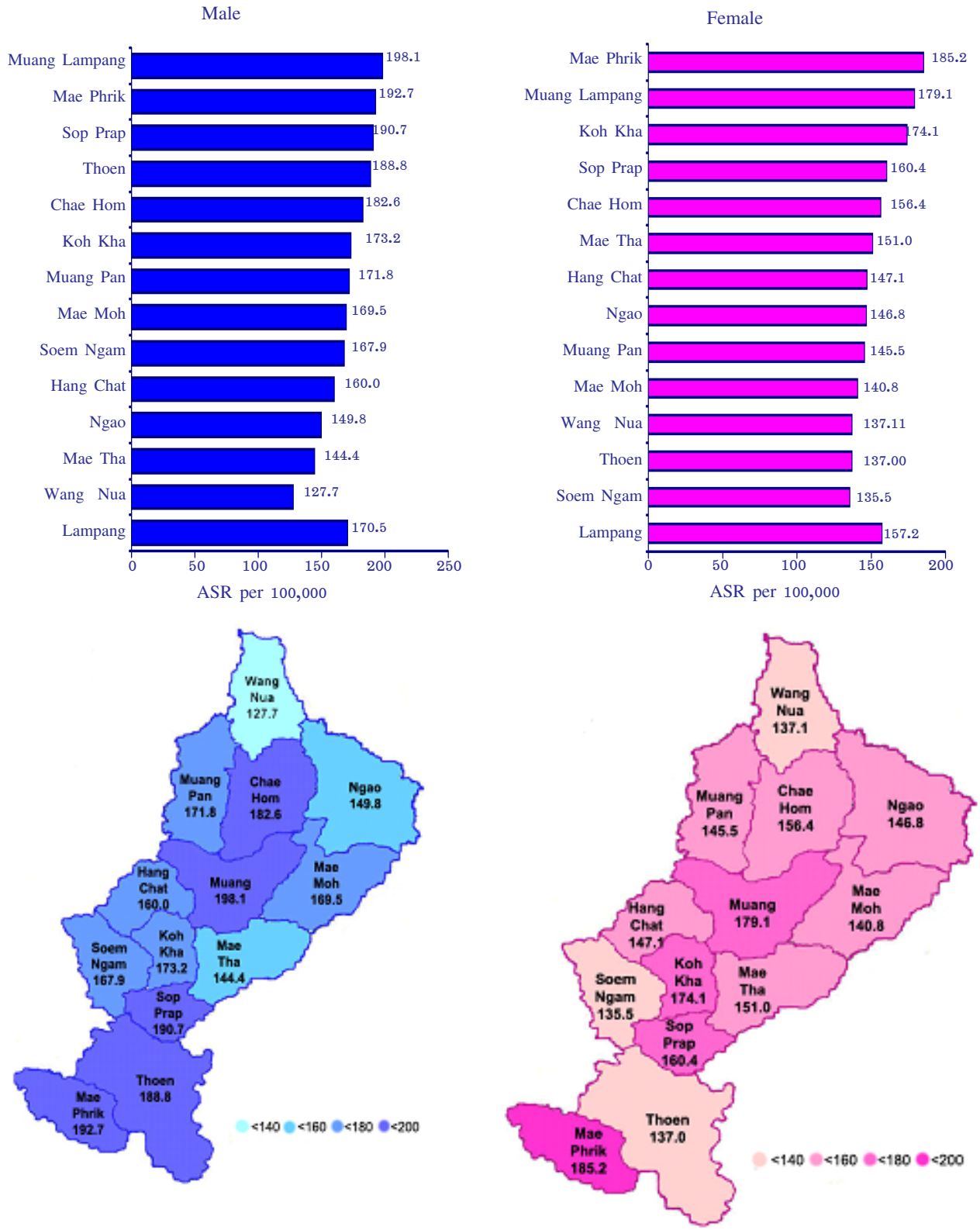
Figure 12 *Leading cancer site by age (female), Lampang, 2003–2007*



Geographic Distribution

The highest incidence of all cancer sites in Lampang was founded in Muang District among males (ASR=198.1 per 100 000 person) and in Mae Prik District among females (ASR =185.2 per 100 000 person). The lowest incidence of all cancer sites was founded in Wang Nua district among males (ARS=127.7 per 100 000 person) and Some Ngam among females (ASR=135.5 per 100 000 person) (Figure 13).

Figure 13 *Geographic distributions by districts in Lampang, 2003–2007*



Data quality

The data quality of Lampang registration was rather fair with the level of Histology Verified over 60 % in both males and females. The average percentage of Histological Verified was 68.0 %. Male was lower than in females (62.8% and 73.2% respectively). Cancer sites with Histology Verified over 90 % found in skin cancer, breast cancer, thyroid cancer, lymphoma and leukemia but Histology Verified under 50 % found in liver cancer and brain cancer.

The levels of Death Certificate Only (DCO) were better than data of last period (1998-2002). During this period, the average percentage of death certificate only was 7.4% in both sexes, 9.4% among males and 5.5% in females (Table 10).

The average mortality incidence ratio percentage was 65.7 for all cancers. The percentage was higher in male than female (75.3 and 56.2 respectively). The mortality incidence ratio by site and sex are shown in table 11. Levels of these ratios over 100% are found in oral cavity and leukemia in males. High level of this ratio over 50% are found in poor prognosis cancers such as cancer of tongue, esophagus, stomach, colon, rectum, liver, gall bladder, pancreas and lung in both males and females. The ratio lower than 50% are found in good prognosis cancer such as cancer of thyroid, prostate, testis and skin cancer in males and lip, salivary gland, nasal cavity, skin, breast, cervix, uterus and thyroid in females.

Table 10 *Percentage of Morphology Verified and Death Certificate Only by sex and sites, Lampang, 2003-2007*

Cancer sites	Male			Female			Total		
	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO
Oral cavity	91	81.3	9.9	75	80	13.3	166	80.7	11.4
Nasopharynx	61	83.6	3.3	32	78.1	0	93	81.7	2.2
Pharynx unspec.	34	70.6	23.5	9	88.9	0	43	74.4	18.6
Oesophagus	41	68.3	4.9	17	64.7	5.9	58	67.2	5.2
Stomach	108	75.9	8.3	71	71.8	5.6	179	74.3	7.3
Colon and Rectum	362	74.9	5.8	279	74.9	4.7	641	74.9	5.3
Liver and Gallbladder etc	1,003	28.2	14.8	462	29.2	12.8	1,465	28.5	14.1
Larynx	43	86	4.7	16	81.3	0	59	84.7	3.4
Bronchus, lung	1,179	70.2	8.3	684	68.9	8.9	1,863	69.7	8.5
Skin and melanoma	105	94.3	2.9	157	98.1	0.6	262	96.6	1.5
Breast	5	100	0	750	92	1.1	755	92.1	1.1
Cervix uteri				561	81.3	1.6	561	81.3	1.6
ovary				158	74.7	0	158	74.7	0
Penis	26	84.6	0				26	84.6	0
Prostate	155	79.4	3.2				155	79.4	3.2
Kidney etc.	32	68.8	12.5	13	61.5	7.7	45	66.7	11.1
Urinary tract	164	87.8	1.2	68	89.7	1.5	232	88.4	1.3
Brain, nervous system	47	51.1	31.9	44	45.5	18.2	91	48.4	25.3
Thyroid	18	94.4	5.6	106	91.5	0	124	91.9	0.8
Lymphoma	158	100	0	120	100	0	278	100	0
Leukaemia	113	100	0	104	100	0	217	100	0
Other & unspecified	423	49.9	14.9	502	56.4	11.2	925	53.4	12.9
All sites	4,168	62.8	9.4	4,228	73.2	5.5	8,396	68	7.4

Table 11 *Percentage of mortality incidence ratio by sex and sites, Lampang, 2003–2007*

Cancer sites	Male			Female			Total		
	New	Death	M/I	New	Death	M/I	New	Death	M/I
Oral cavity	91	99	108.8	75	72	96	166	171	103
Nasopharynx	61	54	88.5	32	26	81.3	93	80	86
Pharynx unspec.	34	13	38.2	9	2	22.2	43	15	34.9
Oesophagus	41	32	78	17	14	82.4	58	46	79.3
Stomach	108	97	89.8	71	60	84.5	179	157	87.7
Colon and Rectum	362	224	61.9	279	150	53.8	641	374	58.3
Liver and Gallbladder etc	1,003	870	86.7	462	380	82.3	1,465	1,250	85.3
Larynx	43	39	90.7	16	16	100	59	55	93.2
Bronchus, lung	1,179	982	83.3	684	568	83	1,863	1,550	83.2
Skin and melanoma	105	46	43.8	157	38	24.2	262	84	32.1
Breast	5	2	40	750	251	33.5	755	253	33.5
Cervix uteri				561	250	44.6	561	250	44.6
ovary				158	28	17.7	158	28	17.7
Penis	26	17	65.4				26	17	65.4
Prostate	155	4	2.6				155	4	2.6
Kidney etc.	196	132	67.3	81	25	30.9	277	157	56.7
Brain, nervous system	47	37	78.7	44	27	61.4	91	64	70.3
Thyroid	18	8	44.4	106	30	28.3	124	38	30.6
Lymphoma	158	70	44.3	120	60	50	278	130	46.8
Leukaemia	113	114	100.9	104	90	86.5	217	204	94
Other & unspecified	423	297	70.2	502	290	57.8	925	587	63.5
All sites	4,168	3,137	75.3	4,228	2,377	56.2	8,396	5,514	65.7

Table 12 *Average age – standardized incidence rate, Lampang, 2003–2007*

CANCER / SITE	Male				Female				ICD (10th)
	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	
Lip	4	0.1	0.2	0.1	7	0.2	0.4	0.2	C00
Tongue	38	0.9	1.9	1.5	22	0.5	1.1	0.8	C01–C02
Salivary gland	12	0.3	0.6	0.5	13	0.3	0.7	0.5	C07–C08
Mouth	37	0.9	1.9	1.5	33	8.0	1.7	1.2	C03–C06
Oropharynx	19	0.5	1.0	0.8	5	0.1	0.3	0.2	C09–C10
Nasopharynx	61	1.5	3.1	2.5	32	0.8	1.6	1.3	C11
Hypopharynx	14	0.3	0.7	0.5	2	0.0	0.1	0.1	C12–C13
Pharynx unspec.	1	0.0	0.1	0.0	2	0.0	0.1	0.1	C14
Oesophagus	41	1.0	2.1	1.7	17	0.4	0.9	0.6	C15
Stomach	108	2.6	5.5	4.3	71	1.7	3.6	2.6	C16
Small intestine	2	0.0	0.1	0.1	8	0.2	0.4	0.3	C17
Colon	219	5.3	11.2	8.9	175	4.1	8.8	6.3	C18
Rectum	144	3.5	7.4	5.8	111	2.6	5.6	4.1	C19–C21
Liver	926	22.2	47.5	37.1	378	8.9	19	13.6	C22
Gallbladder etc.	77	1.8	4.0	3.1	84	2.0	4.2	3.1	C23–C24
Pancreas	48	1.2	2.5	1.9	57	1.3	2.9	2	C25
Nose, sinuses etc.	17	0.4	0.9	0.7	9	0.2	0.5	0.3	C30–C31
Larynx	43	1.0	2.2	1.8	16	0.4	0.8	0.6	C32
Bronchus, lung	1179	28.3	60.5	48.4	684	16.2	34.5	25.4	C33–C34
Other Thoracic organs	0	0.0	0.0	0.0	2	0.0	0.1	0.1	C37–C38
Bone	14	0.3	0.7	0.6	13	0.3	0.7	0.5	C40–C41
Connective tissue	20	0.5	1.0	0.8	21	0.5	1.1	1	C47;C49
Mesothelioma	1	0.0	0.1	0.0	1	0.0	0.1	0.1	C45
Kaposi's sarcoma	1	0.0	0.1	0.1	1	0.0	0.1	0.1	C46
Melanoma of skin	9	0.2	0.5	0.4	15	0.4	0.8	0.6	C43
Other skin	96	2.3	4.9	3.9	142	3.4	7.2	5	C44
Breast	5	0.1	0.3	0.2	751	17.8	37.8	27.5	C50
Uterus unspec.					0	0.0	0	0	C55
Cervix uteri					561	13.3	28.3	20.6	C53
Placenta					3	0.1	0.2	0.1	C58
Corpus uteri					82	1.9	4.1	3.1	C54
Ovary etc.					158	3.7	8	6.3	C56
Other female genital					27	0.6	1.4	1	C51–C52;C57
Prostate	155	3.7	8.0	6.1					C61
Testis	9	0.2	0.5	0.4					C62
Penis	26	0.6	1.3	1.0					C60
Other male genital	0	0.0	0.0	0.0					C63
Bladder	129	3.1	6.6	5.2	53	1.3	2.7	1.8	C67
Kidney etc.	68	1.6	3.5	2.8	30	0.7	1.5	1.1	C64–C66;C68
Eye	4	0.1	0.2	0.3	3	0.1	0.2	0.1	C69
Brain, nervous system	47	1.1	2.4	2.1	44	1.0	2.2	1.8	C70–C72
Thyroid	18	0.4	0.9	0.8	106	2.5	5.3	4.1	C73
Other endocrine	6	0.1	0.3	0.3	5	0.1	0.3	0.2	C74–C75
Hodgkin's disease	7	0.2	0.4	0.3	5	0.1	0.3	0.2	C81
Non–Hodgkin lymphoma	151	3.6	7.7	6.2	115	2.7	5.8	4.3	C82–C85;C96
Multiple myeloma	35	0.8	1.8	1.4	26	0.6	1.3	0.9	C88;C90
Lymphoid leukaemia	34	0.8	1.7	1.9	27	0.6	1.4	1.5	C91
Myeloid leukaemia	47	1.1	2.4	2.1	53	1.3	2.7	2.3	C92
Monocytic leukaemia	0	0.0	0.0	0.0	1	0.0	0.1	0	C93
Other leukaemia	0	0.0	0.0	0.0	0	0.0	0	0	C94
Leukaemia unspec.	32	0.8	1.6	1.6	23	0.5	1.2	0.9	C95
Other & unspecified	264	6.3	13.5	10.7	234	5.5	11.8	8.8	O&U
All sites	4168	100.0	213.9	170.5	4228	100.0	213	157.2	ALL

Table 13 : Number of New Cancers by Age Group (Male), Lampang, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	% TOTAL	ICD (10th)
Lip	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	0.1	C00
Tongue	38	0	0	0	0	0	0	0	0	1	4	5	7	2	5	5	2	7	0.9	C01-C02
Salivary gland	12	0	0	0	0	0	0	1	0	0	1	0	0	2	4	2	0	2	0.3	C07-C08
Mouth	37	0	0	0	0	0	0	0	2	0	4	1	2	2	3	5	12	6	0.9	C03-C06
Oropharynx	19	0	0	0	0	1	1	1	0	1	1	2	3	0	1	3	0	5	0.5	C09-C10
Nasopharynx	61	0	0	0	0	1	0	1	0	5	6	8	14	7	11	5	1	2	1.5	C11
Hypopharynx	14	0	0	0	0	0	0	0	0	0	1	3	2	1	1	1	2	3	0.3	C12-C13
Pharynx unspec.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	C14
Oesophagus	41	0	0	0	0	0	0	0	0	2	0	5	5	4	7	8	5	5	1.0	C15
Stomach	108	0	0	0	0	0	0	0	0	1	4	11	8	10	14	16	15	29	2.6	C16
Small intestine	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0.0	C17
Colon	219	0	0	0	0	0	2	5	0	11	9	19	30	17	20	35	33	38	5.3	C18
Rectum	144	0	0	0	0	0	1	0	0	2	6	12	14	12	19	21	22	35	3.5	C19-C21
Liver	926	0	0	0	0	0	1	10	8	29	60	122	134	112	104	123	91	132	22.2	C22
Gallbladder etc.	77	0	0	0	0	0	0	0	1	2	1	9	8	6	9	10	14	17	1.8	C23-C24
Pancreas	48	0	0	0	0	0	0	0	0	2	5	4	4	6	4	7	7	9	1.2	C25
Nose, sinuses etc.	17	0	0	0	0	0	0	0	0	0	0	4	1	3	4	1	2	2	0.4	C30-C31
Larynx	43	0	0	0	0	0	0	0	0	0	0	0	3	3	7	13	7	10	1.0	C32
Bronchus, lung	1179	0	1	0	0	1	2	0	6	11	28	60	97	128	144	234	242	225	28.3	C33-C34
Other Thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C37-C38
Bone	14	0	0	0	0	3	0	1	0	2	0	1	0	0	1	1	2	3	0.3	C40-C41
Connective tissue	20	0	0	0	1	1	0	1	0	2	0	2	2	4	2	0	1	4	0.5	C47;C49
Mesothelioma	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	C46
Melanoma of skin	9	0	0	0	0	0	0	0	0	0	2	1	0	0	1	1	3	1	0.2	C43
Other skin	96	0	0	0	0	0	1	0	1	1	5	7	7	10	18	11	11	24	2.3	C44
Breast	5	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	1	0	0.1	C50
Prostate	155	0	0	0	0	0	0	0	0	0	2	0	4	8	14	20	33	74	3.7	C61
Testis	9	0	0	0	0	1	1	2	0	2	0	2	1	0	0	0	0	0	0.2	C62
Penis	26	0	0	0	0	0	0	0	1	3	1	1	2	3	3	2	5	5	0.6	C60
Other male genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C63
Bladder	129	0	0	0	0	0	0	0	1	0	2	7	11	9	14	27	26	32	3.1	C67
Kidney etc.	68	0	1	0	0	0	0	0	1	0	1	10	8	9	4	14	11	9	1.6	C64-C66;C68
Eye	4	0	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.1	C69
Brain, nervous system	47	0	0	4	4	2	0	1	2	2	5	4	7	2	5	0	3	6	1.1	C70-C72
Thyroid	18	0	0	0	1	1	0	0	0	0	2	1	1	3	4	1	1	3	0.4	C73
Other endocrine	6	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0	1	0.1	C74-C75
Hodgkin's disease	7	0	0	0	0	1	0	1	0	1	0	1	1	1	0	0	1	0	0.2	C81
Non-Hodgkin lymphoma	151	0	0	1	0	4	4	2	5	8	13	9	19	17	10	18	20	21	3.6	C82-C85;C96
Multiple myeloma	35	0	0	0	0	0	0	0	0	2	3	2	2	7	1	7	4	7	0.8	C88;C90
Lymphoid leukaemia	34	0	3	7	2	5	2	0	0	1	1	1	2	4	1	1	2	2	0.8	C91
Myeloid leukaemia	47	0	1	0	2	2	1	1	0	3	2	3	6	2	5	4	6	9	1.1	C92
Monocytic leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C93
Other leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C94
Leukaemia unspec.	32	0	3	1	2	1	1	1	1	1	1	4	1	0	4	3	5	3	0.8	C95
Other & unspecified	264	0	0	0	0	1	0	2	3	8	13	23	34	40	33	37	32	38	6.3	
All sites	4168	0	11	13	12	26	18	30	32	104	186	345	442	435	478	641	624	771	100.0	

