SINGAPORE
CANCER
REGISTRY
REPORT No. 5

CANCER INCIDENCE IN SINGAPORE 1993 - 1997

K.S. Chia, A. Seow, H.P. Lee & K. Shanmugaratnam

SINGAPORE CANCER REGISTRY

SINGAPORE
CANCER
REGISTRY
REPORT No. 5.

CANCER INCIDENCE IN SINGAPORE 1993-1997

K.S. Chia
Associate Professor,
Department of Community, Occupational and Family Medicine,
National University of Singapore.

A. Seow
Assistant Professor,
Department of Community, Occupational and Family Medicine,
National University of Singapore.

H.P. Lee
Professor and Head,
Department of Community, Occupational and Family Medicine,
National University of Singapore.

K. Shanmugaratnam
Emeritus Professor of Pathology,
Department of Pathology,
National University of Singapore.

ISBN : 981-04-2664-X

SINGAPORE CANCER REGISTRY
2000

Previous Publications:

1. K. Shanmugaratnam, H.P. Lee, N.E. Day: Cancer Incidence in Singapore 1968 -1977. IARC Scientific Publications No. 47, 1983.

2. H.P. Lee, N.E. Day, K. Shanmugaratnam: Trends in Cancer Incidence in Singapore 1968-1982. IARC Scientific Publications No. 91, 1988.

3. H.P. Lee, K.S. Chia, K. Shanmugaratnam: Cancer Incidence in Singapore 1983-1987. Singapore Cancer Registry, Report No. 3, 1992.

4. K.S. Chia, H.P. Lee, A. Seow, K. Shanmugaratnam: Trends in Cancer Incidence in Singapore 1968-1992. Singapore Cancer Registry, Report No. 4, 1996.

ADVISORY COMMITTEE OF THE SINGAPORE CANCER REGISTRY

Dr. S.K. Chew	Representative of the Ministry of Health
Prof. H.P. Lee	Deputy Director, Singapore Cancer Registry
Prof. K. Shanmugaratnam	Director, Singapore Cancer Registry (Chairman)
Dr. I. Sng	Department of Pathology, Ministry of Health
Dr. E. J. Chua	Department of Therapeutic Radiology, Singapore General Hospital
Prof. Y.O. Tan	Representative of the Singapore Cancer Society
Prof. K.S. Chia	Singapore Cancer Registry

THE STAFF OF THE SINGAPORE CANCER REGISTRY

Prof. K. Shanmugaratnam	Emeritus Professor of Pathology, NUS (Director)
Prof. H.P. Lee	Professor and Head, Department of Community, Occupational and Family Medicine, NUS (Deputy Director)
Prof. K.S. Chia	Associate Professor, Department of Community, Occupational and Family Medicine, NUS
Dr. A. Seow	Assistant Professor, Department of Community, Occupational and Family Medicine, NUS
*Mrs. Betty W.K. Quah	Secretary
*Mrs. Alice C.L. Yap	Secretary
*Mr. Jalaludin s/o P.Mohd	Record Searcher

*Full-time staff of the Cancer Registry

CONTENTS

CONTENTS

ACKNOWLEDGMENTS

We wish to express our grateful thanks to:

The medical profession in Singapore, in the public and private sectors, for cancer notifications.

The Ministry of Health for access to hospital records.

The Department of Statistics, Ministry of Finance and Computer Information Systems Dept., Ministry of Home Affairs for population statistics and for access to mortality records.

The Directors of Departments of Pathology in the public and private sectors for access to pathology records.

The Singapore Cancer Society for generous contributions.

The National University of Singapore for logistics and financial support.

This undertaking would not have been possible without their sustained and generous support.

Mrs W.K Quah proof-read the monograph

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

The first four reports covering the period 1968 to 1992[1-4] have served to introduce the organization, method of operation and the substantive results of the Singapore Cancer Registry. The trends in cancer incidence for the 25-year period 1968-1992 were presented in the fourth report[4].

This report will cover the period 1993-1997 which is also the time frame for the eighth volume in the IARC series: 'Cancer Incidence in Five Continents'. Some of the earlier data have also been updated, as a result of new information gathered from subsequent notifications and other sources. All the age-standardized rates given in this report are derived by the direct method using the UICC 'World' Population[5].

The cancer incidence data presented in this report refer only to "Singapore Residents", i.e. citizens and permanent residents as defined in the Census. For non-residents, an analysis of cancer notifications is presented in chapter 13.

The population denominators for residents in this report are extrapolated from the censuses of 1980[6] and 1990[7]. The 1990 census used information in government databases to improve its coverage, and to ensure that enumeration was comprehensive. The *total population* enumerated at the 1990 census was about 10% more than was previously estimated by extrapolation from the 1970 and 1980 censuses, but this affected the resident population to a lesser extent[7]. The Department of Statistics carried out a mid-decade mini-census in 1995[8]. The extrapolated denominator for 1995 did not differ significantly from the mini-census.

From 1993, the Singapore Cancer Registry adopted the International Classification of Diseases for Oncology, 2nd Edition (ICD-O)[9] for the classification of cancers by primary site and morphology. Previously, the International Classification of Disease, 9th Revision (ICD-9)[10] was used for the classification of primary sites and the Manual of Tumor Nomenclature and Coding[11] for morphology coding. The major differences between the two classifications are outlined in Chapter 4.

However, in order to ensure comparability with previous publications, the data on primary site presented in this volume are based on ICD-9; a computer program was used to convert ICD-O codes to ICD-9 codes.