Table 14 : Number of New Cancers by Age Group (Female), Lampang, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	% TOTAL	ICD (10th)
Lip	7	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	2	0.2	C00
Tongue	22	0	0	0	0	0	0	0	1	1	1	4	1	2	3	2	5	2	0.5	C01-C02
Salivary gland	13	0	0	0	0	0	0	0	0	0	0	1	3	2	1	3	0	3	0.3	C07-C08
Mouth	33	0	0	0	0	0	0	0	1	0	1	3	5	1	2	8	4	8	0.8	C03-C06
Oropharynx	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0.1	C09-C10
Nasopharynx	32	0	0	0	0	1	2	2	1	1	2	6	2	1	2	4	6	2	0.8	C11
Hypopharynx	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.0	C12-C13
Pharynx unspec.	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.0	C14
Oesophagus	17	0	0	0	0	0	0	1	1	1	0	1	1	1	2	3	0	6	0.4	C15
Stomach	71	0	0	0	0	0	1	2	2	6	5	4	9	8	3	9	9	13	1.7	C16
Small intestine	8	0	0	0	0	0	0	0	0	0	1	2	1	0	0	2	0	2	0.2	C17
Colon	175	0	0	0	0	0	0	1	3	4	13	22	18	22	16	18	28	30	4.1	C18
Rectum	111	0	0	0	0	0	2	2	1	2	9	7	7	15	13	12	15	26	2.6	C19-C21
Liver	378	0	1	0	0	1	0	0	4	7	18	30	40	50	37	50	54	86	8.9	C22
Gallbladder etc.	84	0	0	0	0	0	0	0	0	1	0	0	6	6	14	18	15	24	2.0	C23-C24
Pancreas	57	0	0	0	0	0	0	0	0	0	1	5	9	6	5	10	7	14	1.3	C25
Nose, sinuses etc.	9	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	1	3	0.2	C30-C31
Larynx	16	0	0	0	0	0	1	1	0	0	0	0	0	1	2	2	5	4	0.4	C32
Bronchus, lung	684	0	0	0	0	0	1	3	6	9	24	29	51	74	99	133	132	123	16.2	C33-C34
Other Thoracic organs	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0.0	C37-C38
Bone	13	0	0	0	1	1	0	0	0	1	1	0	2	2	0	0	2	3	0.3	C40-C41
Connective tissue	21	0	2	1	0	0	0	0	2	5	0	1	1	3	2	1	2	1	0.5	C47;C49
Mesothelioma	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	C46
Melanoma of skin	15	0	0	0	0	0	0	1	0	1	1	0	1	3	1	3	0	4	0.4	C43
Other skin	142	0	0	0	2	0	1	0	3	1	4	7	12	13	13	19	23	44	3.4	C44
Breast	751	0	0	0	0	0	2	7	23	64	138	137	113	91	47	49	46	34	17.8	C50
Uterus unspec.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C55
Cervix uteri	561	0	0	0	0	0	4	3	29	67	104	94	79	53	46	28	26	28	13.3	C53
Placenta	3	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0.1	C58
Corpus uteri	82	0	0	0	1	0	0	1	3	1	6	11	18	16	10	6	5	4	1.9	C54
Ovary etc.	158	0	2	1	2	3	1	9	4	10	11	23	30	21	7	16	5	13	3.7	C56
Other female genital	27	0	0	0	0	0	0	0	0	0	1	4	3	0	6	6	3	4	0.6	C51-C52;C57
Bladder	53	0	0	0	0	0	0	0	0	0	0	2	1	6	5	4	13	22	1.3	C67
Kidney etc.	30	0	0	0	0	0	0	1	0	1	1	4	2	3	4	5	4	5	0.7	C64-C66;C68
Eye	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0.1	C69
Brain, nervous system	44	0	0	1	1	0	1	4	5	4	5	4	8	1	2	1	4	3	1.0	C70-C72
Thyroid	106	0	0	0	2	1	6	4	9	14	13	18	11	7	3	5	6	7	2.5	C73
Other endocrine	5	0	0	0	1	0	0	0	0	0	1	0	1	1	1	0	0	0	0.1	C74-C75
Hodgkin's disease	5	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	1	0	0.1	C81
Non-Hodgkin lymphoma	115	0	0	0	0	4	2	1	4	2	10	6	11	8	15	11	15	26	2.7	C82-C85;C96
Multiple myeloma	26	0	0	0	0	0	0	0	0	2	1	1	3	2	3	5	4	5	0.6	C88;C90
Lymphoid leukaemia	27	0	3	3	2	5	1	0	0	2	0	2	1	2	0	0	3	3	0.6	C91
Myeloid leukaemia	53	0	4	0	1	0	1	0	4	6	3	8	4	3	3	3	8	5	1.3	C92
Monocytic leukaemia	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.0	C93
Other leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C94
Leukaemia unspec.	23	0	0	0	0	0	1	3	1	0	3	5	2	0	0	2	2	4	0.5	C95
Other & unspecified	234	0	0	0	2	4	4	1	4	11	6	18	21	20	30	32	29	52	5.5	
All sites	4228	0	12	6	17	20	33	47	114	226	387	462	480	447	401	473	484	619	100.0	

Table 15 : Average Incidence per 100 000 by Age group (Male), Lampang, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.8	0.0	0.0	0.0	2.1	1.8	0.2	0.1	C00
Tongue	38	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	3.0	5.3	1.9	6.2	7.6	4.1	12.4	1.9	1.5	C01-C02
Salivary gland	12	0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	1.9	4.9	3.0	0.0	3.5	0.6	0.5	C07-C08
Mouth	37	0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.3	0.6	1.5	1.9	3.7	7.6	24.7	10.6	1.9	1.5	C03-C06
Oropharynx	19	0	0.0	0.0	0.0	0.7	0.8	0.8	0.0	0.6	0.6	1.2	2.3	-	1.2	4.5	0.0	8.8	1.0	0.8	C09-C10
Nasopharynx	61	0	0.0	0.0	0.0	0.7	0.0	0.8	0.0	3.1	3.4	4.8	10.6	6.8	13.6	7.6	2.1	3.5	3.1	2.5	C11
Hypopharynx	14	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8	1.5	1.0	1.2	1.5	4.1	5.3	0.7	0.5	C12-C13
Pharynx unspec.	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.1	0.0	C14
Oesophagus	41	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	3.0	3.8	3.9	8.6	12.1	10.3	8.8	2.1	1.7	C15
Stomach	108	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	6.6	6.1	9.7	17.2	24.3	30.8	51.2	5.5	4.3	C16
Small intestine	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.1	0.1	C17
Colon	219	0	0.0	0.0	0.0	0.0	1.5	3.8	0.0	6.7	5.1	11.4	22.7	16.6	24.6	53.1	67.9	67.1	11.2	8.9	C18
Rectum	144	0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.2	3.4	7.2	10.6	11.7	23.4	31.8	45.2	61.8	7.4	5.8	C19-C21
Liver	926	0	0.0	0.0	0.0	0.0	0.8	7.6	5.6	17.7	34.0	73.21	1.3	109.11	28.11	86.41	87.12	33.2	47.5	37.1	C22
Gallbladder etc.	77	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.2	0.6	5.4	6.1	5.8	11.1	15.2	28.8	30.0	4.0	3.1	C23-C24
Pancreas	48	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.8	2.4	3.0	5.8	4.9	10.6	14.4	15.9	2.5	1.9	C25
Nose, sinuses etc.	17	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.8	2.9	4.9	1.5	4.1	3.5	0.9	0.7	C30-C31
Larynx	43	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.9	8.6	19.7	14.4	17.7	2.2	1.8	C32
Bronchus, lung	1179	0	0.9	0.0	0.0	0.7	1.5	0.0	4.2	6.7	15.9	36.0	73.4	124.71	77.43	54.74	97.63	97.6	60.5	48.4	C33-C34
Other Thoracic organs	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C37-C38
Bone	14	0	0.0	0.0	0.0	2.0	0.0	0.8	0.0	1.2	0.0	0.6	0.0	0.0	1.2	1.5	4.1	5.3	0.7	0.6	C40-C41
Connective tissue	20	0	0.0	0.0	0.7	0.7	0.0	0.8	0.0	1.2	0.0	1.2	1.5	3.9	2.5	-	2.1	7.1	1.0	0.8	C47;C49
Mesothelioma	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	C45
Kaposi's sarcoma	1	0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C46
Melanoma of skin	9	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6	0.0	0.0	1.2	1.5	6.2	1.8	0.5	0.4	C43
Other skin	96	0	0.0	0.0	0.0	0.0	0.8	0.0	0.7	0.6	2.8	4.2	5.3	9.7	22.2	16.7	22.6	42.4	4.9	3.9	C44
Breast	5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	1.2	3.0	2.1	0.0	0.3	0.2	C50
Prostate	155	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	3.0	7.8	17.2	30.3	67.91	30.8	8.0	6.1	C61
Testis	9	0	0.0	0.0	0.0	0.7	0.8	1.5	0.0	1.2	0.0	1.2	0.8	0.0	0.0	0.0	0.0	0.0	0.5	0.4	C62
Penis	26	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.8	0.6	0.6	1.5	2.9	3.7	3.0	10.3	8.8	1.3	1.0	C60
Other male genital	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C63
Bladder	129	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.1	4.2	8.3	8.8	17.2	40.9	53.5	56.5	6.6	5.2	C67
Kidney etc.	68	0	0.9	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	6.0	6.1	8.8	4.9	21.2	22.6	15.9	3.5	2.8	C64-C66;C68
Eye	4	0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	C69
Brain, nervous system	47	0	0.0	2.8	2.8	1.3	0.0	0.8	1.4	1.2	2.8	2.4	5.3	1.9	6.2	0.0	6.2	10.6	2.4	2.1	C70-C72
Thyroid	18	0	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	1.1	0.6	0.8	2.9	4.9	1.5	2.1	5.3	0.9	0.8	C73
Other endocrine	6	0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	4.5	0.0	1.8	0.3	0.3	C74-C75
Hodgkin's disease	7	0	0.0	0.0	0.0	0.7	0.0	0.8	0.0	0.6	0.0	0.6	0.8	1.0	0.0	0.0	2.1	0.0	0.4	0.3	C81
Non-Hodgkin lymphoma	151	0	0.0	0.7	0.0	2.7	3.1	1.5	3.5	4.9	7.4	5.4	14.4	16.6	12.3	27.3	41.1	37.1	7.7	6.2	C82-C85;C96
Multiple myeloma	35	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.7	1.2	1.5	6.8	1.2	10.6	8.2	12.4	1.8	1.4	C88;C90
Lymphoid leukaemia	34	0	2.6	4.8	1.4	3.4	1.5	0.0	0.0	0.6	0.6	0.6	1.5	3.9	1.2	1.5	4.1	3.5	1.7	1.9	C91
Myeloid leukaemia	47	0	0.9	0.0	1.4	1.3	0.8	0.8	0.0	1.8	1.1	1.8	4.5	1.9	6.2	6.1	12.3	15.9	2.4	2.1	C92
Monocytic leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C93
Other leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C94
Leukaemia unspec.	32	0	2.6	0.7	1.4	0.7	0.8	0.8	0.7	0.6	0.6	2.4	0.8	0.0	4.9	4.5	10.3	5.3	1.6	1.6	C95
Other & unspecified	264	0	0.0	0.0	0.0	0.7	0.0	1.5	2.1	4.9	7.4	13.8	25.7	39.0	40.7	56.1	65.8	67.1	13.5	10.7	
All sites	4168	0	10.0	9.0	8.0	18.0	14.0	23.0	22.0	64.0	105.0	207.0	334.0	424.0	589.0	972.0	1283.0	1362.0	213.9	170.5	

Table 16 : Average Incidence per 100 000 by Age group (Female), Lampang, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.0	0.0	0.8	0.0	1.2	0.0	1.7	2.6	0.4	0.2	C00
Tongue	22	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.5	2.4	0.8	1.9	3.5	2.8	8.7	2.6	1.1	0.8	C01-C02
Salivary gland	13	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	1.9	1.2	4.2	0.0	4.0	0.7	0.5	C07-C08
Mouth	33	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.5	1.8	3.8	1.0	2.4	11.1	7.0	10.5	1.7	1.2	C03-C06
Oropharynx	5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.2	0.0	0.0	4.0	0.3	0.2	C09-C10
Nasopharynx	32	0	0.0	0.0	0.0	0.7	1.6	1.5	0.7	0.6	1.1	3.5	1.5	1.0	2.4	5.6	10.5	2.6	1.6	1.3	C11
Hypopharynx	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.4	0.0	0.0	0.1	0.1	C12-C13
Pharynx unspec.	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.3	0.1	0.1	C14
Oesophagus	17	0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.6	0.0	0.6	0.8	1.0	2.4	4.2	0.0	7.9	0.9	0.6	C15
Stomach	71	0	0.0	0.0	0.0	0.0	0.8	1.5	1.3	3.5	2.7	2.4	6.8	7.6	3.5	12.5	15.7	17.1	3.6	2.6	C16
Small intestine	8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.2	0.8	0.0	0.0	2.8	0.0	2.6	0.4	0.3	C17
Colon	175	0	0.0	0.0	0.0	0.0	0.0	0.7	2.0	2.3	7.0	13.0	13.5	21.0	18.9	25.0	48.8	39.5	8.8	6.3	C18
Rectum	111	0	0.0	0.0	0.0	0.0	1.6	1.5	0.7	1.2	4.8	4.1	5.3	14.3	15.4	16.7	26.1	34.2	5.6	4.1	C19-C21
Liver	378	0	0.9	0.0	0.0	0.7	0.0	0.0	2.6	4.1	9.7	17.7	30.0	47.7	43.7	69.5	94.1 1	13.3	19.0	13.6	C22
Gallbladder etc.	84	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	4.5	5.7	16.6	25.0	26.1	31.6	4.2	3.1	C23-C24
Pancreas	57	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.9	6.8	5.7	5.9	13.9	12.2	18.4	2.9	2.0	C25
Nose, sinuses etc.	9	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.0	1.9	0.0	1.4	1.7	4.0	0.5	0.3	C30-C31
Larynx	16	0	0.0	0.0	0.0	0.0	0.8	0.7	0.0	0.0	0.0	0.0	0.0	1.0	2.4	2.8	8.7	5.3	0.8	0.6	C32
Bronchus, lung	684	0	0.0	0.0	0.0	0.0	0.8	2.2	3.9	5.2	12.9	17.1	38.3	70.61	17.01	85.02	29.91	62.0	34.5	25.4	C33-C34
Other Thoracic organs	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.4	0.0	0.0	0.1	0.1	C37-C38
Bone	13	0	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.6	0.5	0.0	1.5	1.9	0.0	0.0	3.5	4.0	0.7	0.5	C40-C41
Connective tissue	21	0	1.9	0.7	0.0	0.0	0.0	0.0	1.3	2.9	0.0	0.6	0.8	2.9	2.4	1.4	3.5	1.3	1.1	1.0	C47;C49
Mesothelioma	1	0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C45
Kaposi's sarcoma	1	0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C46
Melanoma of skin	15	0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	0.5	0.0	0.8	2.9	1.2	4.2	0.0	5.3	0.8	0.6	C43
Other skin	142	0	0.0	0.0	1.5	0.0	0.8	0.0	2.0	0.6	2.2	4.1	9.0	12.4	15.4	26.4	40.1	57.9	7.2	5.0	C44
Breast	751	0	0.0	0.0	0.0	0.0	1.6	5.1	15.1	37.2	74.3	80.7	84.8	86.8	55.6	68.1	80.1	44.8	37.8	27.5	C50
Uterus unspec.	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C55
Cervix uteri	561	0	0.0	0.0	0.0	0.0	3.3	2.2	19.1	38.9	56.0	55.3	59.3	50.5	54.4	38.9	45.3	36.9	28.3	20.6	C53
Placenta	3	0	0.0	0.0	0.0	0.0	0.8	0.0	0.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	C58
Corpus uteri	82	0	0.0	0.0	0.7	0.0	0.0	0.7	2.0	0.6	3.2	6.5	13.5	15.3	11.8	8.3	8.7	5.3	4.1	3.1	C54
Ovary etc.	158	0	1.9	0.7	1.5	2.1	0.8	6.6	2.6	5.8	5.9	13.5	22.5	20.0	8.3	22.2	8.7	17.1	8.0	6.3	C56
Other female genital	27	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.4	2.3	0.0	7.1	8.3	5.2	5.3	1.4	1.0	C51-C52;C57
Bladder	53	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.8	5.7	5.9	5.6	22.6	29.0	2.7	1.8	C67
Kidney etc.	30	0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	0.5	2.4	1.5	2.9	4.7	7.0	7.0	6.6	1.5	1.1	C64-C66;C68
Eye	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.2	0.1	C69
Brain, nervous system	44	0	0.0	0.7	0.7	0.0	0.8	2.9	3.3	2.3	2.7	2.4	6.0	1.0	2.4	1.4	7.0	4.0	2.2	1.8	C70-C72
Thyroid	106	0	0.0	0.0	1.5	0.7	4.9	2.9	5.9	8.1	7.0	10.6	8.3	6.7	3.5	7.0	10.5	9.2	5.3	4.1	C73
Other endocrine	5	0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.8	1.0	1.2	0.0	0.0	0.0	0.3	0.2	C74-C75
Hodgkin's disease	5	0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.0	1.2	0.0	1.7	0.0	0.3	0.2	C81
Non-Hodgkin lymphoma	115	0	0.0	0.0	0.0	2.8	1.6	0.7	2.6	1.2	5.4	3.5	8.3	7.6	17.7	15.3	26.1	34.2	5.8	4.3	C82-C85;C96
Multiple myeloma	26	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.5	0.6	2.3	1.9	3.5	7.0	7.0	6.6	1.3	0.9	C88;C90
Lymphoid leukaemia	27	0	2.8	2.2	1.5	3.6	0.8	0.0	0.0	1.2	0.0	1.2	0.8	1.9	0.0	0.0	5.2	4.0	1.4	1.5	C91
Myeloid leukaemia	53	0	3.7	0.0	0.7	0.0	0.8	0.0	2.6	3.5	1.6	4.7	3.0	2.9	3.5	4.2	13.9	6.6	2.7	2.3	C92
Monocytic leukaemia	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	C93
Other leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C94
Leukaemia unspec.	23	0	0.0	0.0	0.0	0.0	0.8	2.2	0.7	0.0	1.6	2.9	1.5	0.0	0.0	2.8	3.5	5.3	1.2	0.9	C95
Other & unspecified	234	0	0.0	0.0	1.5	2.8	3.3	0.7	2.6	6.4	3.2	10.6	15.8	19.1	35.5	44.5	50.5	68.5	11.8	8.8	
All sit	4228	0	11.0	4.0	13.0	14.0	27.0	34.0	75.0	131.0	208.0	272.0	360.0	426.0	474.0	658.0	843.0	815.0	213.0	157.2	

APPENDIX C

Cancer Incidence in Lamphun Thailand, 2003-2007

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APPENDIX C

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Background

Lamphun is the old city about 1,339 years old and the smallest province in the north of Thailand with the land area of 4,505.88 square kilometers, Lamphun is located between 17.5°–18.5° N and 98°–99.3° E, 200–400 meters above sea level. It is situated between Chiang Mai and Lampang. It has common boundary with Chiang Mai in the north and west, Lampang in the east, Tak and Lampang in the south. Lamphun was divided into 7 Districts and 1 Sub District. The districts of Lamphun were Muang Lamphun, Mae Ta, Ban Hong, Lee, Tung Hou Chang, Pha sang, Ban Ti and Wieng Nong Long Sub District (Figure 14). The average population density is about 88.9 persons per square kilometer (National Statistics: Lampang, 2008).