As in the previous reports, the summary tables will show some of the primary sites combined in the following manner:

ICD-9	143-5	Mouth
ICD-9	153-4	Colon & Rectum
ICD-9	172-3	Skin-melanoma & others
ICD-9	191-2	Brain & Nervous system
ICD-9	200-2	Lymphomas - Hodgkin & non-Hodgkin
ICD-9	204-8	Leukaemias - all types

Detailed data on each specific cancer site by ICD-9 3-digit code are given in the relevant appendices.

2. THE COUNTRY AND ITS POPULATION

2.1 Ethnic Groups

In the 1980 Census[6] the *total population* was 2,413,945. The resident population was 2,282,125 (94.5%), comprising 78.3% Chinese, 14.4% Malays, 6.3% Indians and 1.0% Others.

In the 1990 Census[7] the *total population* was 3,016,379. The resident population was 2,705,115 (89.7%), comprising 77.7% Chinese, 14.1% Malays, 7.1% Indians and 1.1% Others.

The population pyramids of the resident population for the 1980 and 1990 censuses are shown in Figure 2.1. The rate of natural increase in 1980 was 1.3% and in 1990 was 2.3%.

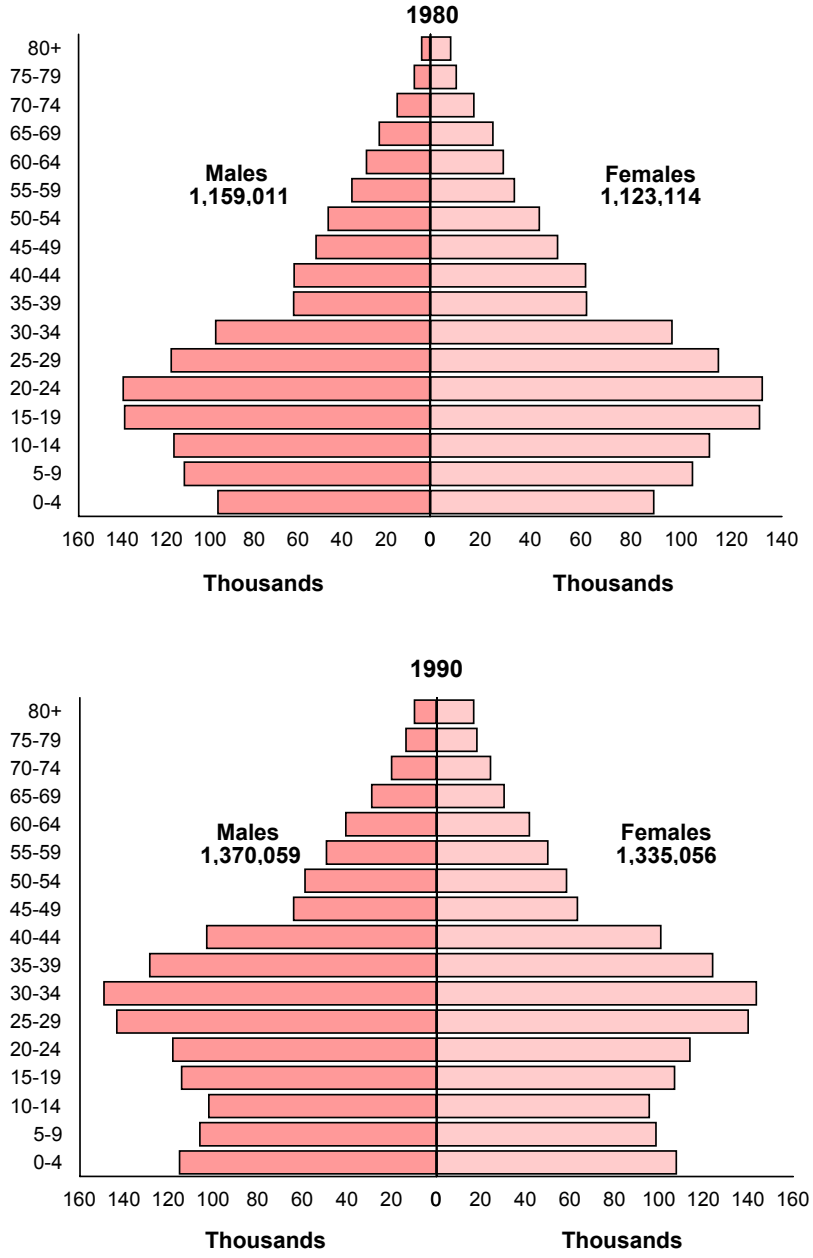


Figure 2.1 POPULATION PYRAMIDS OF THE RESIDENT POPULATION FOR 1980 AND 1990.

2.2 Sex Distribution

There were 1032 males to 1000 females in the 1980 resident population and 1026 males to 1000 females in 1990. The sex ratios for the major ethnic groups were:

Ethnic group	Number of males per 1000 females		
	1980	1990	1995
Chinese	1,014	1,012	1,001
Malay	1,036	1,041	1,034
Indian	1,277	1,181	1,136
Others	991	937	878

The relatively higher proportion of male Indians as a result of selective migration into Singapore remained, although the imbalance is becoming less marked.

2.3 Migrant Status, Citizenship and Residence

The cancer incidence rates presented in this report refer only to "Singapore Residents", i.e. citizens and permanent residents as defined in the Census. In 1980, residents comprised 94.5% of the total population and 89.7% in 1990. The proportion of residents for the ethnic groups were:

Ethnic group	Proportion of residents (%)	
	1980	1990
Chinese	96.3	93.3
Malay	93.5	93.8
Indian	92.7	83.2
Others	43.0	22.7
All groups	94.5	89.7

Cancer notifications in non-residents is described in Chapter 13.

2.4 Denominators for Incidence Rates

The denominators used for calculating incidence rates were estimated for each year using the 1980 and 1990 census populations as reference points. Description of the extrapolation technique used is given in Appendix A1.

2.5 The Medical Services

Over the 30-year period 1968-97, the number of registered medical practitioners increased more than four fold from 1159 to 4692. On the whole, about half of them were in the public sector, with the rest in private practice. The population:doctor ratio continued to improve from 1735 persons per doctor in 1968 to 1265 in 1978, 822 in 1988 and 760 in 1997 (Table 2.1).

The total number of public and private hospitals was maintained at around 22 during the period. Together they provided an average total bed capacity of about 10,400, keeping the bed:population ratio at about 2.9 per 1000 population.

In the same period, the Government also provided about 24 polyclinics offering primary health care at nominal rates.

Table 2.1: SINGAPORE: STATISTICS ON DOCTORS, HOSPITALS AND BEDS, 1968-97

	1968	1978	1988	1990	1993	1994	1995	1996	1997
Doctors[a]:									
Government	502	826	1,551	1,831	1,971	1,985	2,124	2,177	2,285
Private	657	1,035	1,611	1,593	1,677	1,813	2,194	2,302	2,407
Total	1,159	1,861	3,162	3,424	3,648	3,798	4,318	4,479	4,692
Population/ Doctor	1,735[b]	1,265[b]	822[c]	757[c]	731[c]	780[b]	770[b]	770[b]	760[b]
Hospitals:									
Government	11	13	9	11	11	12	12	12	10
Private	6	10	11	10	11	10	10	13	13
Total	17	23	20	21	22	22	22	25	23
Beds:									
Government	7,004	8,493	7,924	7,922	7,892	7,883	8,326	8,511	9,091
Private	767	1,138	1,839	1,827	1,899	1,893	2,172	2,157	2,185
Total	7,771	9,631	9,810	9,749	9,791	9,726	10,498	10,668	11,276
Beds/ 1000 pop.	3.9[b]	4.1[b]	3.8[c]	3.6[c]	3.5[c]	3.1[b]	3.0[b]	3.0[b]	2.9[b]

[a]From 1993, those not in active practice were excluded.
[b]Based on total population.
[c]Based on resident population.

3. CANCER MORTALITY

Mortality from all causes fell from about 5.2 per 1,000 in 1970 to 4.5 per 1,000 in 1995[12]. Cancer as a cause of death continued to increase in importance over the last decade. Of the 75,871 deaths in 1993-97, malignant neoplasms accounted for 19,408. The proportion of cancer deaths among all causes of death was 25.6%, compared with 20.9% in 1988-92 and 14.8% in 1968-72. It is to be noted that all mortality figures given in Table 3.1 include residents and non-residents.

Table 3.2 shows the average annual crude and age- standardized death rates for selected cancer sites in males and females (residents only) during the period 1993-97. Consistent with previous reports, lung cancer deaths were highest among all cancers in males and females. This was followed by liver cancer in males, and more closely, by breast cancer in females.

Table 3.1: SINGAPORE: CANCER DEATHS, 1968-97[a] (TOTAL POPULATION - INCLUDING NON-RESIDENTS).

Period	Population-at-risk[a]	Mean annual number of cancer deaths[b]	Crude annual cancer death rate (per 100,000 mid-term population)	Proportion of cancer deaths among deaths from all causes
1968-72	2,074,507 (1970 Census)	1,622.2	78.2	14.8
1973-77	2,249,900 (1975 estimate)	2,086.4	92.9	17.8
1978-82	2,413,945 (1980 Census)	2,540.4	105.2	20.2
1983-87	2,558,000 (1985 estimate)	2,909.0	113.7	22.1
1988-92	3,016,379 (1990 Census)	2,918.0	96.7	20.9
1993-97	3,467,500 (1995 estimate)	3,881.6	111.9	25.6

[a]Data from Department of Statistics.
[b]Derived from Reports on the Registration of Births, Deaths and Marriages[13].

Table 3.2 AVERAGE ANNUAL CANCER MORTALITY RATES[a] FOR SELECTED SITES (WITH MORE THAN 10 DEATHS PER YEAR) BY SEX, 1993-97

ICD9	Site	Male		Female	
		CR[b]	ASR[c]	CR[b]	ASR[c]
147	Nasopharynx	8.5	8.3	2.9	2.6
150	Oesophagus	4.9	5.5	1.7	1.5
151	Stomach	14.4	15.8	9.5	8.6
153	Colon	11.8	13.0	11.4	10.3
154	Rectum	6.4	7.0	4.5	4.1
155	Liver	17.8	19.4	6.0	5.6
157	Pancreas	4.1	4.5	3.5	3.3
161	Larynx	2.8	3.1	0.3	0.3
162	Lung	38.1	43.0	17.4	16.0
174	Breast	-	-	14.8	13.7
180	Cervix	-	-	6.3	6.1
183	Ovary	-	-	4.4	4.3
185	Prostate	4.7	5.0	-	-
188	Bladder	2.2	2.4	0.9	0.7
189	Kidney, etc.	2.3	2.5	1.1	1.0
193	Thyroid	0.4	0.4	0.8	0.8
200-2	Lymphomas	3.5	3.8	2.4	2.1
204-8	Leukaemias	3.9	4.1	3.1	3.0

[a]Derived from data provided by the Singapore Immigration and Registration Dept. (Resident Population only).
[b]CR = Crude Rate per 100 000 per year.
[c]ASR = Age-standardized Rate per 100 000 per year.