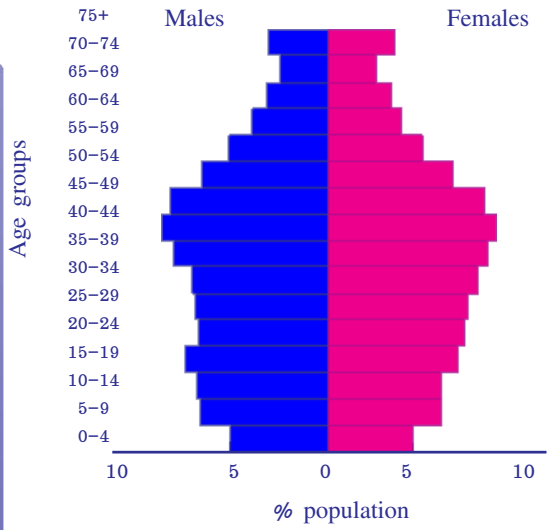
The most important occupations are farming of rice, garlic, longan and vegetables. Weaving, wood furniture, wood-carving and handicrafts are the main home industries. Industrial Estate Authority of Northern Thailand is situated in this province. In Lamphun province, there are 884 factories, 64 in the Industrial Estate Authority and 820 out of the region (Lamphun Provincial Industrial Office, 2006). For important behavior risks of population in lamphun; smoking was 20.0 % and alcohol consumption was 39.5 % in both sexes (National Statistics Office, Thailand, 2005).

The total population at 2000 census was 411,231 with 201,868 males and 209,363 females. The population dominators used for the calculation of average incidence rate estimated from extra-census projection population at 2005 was 402,646 with 195,822 males and 206,824 female's population (Figure 15).

Figure 14. *Map of Lamphun province, Thailand*

Figure 15. *Population of Lamphun (estimated population, 2005)*

Age	Male	Female
0–4	10,294	9,735
5–9	13,642	12,919
10–14	13,857	12,873
15–19	15,250	14,813
20–24	13,728	15,501
25–29	14,167	15,779
30–34	14,424	16,902
35–39	16,504	18,142
40–44	17,684	19,136
45–49	16,661	17,694
50–54	13,441	14,135
55–59	10,391	10,684
60–64	8,005	8,258
65–69	6,544	7,126
70–74	5,085	5,523
75+	6,145	7,604
Total	195,822	206,824



Medical services

The total number of hospitals in Lamphun province was 10 hospitals composed of 6 community hospitals, 3 private hospitals and 1 provincial hospital. Cancer diagnostic services: X-ray and ultrasound are available in Lamphun province. Cancer radiotherapy equipments and pathologist are not available, only cancer surgery can be performed in the province. Most of cancer patients were referred to Chiang Mai provincial hospital or to Chiang Mai University hospital which providing clinical consultations, radiological and pathological investigations for cancer diagnosis including cancer surgery services, radiotherapy and chemotherapy for cancer treatment. All hospitals in the province provide palliative care. The ratio of doctors to population is 1:4,267. The ratio between registered nurses to population is 1:627 (Ministry of public Health, 2007).

Registry structure and methods

Population-based cancer registration of Lamphun province was established by Cancer Registry Unit of Lampang Cancer Center in 2004 with the back-up cancer data since 1983 to 1994 of all cancer cases in Lamphun province, which was collected by Dr. Nimit Martin, the expert consultant.

All data on cancer patients were collected by passive methods involving notification by the staff of Lamphun provincial hospital, 3 private hospitals, 6 community hospitals under supervision of Lamphun Provincial Public Health Service and including data from Cancer Registry Unit of Maharaj Nakorn Chiang Mai University Hospital. New cancer cases were collected from out and in patient departments, radiotherapy unit, surgery unit, cytology unit, hematology unit, medical record, pathological unit and autopsy service. The data information collected includes demographic details for each cancer patient that consists of registry number, name, residential address, date of birth, age, sex, date of diagnosis, site of cancer, histology of cancer, staging, extension of disease, method of diagnosis, treatment, date of last contact and vital status of cancer patients. In addition, all death certificates are matched with the incidence case records of the registry which obtained from Bureau of Policy and Strategy, Ministry of Public Health. The follow-up of all registered cases were carried out by passive methods with linking database of National Health Security office.

The primary site and histology were coded according to ICD-O third edition (Fritz et al., 2000). Second primary cancer was also registered; a new registration number was given for each new primary cancer. The completed data forms were checked manually, and entered into the database file in a personal computer at Cancer Registry Unit of Lampang cancer Center, using Canreg 3 software for data entry and analysis. Cases of carcinoma in situ were registered but not included in the analysis.

Results

Cancer incidence in Lamphun

Among Lamphun residents, during the period of 2003-2007, the total number of new cancers was 4015 cases (1,786 in males and 2,229 in females) with sex ratio of new cancer in males and females approximately 1:1.2. The number of new cancer in each year varied from 329 to 403 cases among males and from 397 to 480 among females. The age-standardized incidence rate in each year varied from 135.0 to 161.4 among males and from 147.3 to 173.3 among females. The average age-standardized incidence rate was 144.7 among males and 163.8 among females (Table 17).

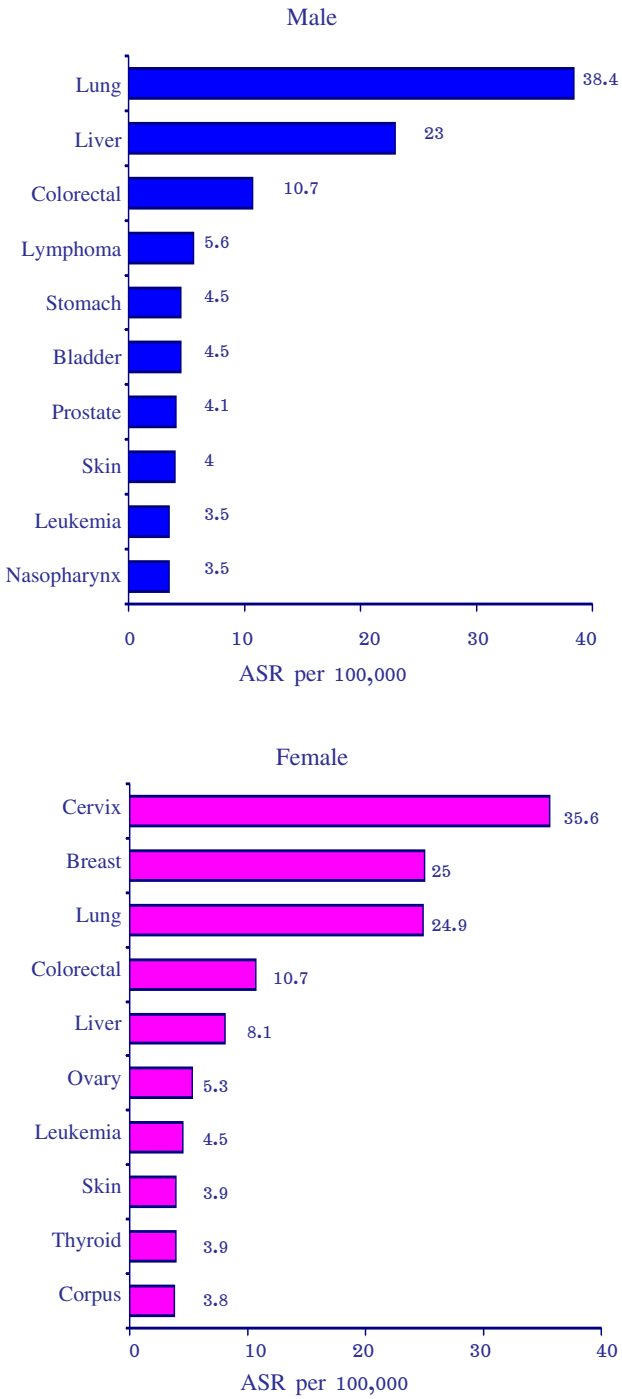
Table 17 *Number of cancer cases and ASR in Lamphun, Thailand, 2003-2007*

Year	Male		Female	
	Number of new cancer cases	ASR	Number of new cancer cases	ASR
2003	329	135.7	416	157.7
2004	359	145.0	457	173.3
2005	353	144.9	397	147.3
2006	342	135.0	479	170.5
2007	403	161.4	480	168.7
Total	1,786	144.7	2,229	163.8

Leading Cancers in Lamphun

In Lamphun province, Lung cancer was the most common cancer in males followed by liver cancer and colorectal cancer. In females the most common cancer was cervix cancer followed by breast cancer and lung cancer (Figure 16).

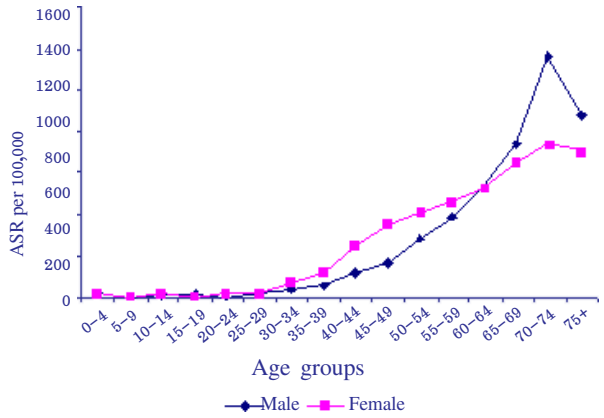
Figure 16 Leading cancer incidence in Lamphun, Thailand, 2003-2007



Age-Specific Rate

Age-specific rates of all cancers showed higher incidence rate of cancer among females than males during the age of 30-60 while higher incidence among males after the age of 60 (Figure 17).

Figure 17 *Age-specific rates of all cancers in Lamphun, Thailand, 2003-2007*



Cancer by Age Group

Cancer varied according to age (Figure 18 & 19). During the age 0-14, leukemia, brain cancer and lymphoma were the most common cancers in boys, whereas leukemia, brain and kidney cancer were the most common cancers in girls.

During the age 15-24, testis, nasopharynx and brain cancer were the most common cancers in males while ovary, thyroid and brain cancer were the most common cancer among females.

In young adult (age 25-59), cancers of liver, lung and colorectal were the most common cancers among males while cervix, breast and lung cancers were the most common cancer among females.

For older age groups (age 60-74), the most common cancers were lung, liver and colorectal cancer among males while lung, cervix and breast cancer were the most common cancers among females.

The age over 75, cancer of lung, liver and colorectal were the most common cancers among males while cancer of lung, breast and skin were the most common among females.

Figure 18 *Leading cancer site by age (male), Lamphun, Thailand, 2003-2007*

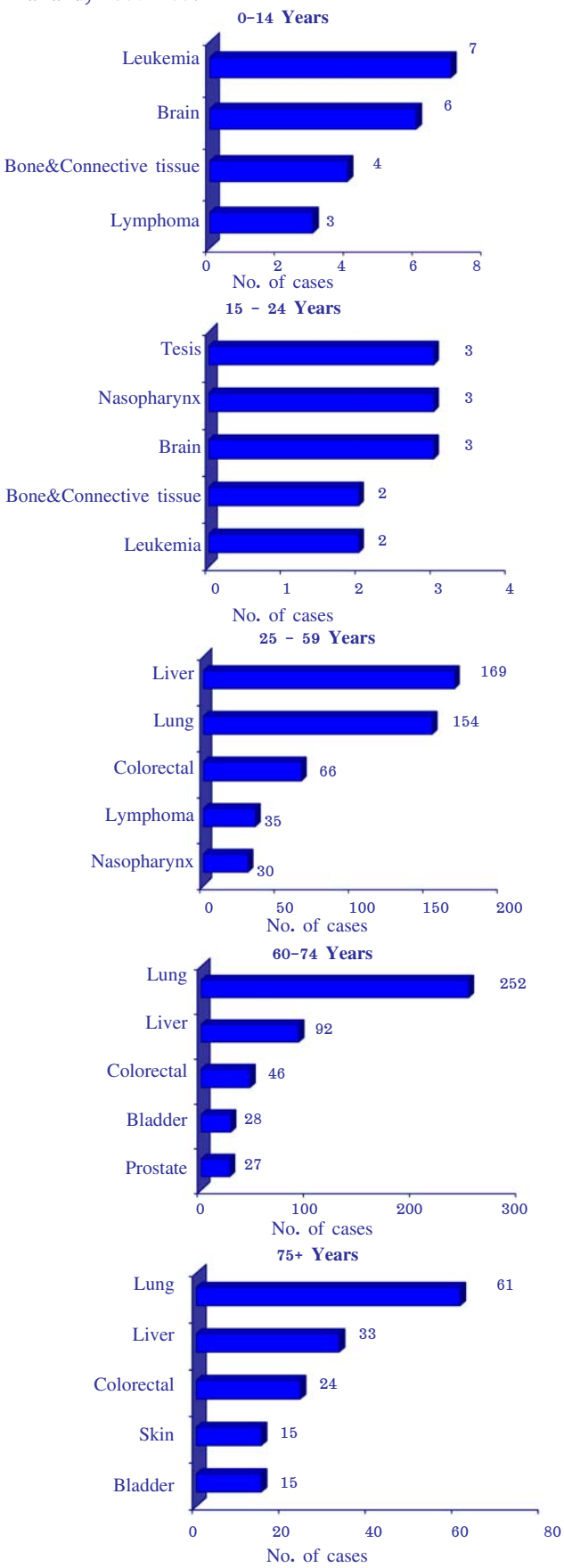
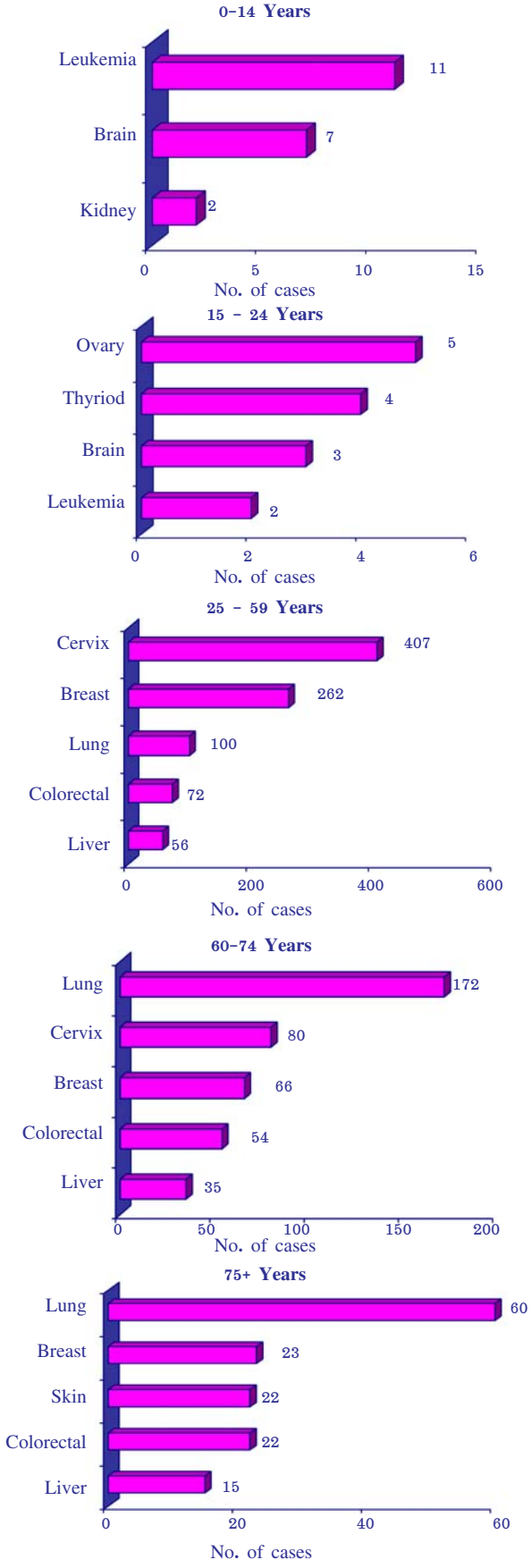