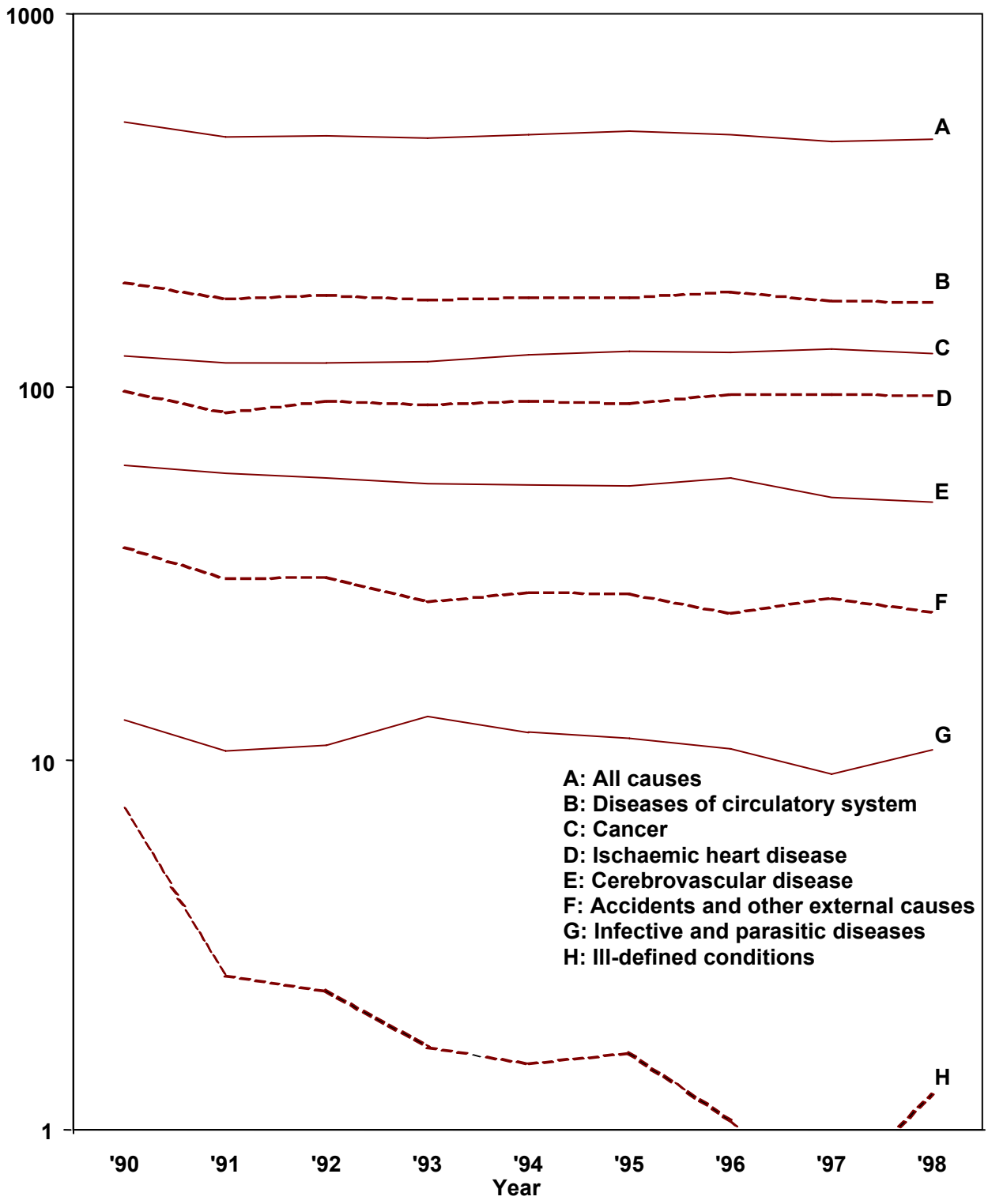


Figure 3.1 SINGAPORE RESIDENTS: CRUDE MORTALITY RATES FOR SELECTED CAUSES, MALES AND FEMALES, 1990-98.

4. THE SINGAPORE CANCER REGISTRY

The Registry continued to enjoy good co-operation from relevant agencies, government departments, hospitals and medical practitioners. The operational methods remained as they were without any major changes. For easy reference, the outline of registration procedures is reproduced in Figure 4.1 together with a summary of the methods.

As before, the registry would register all cases of cancer diagnosed in Singapore although incidence rates are confined to Singapore Residents (i.e. citizens and permanent residents). With the constant updating of information, the figures presented in this report may not tally with those in the earlier publications. Where there are discrepancies, the data in this volume should be considered more reliable and used accordingly.

a) The Registry seeks to obtain basic epidemiological and clinical data on all cases of cancer diagnosed in Singapore since 1st January 1968, regardless of citizenship, place of domicile and basis of diagnosis.

   The analysis of the data (incidence rates and relative risks) however, is based only on those cases occurring in citizens and permanent residents. The number of cancer notifications among non-residents from 1968 will be presented for the first time in this report.

b) Identification of cases - For residents, duplication of registration is avoided by cross-checking names and National Registration Identity Card (N.R.I.C.) numbers where available. The N.R.I.C. number is personal to each citizen or permanent resident above the age of 12 years, and since 1968 has been based on the birth certificate number, where applicable.

   For non-residents, duplication of registration is avoided using a combination of several parameters: passport number, foreigner identification number (FIN), name, gender, age, ethnicity and country of permanent residence.

c) Sources of information - Registrations are based primarily on notifications received from all sections of the medical profession in Singapore. The Registry ensures that registrations are as complete as possible by routinely checking pathology records (biopsies and necropsies), hospital discharge records and death certificates.

d) Notifications by medical practitioners - This is voluntary as cancer is not legislated as a notifiable disease in Singapore; there is no notification fee.

e) Notifications on request - Cancer cases picked up from pathology records (Government, restructured and private laboratories), hospital discharge records (Government and restructured hospitals), and listings of death certificates (Registry of Births and Deaths) are checked against previously registered cases. If the cases were not previously notified, reminders are sent to the doctors-in-charge for more information. Requests for clarification or additional information are also sent whenever necessary.

f) Registration by staff - When cases picked up from the above-mentioned sources are not notified by doctors, even after special request, they are registered by the staff provided they satisfy one of the following conditions - a pathological diagnosis of cancer, a clinical diagnosis of cancer supported by surgical, radiological or laboratory findings, or mention of cancer in the death certificate.

g) In order that the information provided by the Registry be of a high quality in terms of coverage and accuracy, a number of quality control checks have been established. Registry staff seek to rule out missed cases, duplicate notifications and inaccurate data. The N.R.I.C. number helps to ensure proper coverage, and multiple sources (e.g. hospital discharge summaries, pathology reports and death certificates) ensure accuracy of data. Rigorous checks by registry staff at different levels also minimise errors. One measure of the quality of our data is shown by the 'death certificate only' (DCO) category as the source of information. For the period 1968-1997, the DCO index was 4.2%; and for the period 1993-1997 it was 1.0%, which is well within international standards (Appendix B1).

h) Primary site registration - From 1993, the Singapore Cancer Registry adopted the International Classification of Diseases for Oncology, 2nd Edition (ICD-O)[9] for the classification of primary sites and morphology. Previously, the International Classification of Disease, 9th Revision (ICD-9)[10] was used. Some of the major differences between the two classifications are:

i. Lymphomas:

With ICD-9, all lymphomas (Hodgkins & Non-Hodgkins) are coded as 200-202 regardless of their site of presentation. In ICD-O, lymphomas are classified under the various primary sites where they present.

ii. Malignant melanoma of the skin:

Malignant melanoma of the skin has a separate ICD-9 code (172) whereas in ICD-O it is a histological subtype of skin cancers.

iii. Multiple myeloma and leukaemias

Multiple myeloma and the various leukaemias had specific ICD-9 codes: 203-208. In ICD-O they are broadly classified as cancers of the haematopoietic and reticuloendothelial system and are separated on the basis of histology.

In order to ensure comparability with previous publications where the classification was based on ICD-9, a computer program was used to convert ICD-O codes to ICD-9 codes. The program identifies all lymphomas, leukaemias and multiple myeloma on the basis of morphology and assigned the corresponding ICD9 code. For malignant melanoma of the skin, these were identified based on primary site and histology and assigned the ICD9 code of 172.

i) Multiple primary registrations - A second or third primary is only registered when all the primary sites are confirmed histologically. A new registration number is given for each new site as indicated by the 3-digit ICD9 code, i.e. no new registrations are made for second primary cancers occurring in the same site (first 3 digits) but different sub-site (4th digit), or occurring in the other of paired organs.

j) Histological typing - From 1993, the Singapore Cancer Registry adopted the International Classification of Diseases for Oncology, 2nd Edition (ICD-O)[9] for the classification of morphology. Previously the codes used were from the Manual of Tumor Nomenclature and Coding[11]. The incidence data includes all cases that are definitely malignant (5th digit code of '3') and cases with borderline malignancy or uncertain malignant potential (5th digit code of '1').

k) Special considerations - Some neoplasms of questionable malignancy(5th digit code '1') not assignable to ICD-9 140-208 that are included in the Singapore Cancer Registry data are carcinoid of appendix 235.2; craniopharyngioma 237.0; cystosarcoma phyllodes 238.3; glioma, benign 225.0; ependymoma, benign 225.0; mesothelioma 239.9; osteoclastoma 238.0; papilloma of bladder, NOS 223.3; thymoma 212.6; mucoepidermoid tumour of salivary gland 235.0; granulosa cell tumour of ovary 236.2.

In addition, the following are also included in the Singapore Cancer Registry data: polycythaemia vera 238.4; myeloproliferative disease, myeloscleosis with myeloid metaplasia, idiopathic thrombocythemia, lymphoproliferative disease and myelodysplastic syndrome 238.7.

l) Cases of carcinoma-in-situ - These are registered but not included in the derivation of incidence rates. Those that become invasive at a later stage are re-registered in the year of becoming invasive carcinoma.

m) Basis of diagnosis - In the hierarchy of criteria from histological to clinical confirmation, the most valid basis of diagnosis is coded.

n) Follow-up information - The only follow-up information collected routinely is the date and cause of death.

o) Storage of data - The cancer notification forms and register of cases are maintained on a current chronological file. Data are stored in a micro-computer system.

p) Dissemination of information - The Registry publishes monographs of incidence rates at five-yearly intervals and provides tables of number of cases by sites annually. Listing of specific subsets of cancer cases are provided on request, subject to the same confidentiality controls of other medical records.