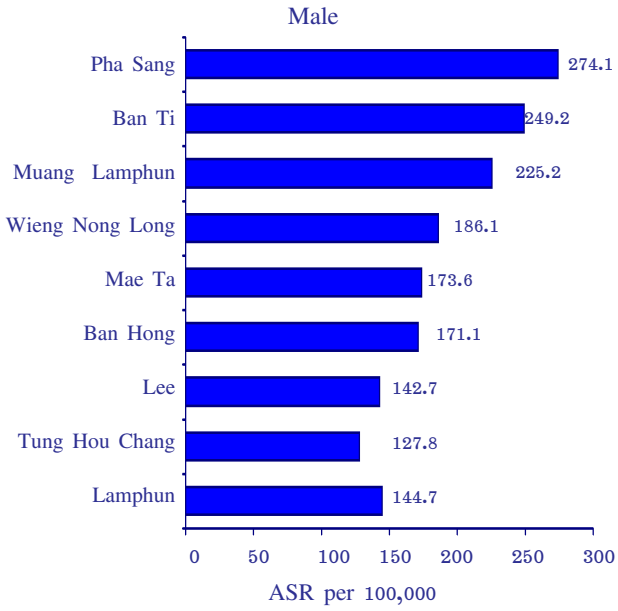
Figure 19 *Leading cancer site by age (female), Lamphun, Thailand, 2003-2007*

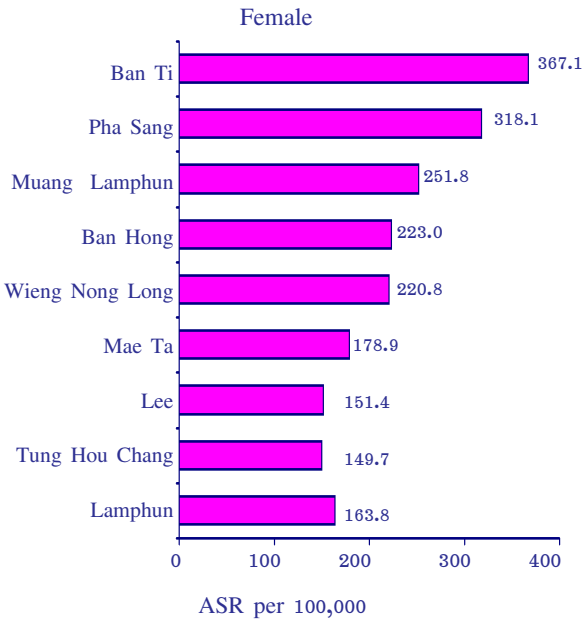


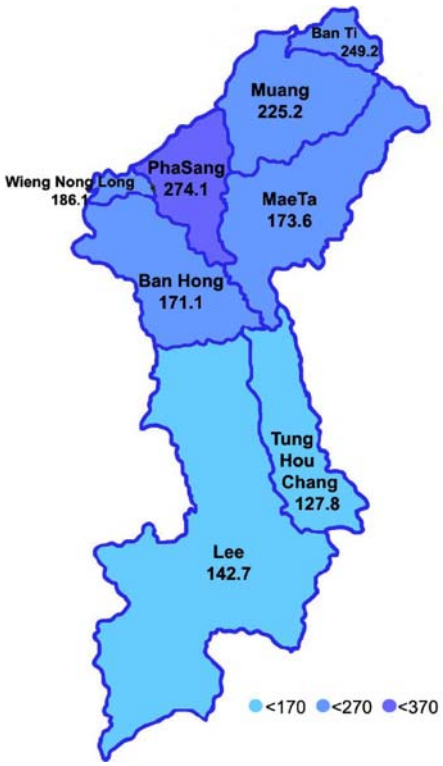
Geographic Distribution

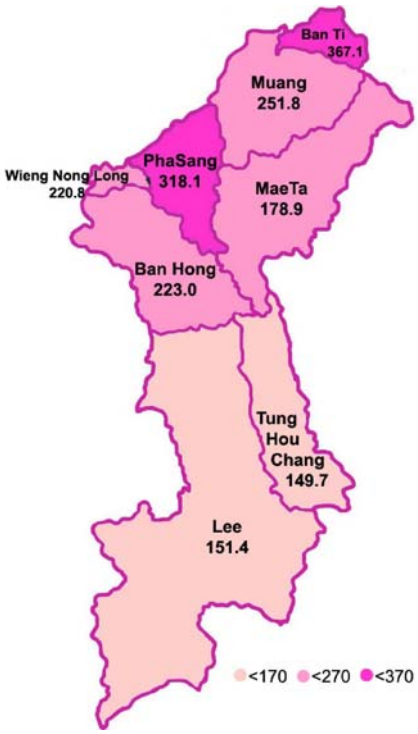
The highest incidence of all cancer sites in Lamphun was founded in Pha Sang District among males (ASR=274.1 per 100 000 person) and in Ban Ti District among females (ASR =367.1 per 100 000 person). The lowest incidence rates was founded in Tung Hou Chang District both sexes with ARS 127.8 per 100 000 person among males and ASR 149.7 per 100 000 person among females (Figure 20).

Figure 20 *Geographic distribution by districts in Lamphun, Thailand, 2003–2007*









Data quality

The average percentage of Histological Verified was 57.6 %. Male was lower than females (46.9% and 66.2% respectively). Cancer sites with Histology Verified over 90 % found in nasopharynx cancer, skin cancer, penis cancer, lymphoma and leukeamia but Histology Verified under 50 % found in liver cancer, lung cancer and brain cancer. The average percentage of death certificate only was 17.7% in both sexes, 23.6% among males and 12.9% in females (Table 18). It is indicated data quality of Lamphun province was not good enough and need further improvement. The mortality incidence ratio percentage was higher in males (70.8%) than in females (48.0%).The mortality incidence ratio by site and sex are shown in table 19.

Table 18 Percentage of Histology Verified and Death Certificate Only by sex and sites, Lamphun, Thailand, 2003-2007

Cancer sites	Male			Female			Total		
	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO
Oral cavity	38	84.2	0	30	90	0	68	86.8	0
Nasopharynx	43	93	0	19	89.5	5.3	62	91.9	1.6
Pharynx unspec.	21	85.7	0	9	77.8	0	30	83.3	0
Oesophagus	14	50	21.4	14	50	14.3	28	50	17.9
Stomach	57	52.6	17.5	41	68.3	12.2	98	59.2	15.3
Colon and Rectum	136	72.8	5.9	146	76	4.1	282	74.5	5
Liver and Gallbladder etc	317	12.3	32.8	130	20.8	28.5	447	14.8	31.5
Larynx	27	66.7	3.7	6	83.3	16.7	33	69.7	6.1
Bronchus, lung	469	40.9	21.5	333	36.6	21.3	802	39.2	21.4
Skin and melanoma	52	88.5	1.9	60	95	0	112	92	0.9
Breast	9	88.9	0	352	88.1	2.3	361	88.1	2.2
Cervix uteri				500	84.6	0.8	500	84.6	0.8
ovary				70	71.4	0	70	71.4	0
Penis	16	93.8	0				16	93.8	0
Prostate	54	57.4	11.1				54	57.4	11.1
Kidney etc.	22	72.7	4.5	11	45.5	18.2	33	63.6	9.1
Urinary tract	68	82.4	5.9	20	80	0	88	81.8	4.5
Brain, nervous system	39	35.9	25.6	36	41.7	38.9	75	38.7	32
Thyroid	6	66.7	16.7	52	82.7	1.9	58	81	3.4
Lymphoma	63	100	0	46	100	0	109	100	0
Leukaemia	34	100	0	44	100	0	78	100	0
Other & unspecified	301	24.9	57.1	310	37.1	43.9	611	31.1	50.4
All sites	1,786	46.9	23.6	2,229	66.2	12.9	4,015	57.6	17.7

Table 19 *Percentage of mortality incidence ratio by sex and sites, Lamphun, Thailand, 2003–2007*

Cancer sites	Male			Female			Total		
	New	Death	M/I	New	Death	M/I	New	Death	M/I
Oral cavity	38	17	44.7	30	20	66.7	68	37	54.4
Nasopharynx	43	32	74.4	19	10	52.6	62	42	67.7
Pharynx unspec.	21	14	66.7	9	5	55.6	30	19	63.3
Oesophagus	14	8	57.1	14	9	64.3	28	17	60.7
Stomach	57	49	86	41	38	92.7	98	87	88.8
Colon and Rectum	136	70	51.5	146	60	41.1	282	130	46.1
Liver and Gallbladder etc	317	269	84.9	130	97	74.6	447	366	81.9
Larynx	27	15	55.6	6	4	66.7	33	19	57.6
Bronchus, lung	469	371	79.1	333	248	74.5	802	619	77.2
Skin and melanoma	52	15	28.8	60	13	21.7	112	28	25
Breast	9	1	11.1	352	118	33.5	361	119	33
Cervix uteri				500	129	25.8	500	129	25.8
ovary				70	16	22.9	70	16	22.9
Penis	16	3	18.8				16	3	18.8
Prostate	54	23	42.6				54	23	42.6
Kidney etc.	22	14	63.6	11	5	45.5	33	19	57.6
Urinary tract	68	27	39.7	20	10	50	88	37	42
Brain, nervous system	39	32	82.1	36	25	69.4	75	57	76
Thyroid	6	6	100	52	9	17.3	58	15	25.9
Lymphoma	63	33	52.4	46	26	56.5	109	59	54.1
Leukaemia	34	22	64.7	44	25	56.8	78	47	60.3
Other & unspecified	301	244	81.1	310	204	65.8	611	448	73.3
All sites	1,786	1,265	70.8	2,229	1,071	48.0	4,015	2,336	58.2

Table 20 *Average age – standardized incidence rate, Lamphun, 2003–2007*

CANCER / SITE	Male				Female				ICD (10th)
	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	
Lip	2	0.1	0.2	0.2	5	0.2	0.5	0.4	C00
Tongue	14	0.8	1.4	1.1	6	0.3	0.6	0.4	C01–C02
Salivary gland	3	0.2	0.3	0.3	3	0.1	0.3	0.2	C07–C08
Mouth	19	1.1	1.9	1.5	16	0.7	1.5	1.1	C03–C06
Oropharynx	8	0.4	0.8	0.6	5	0.2	0.5	0.3	C09–C10
Nasopharynx	43	2.4	4.4	3.5	19	0.9	1.8	1.3	C11
Hypopharynx	12	0.7	1.2	1	3	0.1	0.3	0.2	C12–C13
Pharynx unspec.	1	0.1	0.1	0.1	1	0.0	0.1	0.1	C14
Oesophagus	14	0.8	1.4	1.2	14	0.6	1.4	1	C15
Stomach	57	3.2	5.8	4.5	41	1.8	4	2.8	C16
Small intestine	1	0.1	0.1	0.1	1	0.0	0.1	0.1	C17
Colon	81	4.5	8.3	6.3	98	4.4	9.5	7.1	C18
Rectum	56	3.1	5.7	4.4	50	2.2	4.8	3.6	C19–C21
Liver	295	16.5	30.1	23	108	4.8	10.4	8.1	C22
Gallbladder etc.	22	1.2	2.2	1.7	22	1.0	2.1	1.5	C23–C24
Pancreas	27	1.5	2.8	2.2	16	0.7	1.5	1.2	C25
Nose, sinuses etc.	8	0.4	0.8	0.7	7	0.3	0.7	0.5	C30–C31
Larynx	27	1.5	2.8	2.1	6	0.3	0.6	0.4	C32
Bronchus, lung	470	26.3	48	38.5	333	14.9	32.2	24.9	C33–C34
Other Thoracic organs	3	0.2	0.3	0.3	2	0.1	0.2	0.1	C37–C38
Bone	10	0.6	1	1.1	7	0.3	0.7	0.6	C40–C41
Connective tissue	13	0.7	1.3	1.3	8	0.4	0.8	0.7	C47;C49
Mesothelioma	0	0	0	0	0	0.0	0	0	C45
Kaposi's sarcoma	0	0	0	0	1	0.0	0.1	0.1	C46
Melanoma of skin	6	0.3	0.6	0.5	15	0.7	1.5	1.1	C43
Other skin	46	2.6	4.7	3.5	45	2.0	4.4	2.8	C44
Breast	9	0.5	0.9	0.7	352	15.8	34	25	C50
Uterus unspec.					1	0.0	0.1	0.1	C55
Cervix uteri					500	22.4	48.4	35.6	C53
Placenta					3	0.1	0.3	0.2	C58
Corpus uteri					53	2.4	5.1	3.8	C54
Ovary etc.					70	3.1	6.8	5.3	C56
Other female genital					9	0.4	0.9	0.6	C51–C52;C57
Prostate	54	3	5.5	4.1					C61
Testis	12	0.7	1.2	1					C62
Penis	16	0.9	1.6	1.2					C60
Other male genital	2	0.1	0.2	0.2					C63
Bladder	57	3.2	5.8	4.5	17	0.8	1.6	1.2	C67
Kidney etc.	33	1.8	3.4	2.5	15	0.7	1.5	1.3	C64–C66;C68
Eye	1	0.1	0.1	0.1	0	0.0	0	0	C69
Brain, nervous system	40	2.2	4.1	3.6	38	1.6	3.7	3.6	C70–C72
Thyroid	6	0.3	0.6	0.5	52	2.3	5	3.9	C73
Other endocrine	0	0	0	0	2	0.1	0.2	0.2	C74–C75
Hodgkin's disease	3	0.2	0.3	0.5	0	0.0	0	0	C81
Non–Hodgkin lymphoma	60	3.4	6.1	5.1	46	2.1	4.4	3.4	C82–C85;C96
Multiple myeloma	12	0.7	1.2	1	5	0.2	0.5	0.4	C88;C90
Lymphoid leukaemia	6	0.3	0.6	0.8	11	0.5	1.1	1.7	C91
Myeloid leukaemia	11	0.6	1.1	0.9	21	0.9	2	1.6	C92
Monocytic leukaemia	0	0	0	0	1	0.0	0.1	0.1	C93
Other leukaemia	0	0	0	0	0	0.0	0	0	C94
Leukaemia unspec.	17	1	1.7	1.8	11	0.5	1.1	1.1	C95
Other & unspecified	209	11.8	21.3	16.8	190	8.6	18.4	14.1	O&U
All sites	1786	100.0	182.4	144.7	2229	100.0	215.6	163.8	ALL

Table 21 *Number of New Cancers by Age Group (Male), Lamphun, 2003–2007*

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1	C00
Tongue	14	0	0	0	0	0	0	0	0	0	1	2	1	0	2	2	2	4	0.8	C01–C02
Salivary gland	3	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0.2	C07–C08
Mouth	19	0	0	0	0	0	0	0	0	0	2	1	1	1	3	1	6	4	1.1	C03–C06
Oropharynx	8	0	0	0	0	0	0	0	0	1	2	0	2	0	1	0	0	2	0.4	C09–C10
Nasopharynx	43	0	0	0	0	3	0	1	1	2	5	6	6	9	5	2	2	1	2.4	C11
Hypopharynx	12	0	0	0	0	0	0	0	0	0	0	1	1	2	1	3	2	2	0.7	C12–C13
Pharynx unspec.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C14
Oesophagus	14	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5	2	2	0.8	C15
Stomach	57	0	0	0	0	0	0	0	1	2	3	3	7	6	5	11	9	10	3.2	C16
Small intestine	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	C17
Colon	81	0	0	0	0	0	1	0	0	2	13	9	5	7	7	11	11	15	4.5	C18
Rectum	56	0	0	0	0	0	0	1	1	1	4	8	10	5	6	5	6	9	3.1	C19–C21
Liver	295	0	0	0	0	1	0	2	11	14	32	36	34	40	24	31	37	33	16.5	C22
Gallbladder etc.	22	0	0	0	0	0	0	0	1	1	0	1	2	1	3	2	4	7	1.2	C23–C24
Pancreas	27	0	0	0	0	0	0	0	1	0	1	1	4	4	3	4	6	3	1.5	C25
Nose, sinuses etc.	8	0	0	0	0	0	0	0	0	0	0	0	3	0	1	1	3	0	0.4	C30–C31
Larynx	27	0	0	0	0	0	0	0	0	1	0	1	5	2	3	4	6	5	1.5	C32
Bronchus, lung	470	0	0	1	1	0	1	2	4	6	8	21	55	58	78	79	95	61	26.3	C33–C34
Other Thoracic organs	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0.2	C37–C38
Bone	10	0	1	0	1	1	0	0	0	0	0	1	1	1	1	1	2	0	0.6	C40–C41
Connective tissue	13	0	1	0	1	1	0	0	0	0	0	1	2	2	2	1	2	0	0.7	C47;C49
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C46
Melanoma of skin	6	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1	1	0.3	C43
Other skin	46	0	0	0	0	0	1	0	1	0	2	4	2	5	4	4	9	14	2.6	C44
Breast	9	0	0	0	0	0	0	0	0	0	0	2	2	2	1	1	0	1	0.5	C50
Prostate	54	0	0	0	0	0	0	0	0	0	0	0	1	3	3	10	14	23	3.0	C61
Testis	12	0	0	0	0	1	2	0	1	2	1	2	0	0	1	0	0	2	0.7	C62
Penis	16	0	0	0	0	0	0	1	0	2	7	0	1	0	1	0	3	1	0.9	C60
Other male genital	2	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	C63
Bladder	57	0	0	0	0	0	0	0	0	1	0	4	4	5	6	9	13	15	3.2	C67
Kidney etc.	33	0	0	0	0	0	0	0	0	0	1	4	5	7	1	4	5	6	1.8	C64–C66;C68
Eye	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C69
Brain, nervous system	40	0	1	1	4	2	1	1	1	1	6	4	5	6	1	2	1	3	2.2	C70–C72
Thyroid	6	0	0	0	0	0	0	0	0	0	0	1	1	0	4	0	0	0	0.3	C73
Other endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C74–C75
Hodgkin's disease	3	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	C81
Non–Hodgkin lymphoma	60	0	1	1	0	0	0	3	1	2	4	6	9	9	4	10	7	3	3.4	C82–C85;C96
Multiple myeloma	12	0	0	0	1	0	0	0	0	0	0	1	2	3	1	1	2	1	0.7	C88;C90
Lymphoid leukaemia	6	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0.3	C91
Myeloid leukaemia	11	0	0	0	0	1	0	0	1	0	1	1	2	2	1	1	0	1	0.6	C92
Monocytic leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C93
Other leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C94
Leukaemia unspec.	17	0	3	1	0	0	0	0	0	0	0	1	2	1	1	2	2	4	1.0	C95
Other & unspecified	209	0	0	0	0	0	0	2	4	7	8	18	14	18	31	33	39	35	11.7	
All sites	1786	0	10	4	10	11	7	15	29	45	102	141	193	202	211	241	295	270	100.0	

Table 22 *Number of New Cancers by Age Group (Female), Lamphun, 2003–2007*

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	% TOTAL	ICD (10th)
Lip	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	1	0.2	C00
Tongue	6	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	1	1	0.3	C01–C02
Salivary gland	3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0.1	C07–C08
Mouth	16	0	0	0	0	0	0	0	0	0	0	2	1	4	1	3	0	5	0.7	C03–C06
Oropharynx	5	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	2	0.2	C09–C10
Nasopharynx	19	0	0	0	0	0	0	0	0	1	2	3	5	2	2	0	1	3	0.9	C11
Hypopharynx	3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0.1	C12–C13
Pharynx unspec.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	C14
Oesophagus	14	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	3	6	0.6	C15
Stomach	41	0	0	0	0	0	0	0	1	3	5	2	6	5	1	7	2	9	1.8	C16
Small intestine	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.0	C17
Colon	98	0	0	0	0	0	0	0	3	3	6	6	11	13	13	9	18	16	4.4	C18
Rectum	50	0	0	0	0	0	0	0	1	3	4	7	9	6	4	8	2	6	2.2	C19–C21
Liver	108	0	1	0	0	0	1	2	0	1	10	12	14	17	13	10	12	15	4.8	C22
Gallbladder etc.	22	0	0	0	0	0	0	0	0	0	3	4	1	4	2	1	2	5	1.0	C23–C24
Pancreas	16	0	0	0	0	0	0	0	0	1	1	1	4	2	2	1	2	2	0.7	C25
Nose, sinuses etc.	7	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	0	0.3	C30–C31
Larynx	6	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	2	0.3	C32
Bronchus, lung	333	0	0	0	0	0	1	0	4	4	8	19	30	35	60	56	56	60	14.9	C33–C34
Other Thoracic organs	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	C37–C38
Bone	7	0	0	0	1	0	0	1	0	0	1	0	0	2	0	0	1	1	0.3	C40–C41
Connective tissue	8	0	0	0	1	0	1	1	1	0	0	0	0	1	0	0	1	2	0.4	C47;C49
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.0	C46
Melanoma of skin	15	0	0	0	0	0	0	0	1	0	0	0	2	3	2	1	5	1	0.7	C43
Other skin	45	0	0	0	0	0	0	0	0	1	5	5	1	3	1	4	4	21	2.0	C44
Breast	352	0	0	0	0	0	1	2	7	15	60	74	63	41	26	24	16	23	15.8	C50
Uterus unspec.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.0	C55
Cervix uteri	500	0	0	0	0	0	0	2	20	45	87	115	80	58	38	24	18	13	22.4	C53
Placenta	3	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0.1	C58
Corpus uteri	53	0	0	0	0	0	0	0	0	3	5	8	6	9	4	6	5	7	2.4	C54
Ovary etc.	70	0	0	0	1	2	3	4	3	4	9	18	8	5	3	5	2	3	3.1	C56
Other female genital	9	0	0	0	0	0	0	0	0	3	0	0	1	0	1	1	1	2	0.4	C51–C52;C57
Bladder	17	0	0	0	0	0	0	1	0	0	0	1	1	3	1	2	3	5	0.8	C67
Kidney etc.	15	0	1	0	1	0	0	0	0	1	1	1	3	2	0	3	1	1	0.7	C64–C66;C68
Eye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C69
Brain, nervous system	38	0	3	0	4	2	1	0	2	3	4	3	5	5	1	1	1	3	1.7	C70–C72
Thyroid	52	0	0	0	0	1	3	2	6	3	4	6	6	6	3	3	4	5	2.3	C73
Other endocrine	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0.1	C74–C75
Hodgkin's disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C81
Non–Hodgkin lymphoma	46	0	0	0	1	0	0	0	3	1	4	9	3	5	4	7	5	4	2.1	C82–C85;C96
Multiple myeloma	5	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	0	0	0.2	C88;C90
Lymphoid leukaemia	11	0	3	2	2	1	0	1	0	0	0	1	0	0	0	0	1	0	0.5	C91
Myeloid leukaemia	21	0	0	1	0	0	1	0	1	0	3	2	1	1	3	2	1	5	0.9	C92
Monocytic leukaemia	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.0	C93
Other leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C94
Leukaemia unspec.	11	0	1	1	1	0	0	0	0	1	2	0	0	0	1	2	1	1	0.5	C95
Other & unspecified	190	0	0	0	0	1	1	1	4	7	9	6	23	9	23	40	33	33	8.5	
All sites	2229	0	9	4	12	7	14	19	58	104	240	310	290	246	215	231	203	267	100.0	

Table 23 *Average Incidence per 100,000 by Age group (Male), Lamphun, 2003–2007*

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	3.3	0.2	0.2	C00
Tongue	14	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.4	1.5	0.0	5.0	6.1	7.9	13.0	1.4	1.1	C01–C02
Salivary gland	3	0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	3.9	0.0	0.3	0.3	C07–C08
Mouth	19	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	1.2	1.5	1.9	7.5	3.1	23.6	13.0	1.9	1.5	C03–C06
Oropharynx	8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.3	0.0	3.0	0.0	2.5	0.0	0.0	6.5	0.8	0.6	C09–C10
Nasopharynx	43	0	0.0	0.0	0.0	3.9	0.0	1.4	1.4	2.4	5.7	7.2	8.9	17.3	12.5	6.1	7.9	3.3	4.4	3.5	C11
Hypopharynx	12	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.5	3.9	2.5	9.2	7.9	6.5	1.2	1.0	C12–C13
Pharynx unspec.	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.1	0.1	C14
Oesophagus	14	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.9	7.5	15.3	7.9	6.5	1.4	1.2	C15
Stomach	57	0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.4	3.4	3.6	10.4	11.6	12.5	33.6	35.4	32.6	5.8	4.5	C16
Small intestine	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C17
Colon	81	0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	2.4	14.7	10.8	7.4	13.5	17.5	33.6	43.3	48.8	8.3	6.3	C18
Rectum	56	0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.2	4.5	9.6	14.9	9.6	15.0	15.3	23.6	29.3	5.7	4.4	C19–C21
Liver	295	0	0.0	0.0	0.0	1.3	0.0	2.8	15.3	17.0	36.2	43.2	50.6	77.0	60.0	94.8	145.5	107.4	30.1	23.0	C22
Gallbladder etc.	22	0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	0.0	1.2	3.0	1.9	7.5	6.1	15.7	22.8	2.2	1.7	C23–C24
Pancreas	27	0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	1.1	1.2	6.0	7.7	7.5	12.2	23.6	9.8	2.8	2.2	C25
Nose, sinuses etc.	8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	2.5	3.1	11.8	0.0	0.8	0.7	C30–C31
Larynx	27	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.2	7.4	3.9	7.5	12.2	23.6	16.3	2.8	2.1	C32
Bronchus, lung	470	0	0.0	1.5	1.4	0.0	1.5	2.8	5.5	7.3	9.0	25.2	81.9	111.7	194.9	241.5	373.7	198.6	48.0	38.5	C33–C34
Other Thoracic organs	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.9	2.5	0.0	0.0	0.0	0.3	0.3	C37–C38
Bone	10	0	1.9	0.0	1.4	1.3	0.0	0.0	0.0	0.0	0.0	1.2	1.5	1.9	2.5	3.1	7.9	0.0	1.0	1.1	C40–C41
Connective tissue	13	0	1.9	0.0	1.4	1.3	0.0	0.0	0.0	0.0	0.0	1.2	3.0	3.9	5.0	3.1	7.9	0.0	1.3	1.3	C47;C49
Mesothelioma	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposi's sarcoma	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C46
Melanoma of skin	6	0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.1	1.2	1.5	0.0	0.0	0.0	3.9	3.3	0.6	0.5	C43
Other skin	46	0	0.0	0.0	0.0	0.0	1.5	0.0	1.4	0.0	2.3	4.8	3.0	9.6	10.0	12.2	35.4	45.6	4.7	3.5	C44
Breast	9	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	3.0	3.9	2.5	3.1	0.0	3.3	0.9	0.7	C50
Prostate	54	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	5.8	7.5	30.6	55.1	74.9	5.5	4.1	C61
Testis	12	0	0.0	0.0	0.0	1.3	2.9	0.0	1.4	2.4	1.1	2.4	0.0	0.0	2.5	0.0	0.0	6.5	1.2	1.0	C62
Penis	16	0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.4	7.9	0.0	1.5	0.0	2.5	0.0	11.8	3.3	1.6	1.2	C60
Other male genital	2	0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.2	0.2	C63
Bladder	57	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	4.8	6.0	9.6	15.0	27.5	51.1	48.8	5.8	4.5	C67
Kidney etc.	33	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	4.8	7.4	13.5	2.5	12.2	19.7	19.5	3.4	2.5	C64–C66;C68
Eye	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.1	0.1	C69
Brain, nervous system	40	0	1.9	1.5	5.8	2.6	1.5	1.4	1.4	1.2	6.8	4.8	7.4	11.6	2.5	6.1	3.9	9.8	4.1	3.6	C70–C72
Thyroid	6	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.5	0.0	10.0	0.0	0.0	0.0	0.6	0.5	C73
Other endocrine	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C74–C75
Hodgkin's disease	3	0	1.9	0.0	0.0	0.0	1.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	C81
Non–Hodgkin lymphoma	60	0	1.9	1.5	0.0	0.0	0.0	4.2	1.4	2.4	4.5	7.2	13.4	17.3	10.0	30.6	27.5	9.8	6.1	5.1	C82–C85;C96
Multiple myeloma	12	0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.0	5.8	2.5	3.1	7.9	3.3	1.2	1.0	C88;C90
Lymphoid leukaemia	6	0	3.9	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	3.9	3.3	0.6	0.8	C91
Myeloid leukaemia	11	0	0.0	0.0	0.0	1.3	0.0	0.0	1.4	0.0	1.1	1.2	3.0	3.9	2.5	3.1	0.0	3.3	1.1	0.9	C92
Monocytic leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C93
Other leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C94
Leukaemia unspec.	17	0	5.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.0	1.9	2.5	6.1	7.9	13.0	1.7	1.8	C95
Other & unspecified	209	0	0.0	0.0	0.0	0.0	0.0	2.8	5.5	8.5	9.0	21.6	20.8	34.7	77.5	100.9	153.4	113.9	21.3	16.8	
All sites	1786	0	19.0	6.0	1 4.0	14.0	10.0	21.0	40.0	55.0	115.0	169.0	287.0	389.0	527.0	737.0	1160.0	879.0	182.4	144.7	

Table 24 *Average Incidence per 100 000 by Age group (Female), Lamphun, 2003–2007*

CANCER / SITE	ALL AGES	AGE UNK.	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	5	0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	3.6	2.6	0.5	0.4	C00
Tongue	6	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	2.4	0.0	3.6	2.6	0.6	0.4	C01–C02
Salivary gland	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.4	0.0	0.0	0.0	0.0	2.6	0.3	0.2	C07–C08
Mouth	16	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	1.4	7.5	2.4	8.4	0.0	13.2	1.5	1.1	C03–C06
Oropharynx	5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.9	2.4	0.0	0.0	5.3	0.5	0.3	C09–C10
Nasopharynx	19	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.1	3.4	7.1	3.7	4.8	0.0	3.6	7.9	1.8	1.3	C11
Hypopharynx	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.4	0.0	0.0	0.0	0.0	2.6	0.3	0.2	C12–C13
Pharynx unspec.	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.1	0.1	C14
Oesophagus	14	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.4	8.4	10.9	15.8	1.4	1.0	C15
Stomach	41	0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	5.2	2.3	8.5	9.4	2.4	19.6	7.2	23.7	4.0	2.8	C16
Small intestine	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.1	0.1	C17
Colon	98	0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.3	6.3	6.8	15.6	24.3	31.5	25.3	65.2	42.1	9.5	7.1	C18
Rectum	50	0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	4.2	7.9	12.7	11.2	9.7	22.5	7.2	15.8	4.8	3.6	C19–C21
Liver	108	0	2.1	0.0	0.0	0.0	1.3	2.5	0.0	1.1	10.5	13.6	19.8	31.8	31.5	28.1	43.5	39.5	10.4	8.1	C22
Gallbladder etc.	22	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	4.5	1.4	7.5	4.8	2.8	7.2	13.2	2.1	1.5	C23–C24
Pancreas	16	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.1	5.7	3.7	4.8	2.8	7.2	5.3	1.5	1.2	C25
Nose, sinuses etc.	7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.7	0.5	C30–C31
Larynx	6	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	2.4	5.6	0.0	5.3	0.6	0.4	C32
Bronchus, lung	333	0	0.0	0.0	0.0	0.0	1.3	0.0	4.7	4.4	8.4	21.5	42.5	65.5	145.3	157.2	202.8	157.8	32.2	24.9	C33–C34
Other Thoracic organs	2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	2.6	0.2	0.1	C37–C38
Bone	7	0	0.0	0.0	1.6	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.0	3.7	0.0	0.0	3.6	2.6	0.7	0.6	C40–C41
Connective tissue	8	0	0.0	0.0	1.6	0.0	1.3	1.3	1.2	0.0	0.0	0.0	0.0	1.9	0.0	0.0	3.6	5.3	0.8	0.7	C47;C49
Mesothelioma	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposi's sarcoma	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C46
Melanoma of skin	15	0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	2.8	5.6	4.8	2.8	18.1	2.6	1.5	1.1	C43
Other skin	45	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.2	5.7	1.4	5.6	2.4	11.2	14.5	55.2	4.4	2.8	C44
Breast	352	0	0.0	0.0	0.0	0.0	1.3	2.5	8.3	16.5	62.7	83.7	89.2	76.8	63.0	67.4	57.9	60.5	34.0	25.0	C50
Uterus unspec.	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.1	C55
Cervix uteri	500	0	0.0	0.0	0.0	0.0	0.0	2.5	23.7	49.6	90.9	130.0	113.2	108.6	92.0	67.4	65.2	34.2	48.4	35.6	C53
Placenta	3	0	0.0	0.0	0.0	0.0	1.3	0.0	1.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	C58
Corpus uteri	53	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	5.2	9.0	8.5	16.8	9.7	16.8	18.1	18.4	5.1	3.8	C54
Ovary etc.	70	0	0.0	0.0	1.6	2.7	3.9	5.1	3.6	4.4	9.4	20.3	11.3	9.4	7.3	14.0	7.2	7.9	6.8	5.3	C56
Other female genital	9	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	1.4	0.0	2.4	2.8	3.6	5.3	0.9	0.6	C51–C52;C57
Bladder	17	0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	1.1	1.4	5.6	2.4	5.6	10.9	13.2	1.6	1.2	C67
Kidney etc.	15	0	2.1	0.0	1.6	0.0	0.0	0.0	0.0	1.1	1.0	1.1	4.2	3.7	0.0	8.4	3.6	2.6	1.5	1.3	C64–C66;C68
Eye	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C69
Brain, nervous system	38	0	6.2	0.0	6.2	2.7	1.3	0.0	2.4	3.3	4.2	3.4	7.1	9.4	2.4	2.8	3.6	7.9	3.7	3.6	C70–C72
Thyroid	52	0	0.0	0.0	0.0	1.4	3.9	2.5	7.1	3.3	4.2	6.8	8.5	11.2	7.3	8.4	14.5	13.2	5.0	3.9	C73
Other endocrine	2	0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.2	0.2	C74–C75
Hodgkin's disease	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C81
Non–Hodgkin lymphoma	46	0	0.0	0.0	1.6	0.0	0.0	0.0	3.6	1.1	4.2	10.2	4.2	9.4	9.7	19.6	18.1	10.5	4.4	3.4	C82–C85;C96
Multiple myeloma	5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.1	0.0	0.0	2.4	5.6	0.0	0.0	0.5	0.4	C88;C90
Lymphoid leukaemia	11	0	6.2	3.1	3.1	1.4	0.0	1.3	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	3.6	0.0	1.1	1.7	C91
Myeloid leukaemia	21	0	0.0	1.5	0.0	0.0	1.3	0.0	1.2	0.0	3.1	2.3	1.4	1.9	7.3	5.6	3.6	13.2	2.0	1.6	C92
Monocytic leukaemia	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C93
Other leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C94
Leukaemia unspec.	11	0	2.1	1.5	1.6	0.0	0.0	0.0	0.0	1.1	2.1	0.0	0.0	0.0	2.4	5.6	3.6	2.6	1.1	1.1	C95
Other & unspecified	190	0	0.0	0.0	0.0	1.4	1.3	1.3	4.7	7.7	9.4	6.8	32.5	16.8	55.7	112.3	119.5	86.8	18.4	14.1	
All sites	2229	0	18.0	6.0	19.0	9.0	18.0	24.0	69.0	115.0	251.0	350.0	410.0	461.0	521.0	648.0	735.0	702.0	215.6	163.8	

APPENDIX D

Cancer Incidence in Phitsanulok Thailand, 2003-2007

Udomluck Chenbhanich, M.D.
Phetcharat Ouamjane

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Phetcharat Ouamjane

Background

Phitsanulok is in the lower part of Northern Thailand with the land area of 10,815.8 square kilometers. It is located between 16.5°–17.5° N and 100°–101° E. Phitsanulok has common boundary with Uttradit and Loa People's Democratic Republic in the north, Loei and Phetchabun in the east, Phichit, and Kamphaeng Phet in the south and Sukhothai in the west. Phitsanulok was divided into 9 districts. The districts of Phitsanulok were Muang Phitsanulok, Chat Trakan, Nakhon Thai, Noen Maprang, Bang Krathum, Bang Rakum, Phom Phiram, Wang Thong and Wat Bot (Figure 21). The average population density is about 78.0 persons per square kilometer (National Statistics Office, 2008).