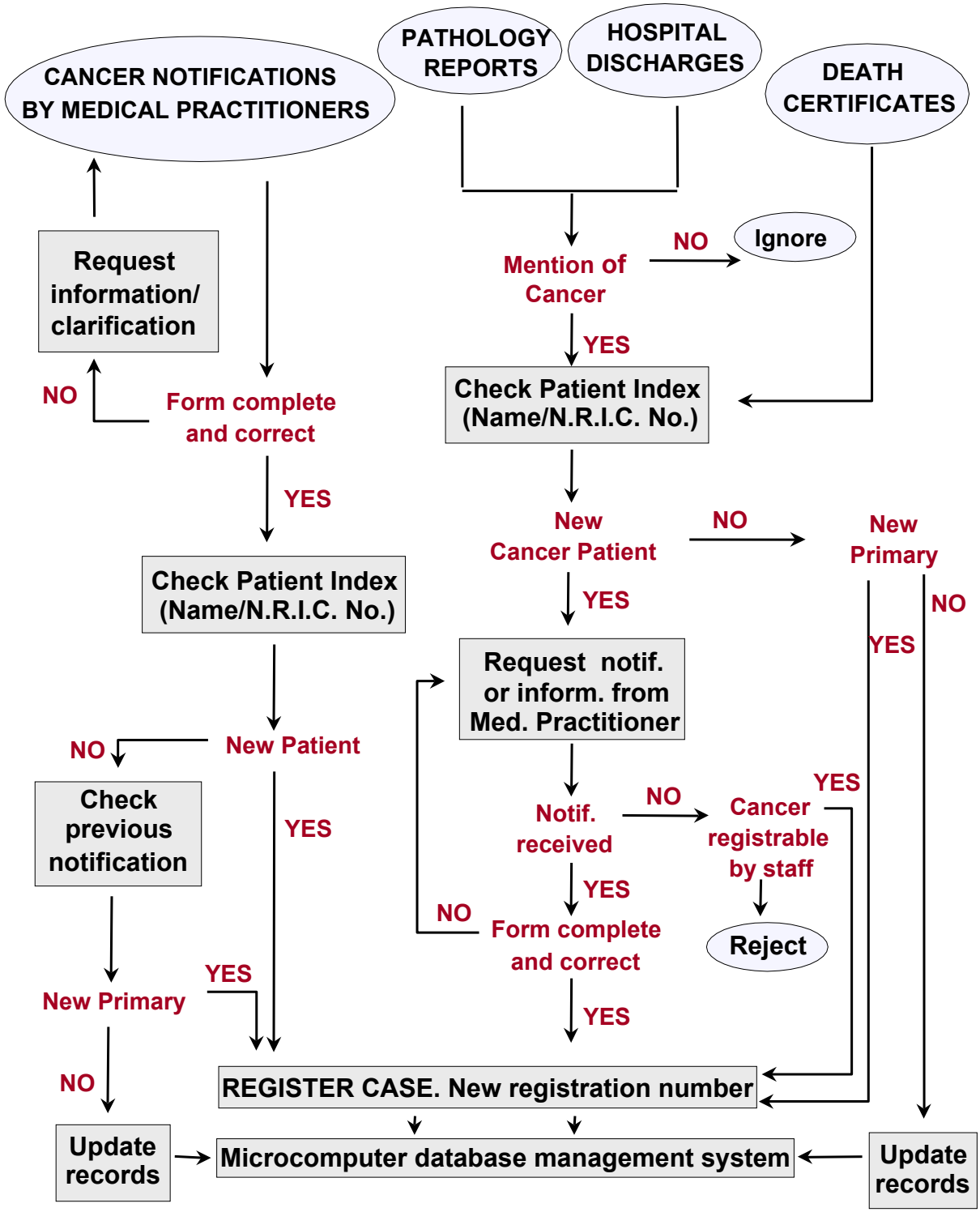


Figure 4.1 OUTLINE OF REGISTRATION PROCEDURES

5. CANCER INCIDENCE IN SINGAPORE: ALL RESIDENTS

A total of 31,829 incident cases of cancer were diagnosed among all Singapore Residents during the period 1993-1997. A breakdown of the figures for the five 5-year periods since 1968 is given below:

Period	Sex	Number	%	CR	ASR
1968-72	Male	7,029	58.0	136.3	229.3
	Female	5,099	42.0	103.7	154.5
1973-77	Male	8,578	58.0	158.4	247.5
	Female	6,204	42.0	119.2	161.6
1978-82	Male	10,131	55.9	175.0	250.3
	Female	8,004	44.1	142.8	176.0
1983-87	Male	11,649	53.7	186.6	242.3
	Female	10,026	46.3	165.2	182.9
1988-92	Male	13,583	51.6	198.0	235.8
	Female	12,748	48.4	190.7	191.8
1993-97	Male	16,150	50.7	209.7	233.1
	Female	15,679	49.3	208.8	198.1

CR: Crude rate (per 100,000 per year).
ASR: Age-standardized rate (per 100,000 per year).

The sources of cases, types of notification and basis of diagnosis of all cases for the period 1993-97 are given in Appendix B1. The most valid basis of diagnosis for selected sites in males and females respectively are given in Appendices B2 and B3.

The numbers and age-standardized rates for the ten most frequent cancers for males and females from 1993 to 1997 are shown in Table 5.1 and the relative frequencies of the common sites for the period 1988-1992 are shown in Figures 5.1(a) and (b).

The numbers of cancers in all Singapore Residents by site, gender and 5-year age groups for the period 1993 to 1997 are given in Appendices C1 (males) and C2 (females); the corresponding incidence rates are given in Appendices D1 and D2.

In comparison with western countries, Singapore has higher incidence rates for cancers of the nasopharynx, oesophagus, stomach and liver and lower rates for cancers of the pancreas, skin, breast and prostate. The incidence rates for cancers of the large bowel are approaching that of the West[14-17].