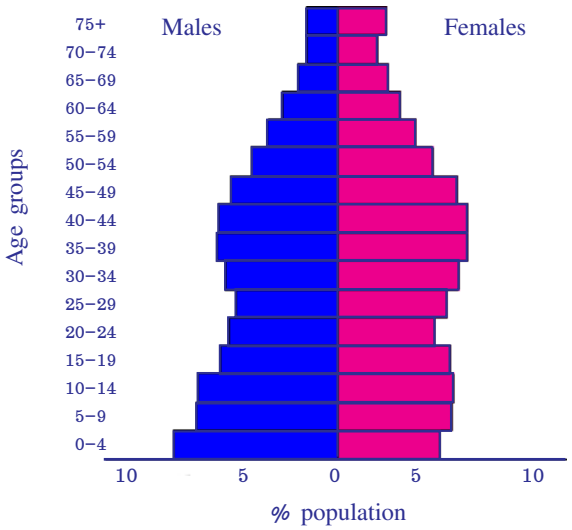
The people of Phitsanulok are predominantly Buddhiststs (96%), although some minority religions are practiced. The climate of Phitsanulok has 3 seasons; summer season from Febuary to April with average temperature 32 oC, the rainy season from May to October with the average total rainfall is 1,375 millimeters per year and in winter season from November to January with average temperature 19 oC. The most important occupations are farming of rice, corn and cassava. In addition, other occupations are commercial, fishery, mineral resources and industry. For important behavior risks of population in Phitsanulok; smoking was 25.6 % and alcohol consumption was 38.8 in both sexes (National Statistics Office, Thailand, 2005).

The total population at 2000 census was 792,678 with 390,531 males and 402, 147 females. The population dominators used for the calculation of average incidence rates estimated from extra-census projection population at 2005 was 824,416 with 417,353 males and 407,063 females population (Figure 22).

Figure 21. *Map of Phitsanulok province, Thailand.*

Figure 22. *Population of Phitsanulok (estimated population, 2005)*

Age	Male	Female
0-4	44,406	27,235
5-9	38,264	30,400
10-14	37,849	31,016
15-19	31,533	30,037
20-24	29,651	25,915
25-29	27,395	29,090
30-34	30,155	32,101
35-39	32,375	34,683
40-44	32,227	34,625
45-49	29,166	31,548
50-54	23,511	25,471
55-59	18,957	20,961
60-64	14,781	16,828
65-69	10,899	13,460
70-74	8,077	10,686
75+	8,107	13,007
Total	417,353	407,063



Medical services

The total number of hospitals in Phitsanulok province was 17 hospitals composed of 1 provincial hospital, 8 community hospitals, 5 private hospitals, 2 military hospital and 1 university hospital. Cancer diagnostic services including radiological (X-ray, ultrasound, CT Scan and mammography), pathological investigations and cancer surgery services are available in Phitsanulok provincial hospital. Cancer diagnostic and cancer chemotherapy are provided in Phitsanulok provincial hospital but cancer radiotherapy equipments are available in only private hospital. Most of the cancer patients were diagnosed and treated in the province. Only few patients referred to Lampang Cancer Center, Chiang Mai University hospital and Bangkok for cancer diagnosis or cancer treatment. All hospitals in the province provide palliative care. The ratio of doctors to population is 1:2,316. The ratio between registered nurses to population is 1:574. (Ministry of public Health, 2007)

Registry structure and methods

Population-based cancer registration of Phitsanulok province was established by Cancer Registry Unit of Lampang Cancer Center in 2004. All data on cancer patients were collected by passive methods with notification by the staff of Phitsanulok provincial hospital, 5 private hospitals, two military hospitals, one university hospital and 8 community hospitals which under supervision of Phitsanulok Provincial Public Health Service. Including notified some information from Cancer Registry Unit of Chiang Mai University Hospital and Lampang Cancer center. New cancer cases were collected from out and in patient departments, medical record, radiotherapy unit, surgery unit, cytology unit, hematology unit, pathological unit and autopsy service. The data information collected includes demographic details for each cancer patient that consists of registry number, name, residential address, date of birth, age, sex, date of diagnosis, site of cancer, histology of cancer, staging, extension of disease, method of diagnosis, treatment, date of last contact and vital status of cancer patients. Information of deaths from all causes of death collected from Bureau of Health Policy and Strategy, Ministry of Public Health. The follow-up of all registered cases were carried out by passive methods with linking database of National Health Security office.

The primary site and histology were coded according to ICD-O third edition (Fritz et al., 2000). Second primary cancer was also registered; a new registration number was given for each new primary cancer. All death certificates are matched with the incidence case records of the registry. Death certificates were obtained from Bureau of Policy and Strategy, Ministry of Public Health.

The completed data forms were checked manually, and entered into the database file in a personal computer at Cancer Registry Unit of Lampang cancer Center, using Canreg 3 software for data entry and analysis. Cases of carcinoma in situ were registered but not included in the analysis.

Results

Cancer incidence in Phitsanulok

Among Phitsanulok residents, during the period of 2003-2007, the total number of new cancers was 4,998 cases (2,522 in males and 2,476 in females) with sex ratio of new cancer in males and females approximately 1:1. The number of new cancer in each year varied from 480 to 570 cases among males and from 437 to 527 among females. The age-standardized incidence rate in each year varied from 114.6 to 126.4 among males and from 88.1 to 103.9 among females. The average age-standardized incidence rate was 119.4 among males and 97.4 among females (Table 25).

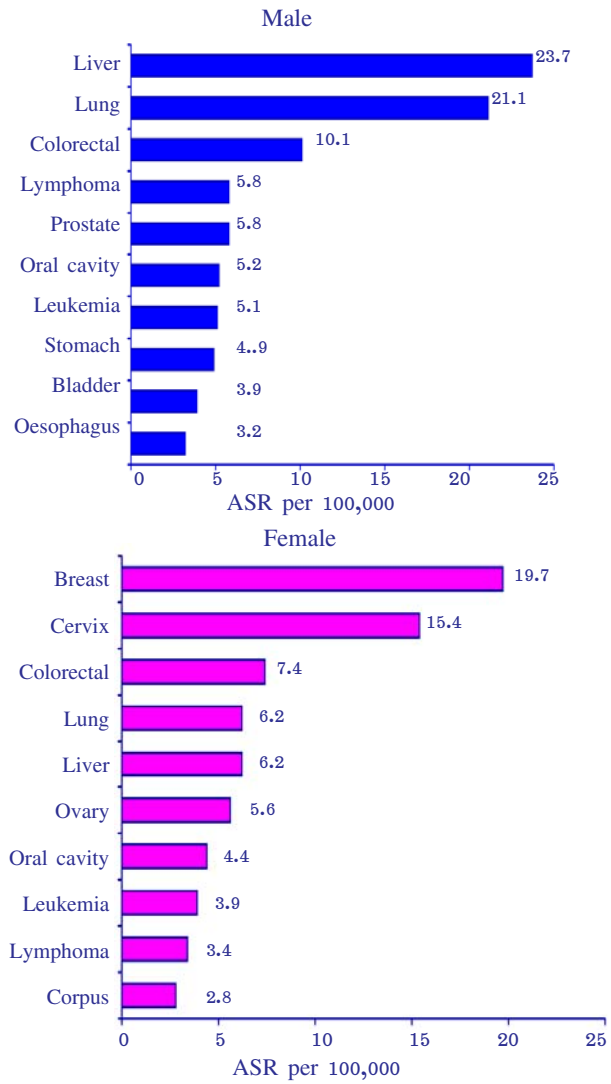
Table 25 *Number of cancer cases and ASR in Phitsanulok, 2003–2007*

Year	Male		Female	
	Number of new cancer cases	ASR	Number of new cancer cases	ASR
2003	487	120.7	476	98.9
2004	480	118.1	437	88.1
2005	486	114.6	527	103.9
2006	499	116.8	513	97.8
2007	570	126.4	523	98.9
Total	2,522	119.4	2,476	97.4

Leading Cancers in Phitsanulok

In Phitsanulok Province, liver cancer was the most common cancer in males followed by lung cancer and colorectal cancer. In females the most common cancer was breast cancer followed by cervical cancer and colorectal cancer (Figure 23).

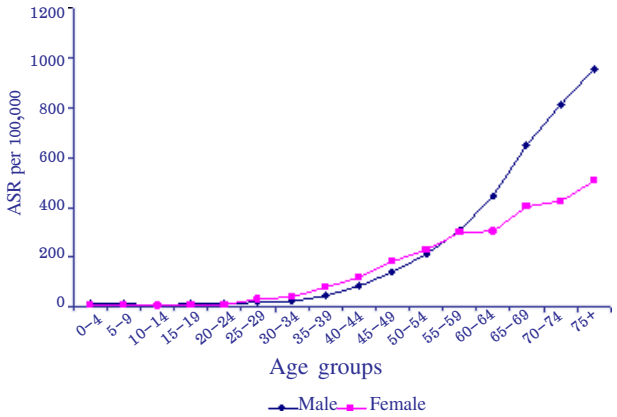
Figure 23 *Leading cancer incidence in Phitsanulok, 2003–2007*



Age-Specific Rate

Age-specific rates of all cancers showed higher incidence rate of cancer among females than males during the age of 25–59 while higher incidence among males after the age of 60 (Figure 24).

Figure 24 *Age-specific rates of all cancers in Phitsanulok, 2003–2007*



Cancer by Age Group

Cancer varied according to age (Figure 25 & 26). During the age 0–14; leukemia, lymphoma and brain cancer were the most common cancers in boys, whereas leukemia, brain cancer and lymphoma were the most common cancers in girls.

During the age 15–24, leukemia, lymphoma and testis cancer were the most common cancers in males while leukemia, ovary and nasopharynx cancer were the most common cancer among females.

In young adult (age 25–59), cancers of liver, lung and colorectal were the most common cancers among males while breast, cervix and ovary cancers were the most common cancer among females.

For older age groups (age 60–74), the most common cancers were lung, liver and colorectal cancer among males while breast, cervix and colorectal cancer were the most common cancers among females.

The age over 75, cancer of lung, prostate and colorectal were the most common cancers among males while cancer of colorectal, oral cavity and cervix were the most common among females.

Figure 25 *Leading cancer site by age (male), Phitsanulok, 2003–2007*

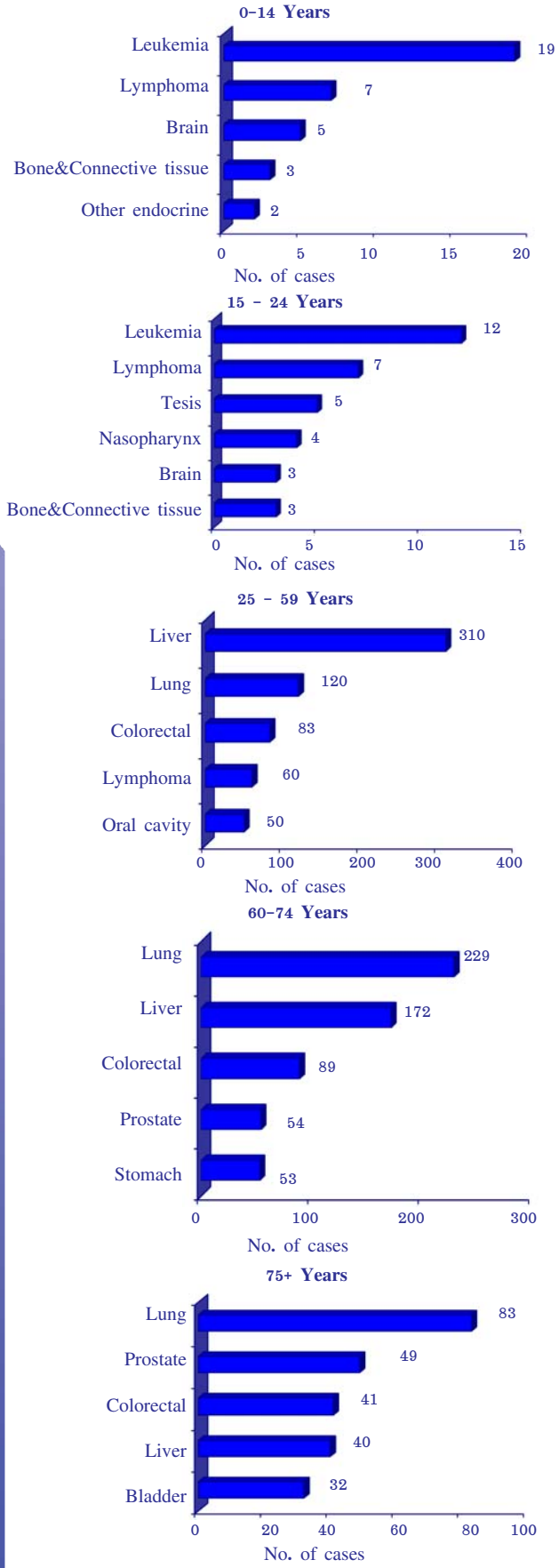
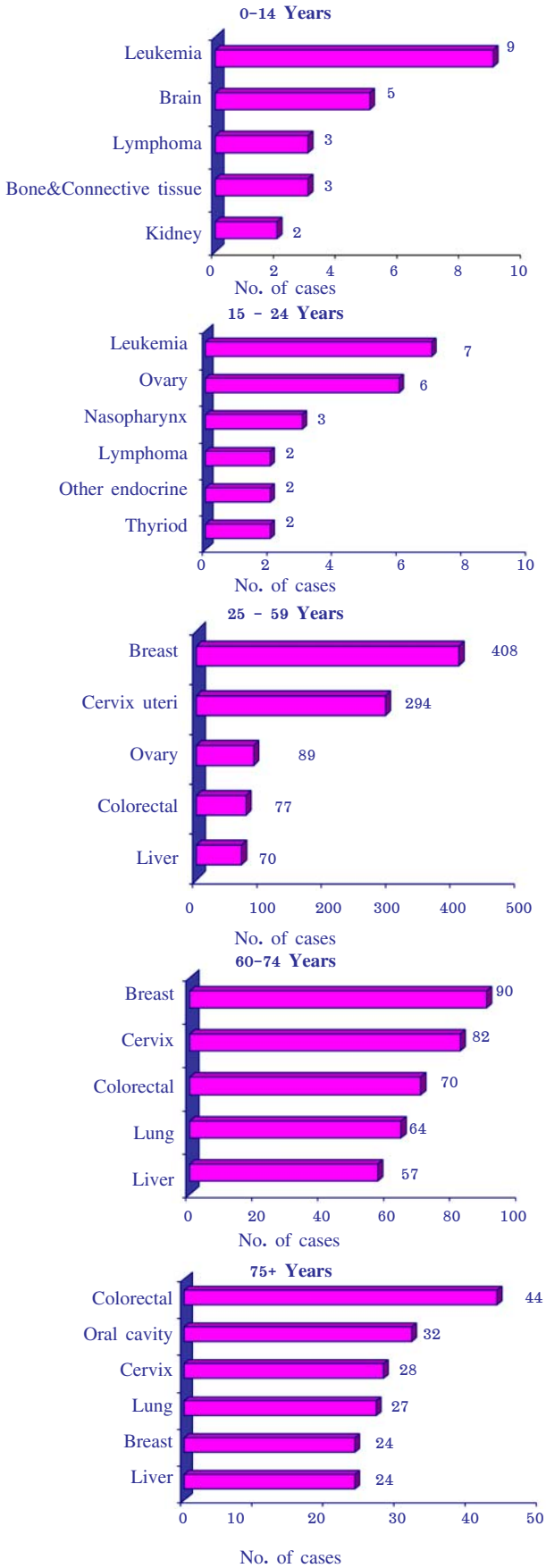


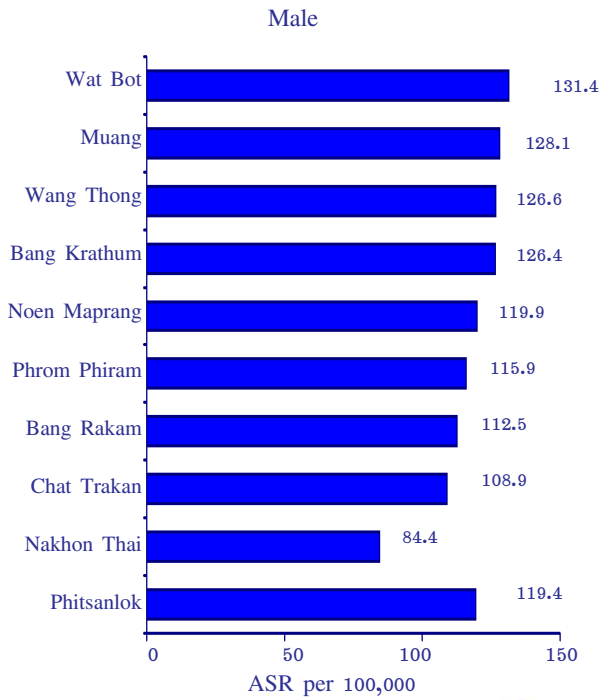
Figure 26 *Leading cancer site by age (female), Phitsanulok, 2003–2007*