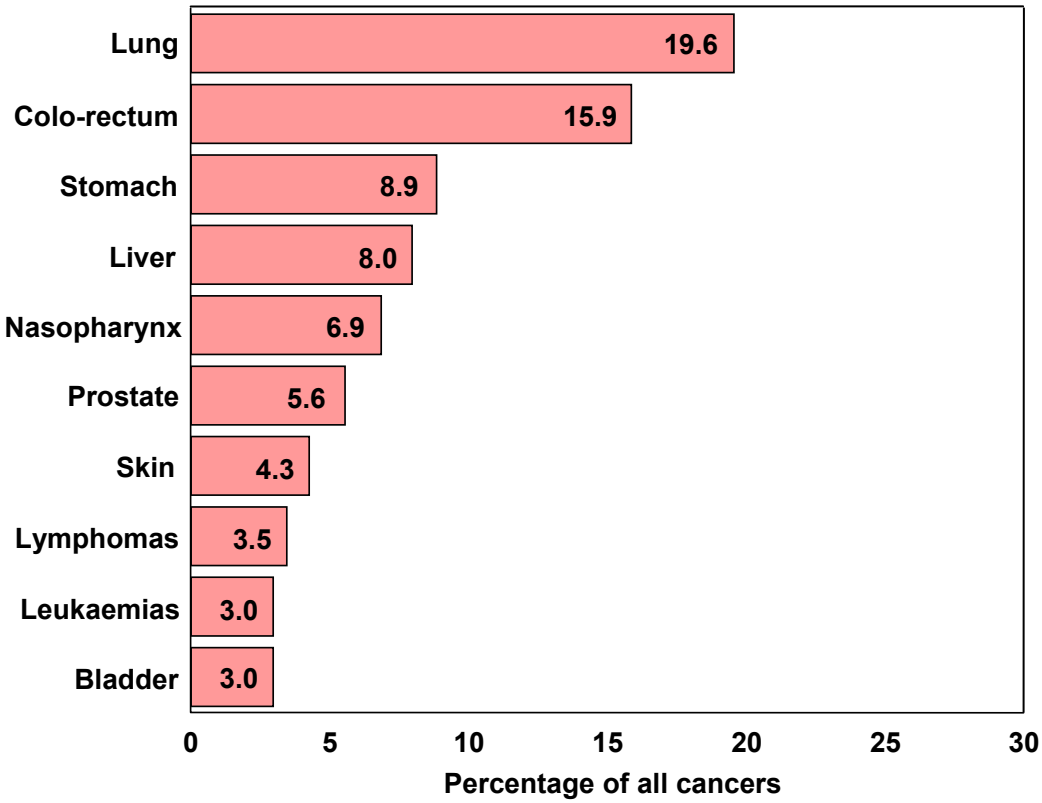


Figure 5.1(a) TEN MOST FREQUENT CANCERS IN MALES, 1993-97.

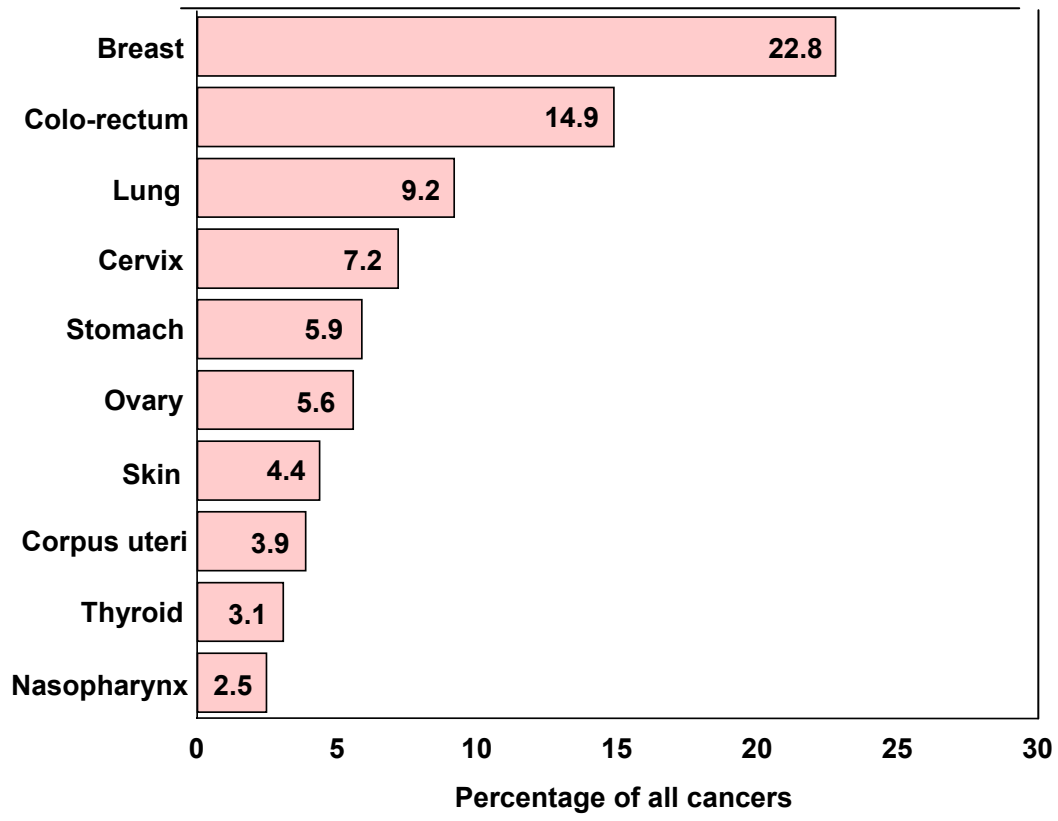


Figure 5.1(b) TEN MOST FREQUENT CANCERS IN FEMALES, 1993-97.