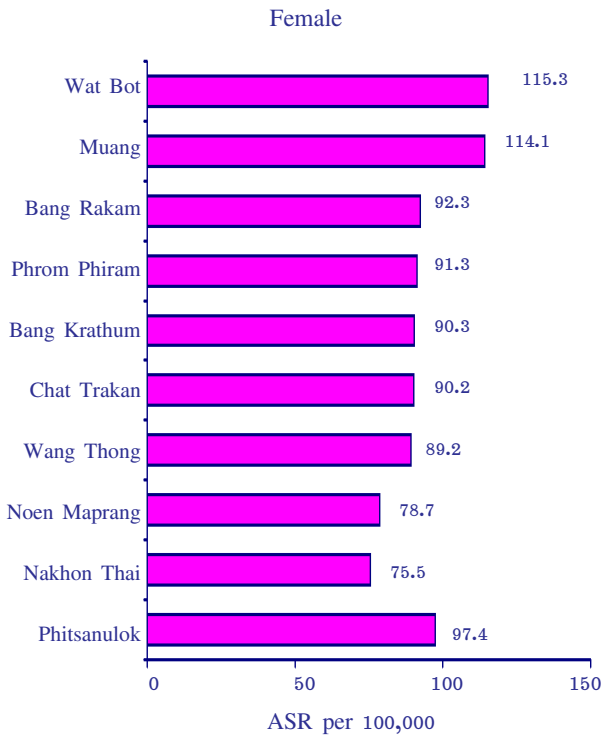


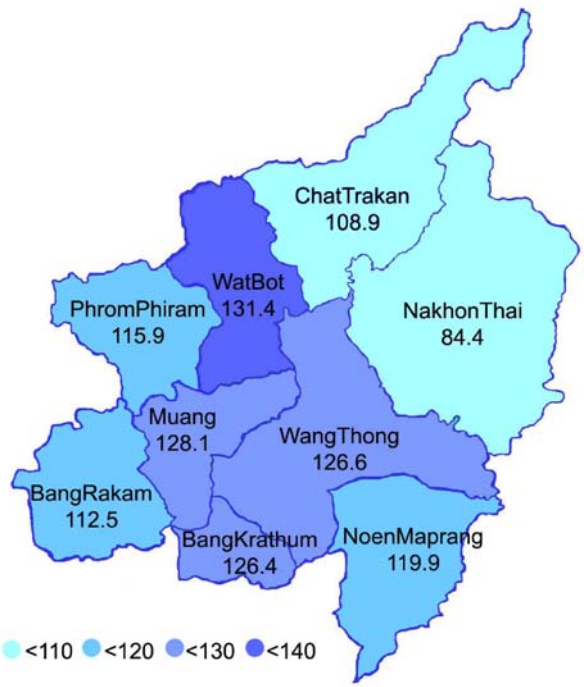
Geographic Distribution

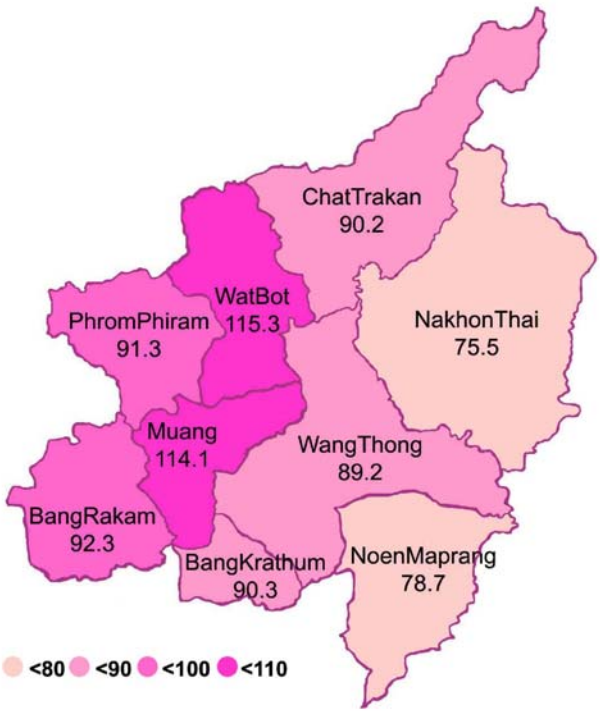
The highest incidence of all cancer sites in Phitsanulok was founded in Wat Bot District both sexes with ASR 131.4 per 100 000 person among males and 115.3 per 100 000 person among females. The lowest incidence rates was founded in Nakhon Thai District both sexes with ARS 84.4 per 100 000 person among males and 75.5 per 100 000 person among females (Figure 27).

Figure 27 *Geographic distributions by districts in Phitsanulok, 2003-2007*









Data quality

The average percentage of Histological Verified was 58.9 %. Male was lower than in females (50.4% and 67.5% respectively). Cancer sites with Histology Verified over 90 % found in skin cancer, Lymphoma and Leukemia but Histology Verified under 50 % found in liver cancer and brain cancer. The average percentage of death certificate only was 13.5% in both sexes, 16.9% among males and 10.1% in females (Table 26). The mortality incidence ratio percentage was higher in males (64.7%) than in females (48.5%).The mortality incidence ratio by site and sex are shown in table 27.

Table 26 *Percentage of Morphological Verified and Death Certificate Only by sex and sites,Phitsanulok, 2003-2007*

Cancer sites	Male			Female			Total		
	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO	NO.cases	%MV	%DCO
Oral cavity	108	77.8	16.7	113	72.6	20.4	221	75.1	18.7
Nasopharynx	37	73	8.1	17	52.9	0	54	66.7	5.6
Pharynx unspec.	67	80.6	1.5	6	100	0	73	82.2	1.4
Oesophagus	65	63.1	4.6	15	53.3	6.7	80	61.3	5
Stomach	100	61	14	58	63.8	8.6	158	62	12
Colon and Rectum	212	64.6	5.7	187	68.4	4.8	399	66.4	5.3
Liver and Gallbladder etc	553	10.7	26.9	193	12.4	32.6	746	11.1	28.4
Larynx	52	75	1.9	4	50	25	56	73.2	3.6
Bronchus, lung	432	49.5	21.8	152	53.3	21.7	584	50.5	21.7
Skin and melanoma	39	89.7	5.1	46	91.3	2.2	85	90.6	3.5
Breast	7	57.1	0	522	83	2.3	529	82.6	2.3
Cervix uteri				404	81.7	3.2	404	81.7	3.2
ovary				139	70.5	2.2	139	70.5	2.2
Penis	29	72.4	0				29	72.4	0
Prostate	110	66.4	1.8				110	66.4	1.8
Kidney etc.	13	46.2	0	6	66.7	0	19	52.6	0
Urinary tract	88	72.7	2.3	18	61.1	0	106	70.8	1.9
Brain, nervous system	41	36.6	51.2	38	34.2	50	79	35.4	50.6
Thyroid	11	63.6	0	65	75.4	0	76	73.7	0
Lymphoma	122	100	0	83	100	0	205	100	0
Leukaemia	99	100	0	87	100	0	186	100	0
Other & unspecified	337	32.3	30.6	323	44.6	20.7	660	38.3	25.8
All sites	2,522	50.4	16.9	2,476	67.5	10.1	4,998	58.9	13.5

Table 27 *Percentage of mortality incidence ratio by sex and sites, Phitsanulok, 2003-2007*

Cancer sites	Male			Female			Total		
	New	Death	M/I	New	Death	M/I	New	Death	M/I
Oral cavity	108	73	67.6	113	65	57.5	221	138	62.4
Nasopharynx	37	25	67.6	17	5	29.4	54	30	55.6
Pharynx unspec.	67	37	55.2	6	4	66.7	73	41	56.2
Oesophagus	65	46	70.8	15	8	53.3	80	54	67.5
Stomach	100	73	73	58	33	56.9	158	106	67.1
Colon and Rectum	212	105	49.5	187	92	49.2	399	197	49.4
Liver and Gallbladder etc	553	444	80.3	193	141	73.1	746	585	78.4
Larynx	52	29	55.8	4	2	50	56	31	55.4
Bronchus, lung	432	325	75.2	152	124	81.6	584	449	76.9
Skin and melanoma	39	16	41	46	13	28.3	85	29	34.1
Breast	7	2	28.6	522	165	31.6	529	167	31.6
Cervix uteri				404	160	39.6	404	160	39.6
ovary				139	58	41.7	139	58	41.7
Penis	29	5	17.2				29	5	17.2
Prostate	110	37	33.6				110	37	33.6
Kidney etc.	13	12	92.3	6	3	50	19	15	78.9
Urinary tract	88	22	25	18	6	33.3	106	28	26.4
Brain, nervous system	41	31	75.6	38	30	78.9	79	61	77.2
Thyroid	11	4	36.4	65	11	16.9	76	15	19.7
Lymphoma	122	56	45.9	83	25	30.1	205	81	39.5
Leukaemia	99	77	77.8	87	63	72.4	186	140	75.3
Other & unspecified	337	213	63.2	323	192	59.4	660	405	61.4
All sites	2,522	1,632	64.7	2,476	1,200	48.5	4,998	2,832	56.7

Table 28 *Average age – standardized incidence rate, Phitsanulok, 2003–2007*

CANCER / SITE	Male				Female				ICD
	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	No. cases	Freq. (%)	CRUDE RATE	ASR WORLD	
Lip	0	0.0	0	0	25	1.0	1.2	0.9	C00
Tongue	47	1.9	2.3	2.2	20	0.8	1	0.8	C01–C02
Salivary gland	18	0.7	0.9	0.9	21	0.8	1	0.9	C07–C08
Mouth	43	1.7	2.1	2.1	47	1.9	2.2	1.8	C03–C06
Oropharynx	28	1.1	1.4	1.2	3	0.1	0.1	0.1	C09–C10
Nasopharynx	37	1.5	1.8	1.6	17	0.7	0.8	0.7	C11
Hypopharynx	39	1.5	1.9	1.9	3	0.1	0.1	0.1	C12–C13
Pharynx unspec.	0	0.0	0	0	0	0.0	0	0	C14
Oesophagus	65	2.6	3.2	3.2	15	0.6	0.7	0.6	C15
Stomach	100	4.0	4.9	4.9	58	2.3	2.8	2.3	C16
Small intestine	5	0.2	0.2	0.2	4	0.2	0.2	0.1	C17
Colon	122	4.8	6	5.7	110	4.4	5.3	4.2	C18
Rectum	91	3.6	4.5	4.4	81	3.3	3.9	3.2	C19–C21
Liver	524	20.8	25.7	23.7	153	6.2	7.3	6.2	C22
Gallbladder etc.	29	1.1	1.4	1.3	40	1.6	1.9	1.6	C23–C24
Pancreas	42	1.7	2.1	1.9	27	1.1	1.3	1	C25
Nose, sinuses etc.	7	0.3	0.3	0.4	8	0.3	0.4	0.3	C30–C31
Larynx	52	2.1	2.5	2.5	4	0.2	0.2	0.1	C32
Bronchus, lung	432	17.1	21.2	21.1	152	6.1	7.3	6.2	C33–C34
Other Thoracic organs	5	0.2	0.2	0.2	4	0.2	0.2	0.2	C37–C38
Bone	17	0.7	0.8	0.8	10	0.4	0.5	0.5	C40–C41
Connective tissue	14	0.6	0.7	0.7	9	0.4	0.4	0.4	C47;C49
Mesothelioma	0	0.0	0	0	1	0.0	0	0	C45
Kaposi's sarcoma	0	0.0	0	0	1	0.0	0	0	C46
Melanoma of skin	7	0.3	0.3	0.4	7	0.3	0.3	0.3	C43
Other skin	32	1.3	1.6	1.5	39	1.6	1.9	1.4	C44
Breast	7	0.3	0.3	0.3	522	21.1	24.9	19.7	C50
Uterus unspec.					0	0.0	0	0	C55
Cervix uteri					404	16.3	19.3	15.4	C53
Placenta					1	0.0	0	0	C58
Corpus uteri					68	2.7	3.2	2.8	C54
Ovary etc.					139	5.6	6.6	5.6	C56
Other female genital					17	0.7	0.8	0.6	C51–C52;C57
Prostate	110	4.4	5.4	5.4					C61
Testis	15	0.6	0.7	0.7					C62
Penis	29	1.1	1.4	1.4					C60
Other male genital	0	0.0	0	0					C63
Bladder	83	3.3	4.1	3.9	18	0.7	0.9	0.7	C67
Kidney etc.	18	0.7	0.9	0.9	7	0.3	0.3	0.4	C64–C66;C68
Eye	3	0.1	0.1	0.2	0	0.0	0	0	C69
Brain, nervous system	41	1.6	2	2	38	1.5	1.8	1.7	C70–C72
Thyroid	11	0.4	0.5	0.5	65	2.6	3.1	2.5	C73
Other endocrine	3	0.1	0.1	0.2	4	0.2	0.2	0.2	C74–C75
Hodgkin's disease	8	0.3	0.4	0.4	3	0.1	0.1	0.1	C81
Non–Hodgkin lymphoma	114	4.5	5.6	5.4	80	3.2	3.8	3.3	C82–C85;C96
Multiple myeloma	26	1.0	1.3	1.2	21	0.8	1	0.8	C88;C90
Lymphoid leukaemia	29	1.1	1.4	1.7	22	0.9	1.1	1.2	C91
Myeloid leukaemia	46	1.8	2.3	2.1	37	1.5	1.8	1.5	C92
Monocytic leukaemia	2	0.1	0.1	0.1	0	0.0	0	0	C93
Other leukaemia	1	0.0	0	0.1	0	0.0	0	0	C94
Leukaemia unspec.	21	0.8	1	1.1	28	1.1	1.3	1.2	C95
Other & unspecified	199	7.9	9.8	9.3	143	5.8	6.8	5.6	O&U
All site	2522	100.0	123.6	119.4	2476	100.0	118.3	97.4	ALL

Table 29 : Number of New Cancers by Age Group (Male), Phitsanulok, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	% TOTAL	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C00
Tongue	47	0	0	0	0	0	0	0	0	4	4	6	3	3	6	8	7	6	1.9	C01-C02
Salivary gland	18	0	0	0	0	0	0	2	0	1	1	3	0	3	4	1	0	3	0.7	C07-C08
Mouth	43	0	1	0	0	0	0	1	0	0	4	4	7	4	6	5	4	7	1.7	C03-C06
Oropharynx	28	0	0	0	0	0	0	1	0	1	4	5	6	2	3	1	2	3	1.1	C09-C10
Nasopharynx	37	0	0	0	0	0	4	1	0	3	4	4	6	3	1	4	3	4	1.5	C11
Hypopharynx	39	0	0	0	0	0	0	0	0	1	1	3	7	3	6	4	6	8	1.5	C12-C13
Pharynx unspec.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C14
Oesophagus	65	0	0	0	0	0	0	0	0	0	3	5	9	7	11	12	5	13	2.6	C15
Stomach	100	0	0	0	0	0	0	0	2	2	2	7	12	7	13	21	19	15	4.0	C16
Small intestine	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0.2	C17
Colon	122	0	0	0	0	0	0	2	1	3	7	16	9	12	12	21	14	25	4.8	C18
Rectum	91	0	0	0	0	0	0	1	1	0	3	7	11	10	11	12	19	16	3.6	C19-C21
Liver	524	0	0	1	0	0	1	6	12	29	54	61	79	69	62	69	41	40	20.8	C22
Gallbladder etc.	29	0	0	0	0	0	0	0	1	3	1	1	4	1	2	6	2	8	1.1	C23-C24
Pancreas	42	0	0	0	0	0	0	0	0	0	3	6	8	5	0	5	8	7	1.7	C25
Nose, sinuses etc.	7	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0.3	C30-C31
Larynx	52	0	0	0	0	0	0	0	0	0	2	3	3	12	6	6	7	13	2.1	C32
Bronchus, lung	432	0	0	0	0	0	0	3	6	9	9	22	28	43	54	89	86	83	17.1	C33-C34
Other Thoracic organs	5	0	0	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0.2	C37-C38
Bone	17	0	0	0	1	2	1	0	1	2	1	2	0	1	2	1	0	3	0.7	C40-C41
Connective tissue	14	0	1	0	1	0	0	1	0	1	3	1	1	0	1	1	0	3	0.6	C47;C49
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kaposi's sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C46
Melanoma of skin	7	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	1	1	0.3	C43
Other skin	32	0	0	0	0	0	1	0	0	1	1	6	3	5	3	4	2	6	1.3	C44
Breast	7	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	3	0.3	C50
Prostate	110	0	0	0	0	0	0	0	0	0	1	0	0	6	8	25	21	49	4.4	C61
Testis	15	0	0	0	0	1	4	1	0	0	4	1	0	0	1	1	1	1	0.6	C62
Penis	29	0	0	0	0	0	0	1	0	0	1	4	2	2	3	5	4	7	1.1	C60
Other male genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C63
Bladder	83	0	0	0	0	0	0	1	0	1	2	7	6	3	6	12	13	32	3.3	C67
Kidney etc.	18	0	1	0	0	0	0	0	0	1	0	1	2	4	0	2	4	3	0.7	C64-C66;C68
Eye	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	C69
Brain, nervous system	41	0	2	3	0	2	1	2	5	2	2	5	6	2	5	1	1	2	1.6	C70-C72
Thyroid	11	0	0	0	0	0	0	0	0	1	0	2	2	2	0	2	1	1	0.4	C73
Other endocrine	3	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	C74-C75
Hodgkin's disease	8	0	1	1	0	0	1	0	0	2	0	0	2	0	1	0	0	0	0.3	C81
Non-Hodgkin lymphoma	114	0	0	5	0	2	4	2	0	4	9	10	13	18	10	15	8	14	4.5	C82-C85;C96
Multiple myeloma	26	0	0	1	0	0	0	2	0	0	3	0	3	5	2	5	2	3	1.0	C88;C90
Lymphoid leukaemia	29	0	4	4	3	4	1	0	1	0	0	1	1	1	2	1	2	4	1.1	C91
Myeloid leukaemia	46	0	0	0	2	3	2	1	2	2	5	3	5	3	4	5	6	3	1.8	C92
Monocytic leukaemia	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0.1	C93
Other leukaemia	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.0	C94
Leukaemia unspec.	21	0	2	1	2	1	0	0	0	2	0	1	0	4	0	3	3	2	0.8	C95
Other & unspecified	199	0	1	1	0	1	1	4	5	8	14	15	20	25	22	21	23	38	7.9	
All sites	2522	0	16	17	9	17	22	34	37	83	150	214	258	270	275	371	320	429	100.0	

Table 30 : Number of New Cancers by Age Group (Female), Phitsanulok, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	% TOTAL	ICD (10th)
Lip	25	0	0	0	0	0	0	0	0	0	0	2	1	2	0	6	3	11	1.0	C00
Tongue	20	0	0	0	0	0	0	1	0	0	0	5	2	2	4	1	2	3	0.8	C01-C02
Salivary gland	21	0	0	0	0	0	0	1	0	1	0	2	3	2	3	4	3	2	0.8	C07-C08
Mouth	47	0	0	0	0	0	0	1	0	1	0	0	3	4	2	12	8	16	1.9	C03-C06
Oropharynx	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0.1	C09-C10
Nasopharynx	17	0	0	0	0	2	1	0	2	3	2	1	1	1	0	2	1	1	0.7	C11
Hypopharynx	3	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0.1	C12-C13
Pharynx unspec.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C14
Oesophagus	15	0	0	1	0	0	0	1	0	0	1	1	1	3	2	2	0	3	0.6	C15
Stomach	58	0	0	0	0	0	0	0	2	3	3	6	7	4	10	2	9	12	2.3	C16
Small intestine	4	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0.2	C17
Colon	110	0	0	0	0	0	0	0	2	3	9	7	11	8	12	12	18	28	4.4	C18
Rectum	81	0	0	0	0	0	0	2	2	3	4	9	8	9	8	10	10	16	3.3	C19-C21
Liver	153	0	0	1	0	1	0	2	0	3	6	16	20	23	14	24	19	24	6.2	C22
Gallbladder etc.	40	0	0	0	0	0	0	0	1	1	1	1	2	5	3	9	9	8	1.6	C23-C24
Pancreas	27	0	0	0	0	0	0	0	0	0	3	2	2	3	2	4	3	8	1.1	C25
Nose, sinuses etc.	8	0	0	0	0	0	0	1	0	0	2	0	0	3	0	0	0	2	0.3	C30-C31
Larynx	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.2	C32
Bronchus, lung	152	0	0	0	0	0	0	5	7	1	6	14	7	21	18	30	16	27	6.1	C33-C34
Other Thoracic organs	4	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0.2	C37-C38
Bone	10	0	1	0	1	0	0	3	0	0	1	0	3	0	0	0	0	1	0.4	C40-C41
Connective tissue	9	0	0	0	1	1	0	0	0	3	0	0	0	2	0	2	0	0	0.4	C47;C49
Mesothelioma	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.0	C45
Kapos's sarcoma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.0	C46
Melanoma of skin	7	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	2	2	0.3	C43
Other skin	39	0	0	0	0	0	1	1	0	0	2	1	4	1	2	5	6	16	1.6	C44
Breast	522	0	0	0	0	0	0	4	15	54	78	109	87	61	32	39	19	24	21.1	C50
Uterus unspec.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C55
Cervix uteri	404	0	0	0	0	0	0	4	9	39	60	64	56	62	33	32	17	28	16.3	C53
Placenta	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	C58
Corpus uteri	68	0	0	0	0	0	1	0	1	3	3	6	11	17	10	7	4	5	2.7	C54
Ovary etc.	139	0	0	0	1	4	2	2	7	9	14	16	27	14	16	10	7	10	5.6	C56
Other female genital	17	0	0	0	0	0	0	0	1	0	1	0	2	1	3	1	1	7	0.7	C51-C52;C57
Bladder	18	0	0	0	0	0	0	0	0	1	0	2	0	0	4	3	4	4	0.7	C67
Kidney etc.	7	0	1	1	0	0	0	1	1	0	0	0	0	3	0	0	0	0	0.3	C64-C66;C68
Eye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C69
Brain, nervous system	38	0	2	1	2	1	0	3	0	3	2	2	6	3	4	2	3	4	1.5	C70-C72
Thyroid	65	0	0	0	0	2	0	4	5	8	11	3	9	5	3	8	4	3	2.6	C73
Other endocrine	4	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0.2	C74-C75
Hodgkin's disease	3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0.1	C81
Non-Hodgkin lymphoma	80	0	0	2	1	0	1	4	3	3	2	9	6	6	10	6	12	15	3.2	C82-C85;C96
Multiple myeloma	21	0	0	0	0	0	0	0	0	1	0	2	0	5	4	1	2	6	0.8	C88;C90
Lymphoid leukaemia	22	0	3	4	0	0	3	1	1	1	1	2	1	1	0	1	0	3	0.9	C91
Myeloid leukaemia	37	0	0	0	0	2	1	4	2	3	3	3	5	1	2	3	1	7	1.5	C92
Monocytic leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C93
Other leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	C94
Leukaemia unspec.	28	0	1	1	0	1	0	1	4	2	1	0	4	1	2	3	2	5	1.1	C95
Other & unspecified	143	0	0	0	0	1	0	4	5	6	7	9	11	13	12	22	23	30	5.8	
All sites	2476	0	8	11	7	15	13	51	71	155	224	297	302	289	218	266	213	336	100.0	

Table 31 : Average Incidence per 100 000 by Age group (Male), Phitsanulok, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C00
Tongue	2.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	3.8	2.5	3.4	9.7	14.0	17.9	13.4	2.3	2.2	C01-C02
Salivary gland	0.9	0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.5	0.5	1.9	0.0	3.4	6.5	1.7	0.0	6.7	0.9	0.9	C07-C08
Mouth	2.1	0	0.8	0.0	0.0	0.0	0.0	0.6	0.0	0.0	2.2	2.6	5.7	4.5	9.7	8.7	10.2	15.6	2.1	2.1	C03-C06
Oropharynx	1.4	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	2.2	3.2	4.9	2.3	4.9	1.7	5.1	6.7	1.4	1.2	C09-C10
Nasopharynx	1.8	0	0.0	0.0	0.0	0.0	2.3	0.6	0.0	1.6	2.2	2.6	4.9	3.4	1.6	7.0	7.7	8.9	1.8	1.6	C11
Hypopharynx	1.9	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.9	5.7	3.4	9.7	7.0	15.3	17.9	1.9	1.9	C12-C13
Pharynx unspec.	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C14
Oesophagus	3.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.2	7.4	7.9	17.8	21.0	12.8	29.0	3.2	3.2	C15
Stomach	4.9	0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	4.5	9.8	7.9	21.0	36.7	48.5	33.5	4.9	4.9	C16
Small intestine	0.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	5.1	4.5	0.2	0.2	C17
Colon	6.0	0	0.0	0.0	0.0	0.0	0.0	1.1	0.6	1.6	3.8	10.2	7.4	13.6	19.4	36.7	35.7	55.8	6.0	5.7	C18
Rectum	4.5	0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	1.6	4.5	9.0	11.3	17.8	21.0	48.5	35.7	4.5	4.4	C19-C21
Liver	25.7	0	0.0	0.7	0.0	0.0	0.6	3.4	6.7	15.6	29.4	39.0	64.7	78.2	100.4	120.5	104.6	89.3	25.7	23.7	C22
Gallbladder etc.	1.4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	0.5	0.6	3.3	1.1	3.2	10.5	5.1	17.9	1.4	1.3	C23-C24
Pancreas	2.1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.8	6.6	5.7	0.0	8.7	20.4	15.6	2.1	1.9	C25
Nose, sinuses etc.	0.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	1.7	2.6	0.0	0.3	0.4	C30-C31
Larynx	2.5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.9	2.5	13.6	9.7	10.5	17.9	29.0	2.5	2.5	C32
Bronchus, lung	21.2	0	0.0	0.0	0.0	0.0	0.0	1.7	3.3	4.9	4.9	14.1	22.9	48.7	87.4	155.5	219.3	185.3	21.2	21.1	C33-C34
Other Thoracic organs	0.2	0	0.0	0.0	0.0	0.7	0.0	0.6	0.0	0.0	0.0	0.6	0.0	1.1	0.0	0.0	2.6	0.0	0.2	0.2	C37-C38
Bone	0.8	0	0.0	0.0	0.7	1.3	0.6	0.0	0.6	1.1	0.5	1.3	0.0	1.1	3.2	1.7	0.0	6.7	0.8	0.8	C40-C41
Connective tissue	0.7	0	0.8	0.0	0.7	0.0	0.0	0.6	0.0	0.5	1.6	0.6	0.8	0.0	1.6	1.7	0.0	6.7	0.7	0.7	C47;C49
Mesothelioma	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposi's sarcoma	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C46
Melanoma of skin	0.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	3.2	3.5	2.6	2.2	0.3	0.4	C43
Other skin	1.6	0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.5	3.8	2.5	5.7	4.9	7.0	5.1	13.4	1.6	1.5	C44
Breast	0.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	2.3	1.6	0.0	0.0	6.7	0.3	0.3	C50
Prostate	5.4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	6.8	13.0	43.7	53.6	109.4	5.4	5.4	C61
Testis	0.7	0	0.0	0.0	0.0	0.7	2.3	0.6	0.0	0.0	2.2	0.6	0.0	0.0	1.6	1.7	2.6	2.2	0.7	0.7	C62
Penis	1.4	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	2.6	1.6	2.3	4.9	8.7	10.2	15.6	1.4	1.4	C60
Other male genital	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C63
Bladder	4.1	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	1.1	4.5	4.9	3.4	9.7	21.0	33.2	71.4	4.1	3.9	C67
Kidney etc.	0.9	0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.6	1.6	4.5	0.0	3.5	10.2	6.7	0.9	0.9	C64-C66;C68
Eye	0.1	0	0.8	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.1	0.2	C69
Brain, nervous system	2.0	0	1.6	2.1	0.0	1.3	0.6	1.1	2.8	1.1	1.1	3.2	4.9	2.3	8.1	1.7	2.6	4.5	2.0	2.0	C70-C72
Thyroid	0.5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.3	1.6	2.3	0.0	3.5	2.6	2.2	0.5	0.5	C73
Other endocrine	0.1	0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.1	0.2	C74-C75
Hodgkin's disease	0.4	0	0.8	0.7	0.0	0.0	0.6	0.0	0.0	1.1	0.0	0.0	1.6	0.0	1.6	0.0	0.0	0.0	0.4	0.4	C81
Non-Hodgkin lymphoma	5.6	0	0.0	3.5	0.0	1.3	2.3	1.1	0.0	2.2	4.9	6.4	10.7	20.4	16.2	26.2	20.4	31.3	5.6	5.4	C82-C85;C96
Multiple myeloma	1.3	0	0.0	0.7	0.0	0.0	0.0	1.1	0.0	0.0	1.6	0.0	2.5	5.7	3.2	8.7	5.1	6.7	1.3	1.2	C88;C90
Lymphoid leukaemia	1.4	0	3.2	2.8	2.0	2.6	0.6	0.0	0.6	0.0	0.0	0.6	0.8	1.1	3.2	1.7	5.1	8.9	1.4	1.7	C91
Myeloid leukaemia	2.3	0	0.0	0.0	1.3	2.0	1.2	0.6	1.1	1.1	2.7	1.9	4.1	3.4	6.5	8.7	15.3	6.7	2.3	2.1	C92
Monocytic leukaemia	0.1	0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	C93
Other leukaemia	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.1	C94
Leukaemia unspec.	1.0	0	1.6	0.7	1.3	0.7	0.0	0.0	0.0	1.1	0.0	0.6	0.0	4.5	0.0	5.2	7.7	4.5	1.0	1.1	C95
Other & unspecified	9.8	0	0.8	0.7	0.0	0.7	0.6	2.3	2.8	4.3	7.6	9.6	16.4	28.3	35.6	36.7	58.7	84.8	9.8	9.3	
All sites	2522	0	13.0	12.0	6.0	11.0	13.0	19.0	21.0	45.0	82.0	137.0	211.0	306.0	445.0	648.0	816.0	958.0	123.6	119.4	

Table 32 : Average Incidence per 100 000 by Age group (Female), Phitsanulok, 2003-2007

CANCER / SITE	ALL AGES	AGE UNK.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	ASR WORLD	ICD (10th)
Lip	25	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.8	2.1	0.0	9.1	6.0	16.6	1.2	0.9	C00
Tongue	20	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	3.1	1.5	2.1	5.6	1.5	4.0	4.5	1.0	0.8	C01-C02
Salivary gland	21	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	0.0	1.2	2.3	2.1	4.2	6.1	6.0	3.0	1.0	0.9	C07-C08
Mouth	47	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	0.0	0.0	2.3	4.1	2.8	18.2	16.0	24.1	2.2	1.8	C03-C06
Oropharynx	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4.0	0.0	0.1	0.1	C09-C10
Nasopharynx	17	0	0.0	0.0	0.0	1.4	0.6	0.0	1.1	1.6	1.0	0.6	0.8	1.0	0.0	3.0	2.0	1.5	0.8	0.7	C11
Hypopharynx	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.0	1.4	0.0	0.0	0.0	0.1	0.1	C12-C13
Pharynx unspec.	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C14
Oesophagus	15	0	0.0	0.7	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.6	0.8	3.1	2.8	3.0	0.0	4.5	0.7	0.6	C15
Stomach	58	0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.6	1.6	3.7	5.3	4.1	14.0	3.0	18.0	18.1	2.8	2.3	C16
Small intestine	4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.0	0.0	0.0	2.0	1.5	0.2	0.1	C17
Colon	110	0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.6	4.7	4.3	8.3	8.3	16.8	18.2	36.0	42.2	5.3	4.2	C18
Rectum	81	0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.6	2.1	5.5	6.1	9.3	11.2	15.2	20.0	24.1	3.9	3.2	C19-C21
Liver	153	0	0.0	0.7	0.0	0.7	0.0	1.1	0.0	1.6	3.1	9.8	15.1	23.8	19.6	36.4	38.0	36.2	7.3	6.2	C22
Gallbladder etc.	40	0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.5	0.6	1.5	5.2	4.2	13.7	18.0	12.1	1.9	1.6	C23-C24
Pancreas	27	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2	1.5	3.1	2.8	6.1	6.0	12.1	1.3	1.0	C25
Nose, sinuses etc.	8	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0	3.1	0.0	0.0	0.0	3.0	0.4	0.3	C30-C31
Larynx	4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.0	3.0	0.2	0.1	C32
Bronchus, lung	152	0	0.0	0.0	0.0	0.0	0.0	2.9	3.9	0.5	3.1	8.6	5.3	21.7	25.2	45.5	32.0	40.7	7.3	6.2	C33-C34
Other Thoracic organs	4	0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	3.0	0.0	0.0	0.2	0.2	C37-C38
Bone	10	0	0.9	0.0	0.7	0.0	0.0	1.7	0.0	0.0	0.5	0.0	2.3	0.0	0.0	0.0	0.0	1.5	0.5	0.5	C40-C41
Connective tissue	9	0	0.0	0.0	0.7	0.7	0.0	0.0	0.0	1.6	0.0	0.0	0.0	2.1	0.0	3.0	0.0	0.0	0.4	0.4	C47;C49
Mesothelioma	1	0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C45
Kaposi's sarcoma	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	C46
Melanoma of skin	7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.0	1.4	0.0	4.0	3.0	0.3	0.3	C43
Other skin	39	0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	1.0	0.6	3.0	1.0	2.8	7.6	12.0	24.1	1.9	1.4	C44
Breast	522	0	0.0	0.0	0.0	0.0	0.0	2.3	8.3	27.9	40.5	66.9	65.8	63.1	44.8	59.2	38.0	36.2	24.9	19.7	C50
Uterus unspec.	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C55
Cervix uteri	404	0	0.0	0.0	0.0	0.0	0.0	2.3	5.0	20.2	31.1	39.3	42.4	64.1	46.2	48.6	34.0	42.2	19.3	15.4	C53
Placenta	1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C58
Corpus uteri	68	0	0.0	0.0	0.0	0.0	0.6	0.0	0.6	1.6	1.6	3.7	8.3	17.6	14.0	10.6	8.0	7.5	3.2	2.8	C54
Ovary etc.	139	0	0.0	0.0	0.7	2.8	1.2	1.1	3.9	4.7	7.3	9.8	20.4	14.5	22.4	15.2	14.0	15.1	6.6	5.6	C56
Other female genital	17	0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	0.0	1.5	1.0	4.2	1.5	2.0	10.6	0.8	0.6	C51-C52;C57
Bladder	18	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.2	0.0	0.0	5.6	4.6	8.0	6.0	0.9	0.7	C67
Kidney etc.	7	0	0.9	0.7	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.3	0.4	C64-C66;C68
Eye	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C69
Brain, nervous system	38	0	1.7	0.7	1.4	0.7	0.0	1.7	0.0	1.6	1.0	1.2	4.5	3.1	5.6	3.0	6.0	6.0	1.8	1.7	C70-C72
Thyroid	65	0	0.0	0.0	0.0	1.4	0.0	2.3	2.8	4.1	5.7	1.8	6.8	5.2	4.2	12.1	8.0	4.5	3.1	2.5	C73
Other endocrine	4	0	0.0	0.0	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.2	0.2	C74-C75
Hodgkin's disease	3	0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.5	0.1	0.1	C81
Non-Hodgkin lymphoma	80	0	0.0	1.5	0.7	0.0	0.6	2.3	1.7	1.6	1.0	5.5	4.5	6.2	14.0	9.1	24.0	22.6	3.8	3.3	C82-C85;C96
Multiple myeloma	21	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.2	0.0	5.2	5.6	1.5	4.0	9.0	1.0	0.8	C88;C90
Lymphoid leukaemia	22	0	2.6	2.9	0.0	0.0	1.8	0.6	0.6	0.5	0.5	1.2	0.8	1.0	0.0	1.5	0.0	4.5	1.1	1.2	C91
Myeloid leukaemia	37	0	0.0	0.0	0.0	1.4	0.6	2.3	1.1	1.6	1.6	1.8	3.8	1.0	2.8	4.6	2.0	10.6	1.8	1.5	C92
Monocytic leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C93
Other leukaemia	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C94
Leukaemia unspec.	28	0	0.9	0.7	0.0	0.7	0.0	0.6	2.2	1.0	0.5	0.0	3.0	1.0	2.8	4.6	4.0	7.5	1.3	1.2	C95
Other & unspecified	143	0	0.0	0.0	0.0	0.7	0.0	2.3	2.8	3.1	3.6	5.5	8.3	13.4	16.8	33.4	46.0	45.2	6.8	5.6	
All sites	2476	0	7	8	5	10	8	29	39	80	116	182	229	299	305	404	426	507	118.3	97.4	

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