Table 5.1 TEN MOST FREQUENT CANCERS IN SINGAPORE, ALL RESIDENTS, 1993-1997.

MALES					FEMALES				
Rank	Site	No.	CR	ASR	Rank	Site	No.	CR	ASR
1	Lung	3,158	41.0	47.1	1	Breast	3,574	47.6	46.1
2	Colo-rectum	2,570	33.4	37.5	2	Colo-rectum	2,329	31.0	29.4
3	Stomach	1,435	18.6	21.0	3	Lung	1,443	19.2	17.9
4	Liver	1,296	16.8	18.9	4	Cervix	1,126	15.0	14.2
5	Nasopharynx	1,121	14.6	14.3	5	Stomach	927	12.3	11.3
6	Prostate	903	11.7	13.0	6	Ovary	880	11.7	11.4
7	Skin (Incl. melanoma)	688	8.9	9.6	7	Skin (Incl. melanoma)	694	9.2	8.1
8	Lymphomas	567	7.4	7.7	8	Corpus uteri	606	8.1	8.2
9	Leukaemias	492	6.3	7.1	9	Thyroid	484	6.4	5.7
10	Bladder	479	6.2	6.9	10	Nasopharynx	395	5.3	4.7
	Others	3,441				Others	3,221		
	All	16,150	209.7	233.1		All	15,679	208.8	198.1

CR: Crude rate (per 100,000 per year)
ASR: Age-standardized rate (per 100,000 per year)

6. ETHNIC GROUP VARIATIONS

The age-standardized average annual incidence rates per 100,000 population for all sites among the major ethnic groups in Singapore are given below.

Period	Sex	Ethnic Group		
		Chinese	Malay	Indian
1968-72	Male	260.5	95.4	128.6
	Female	158.9	98.0	185.9
1973-77	Male	278.4	117.6	155.7
	Female	168.2	97.7	156.5
1978-82	Male	282.9	119.8	155.1
	Female	183.3	114.9	176.8
1983-87	Male	272.7	133.7	137.5
	Female	192.8	120.5	144.9
1988-92	Male	266.7	148.8	108.3
	Female	202.2	136.6	127.1
1993-97	Male	269.2	154.2	97.2
	Female	207.5	156.3	131.2

The numbers and age-standardized rates for the ten most frequent cancers for males and females in the three major ethnic groups are shown in Tables 6.1(a) to (c) and the relative frequencies of the common sites for the period 1988-92 are shown in Figures 6.1(a) to (f).

The numbers of cancers in each of the major ethnic groups by site, sex and 5-year age-groups, 1968-1992 are given in Appendices C3 to C8; the corresponding incidence rates are given in Appendices D3 to D8.

The relative risks, after adjustment for age, for selected cancers among the major ethnic groups (Chinese as reference group) are given in Tables 6.2 (a) & (b) for the period 1993-1997. In both sexes, Malays and Indians are at signficantly lower risk of cancer than the Chinese. This is especially so for cancers of the nasopharynx, lung, oesophagus, stomach, colon, rectum and skin. Indians are at much higher risk for cancers of the tongue and mouth.

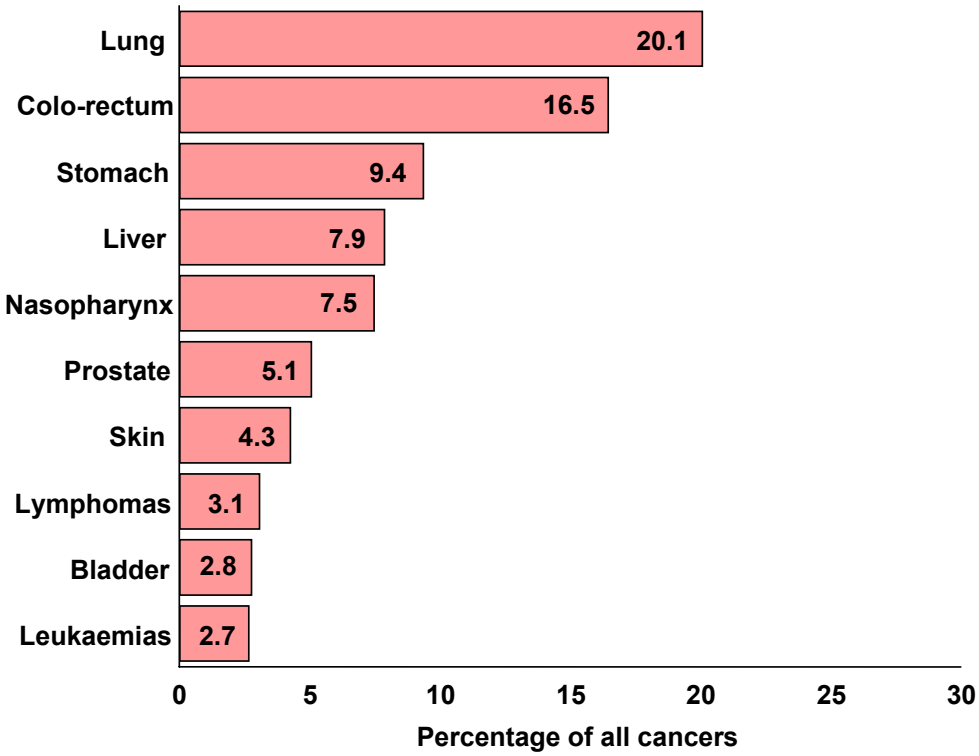


Fig. 6.1(a) TEN MOST FREQUENT CANCERS IN CHINESE MALES, 1993-97.

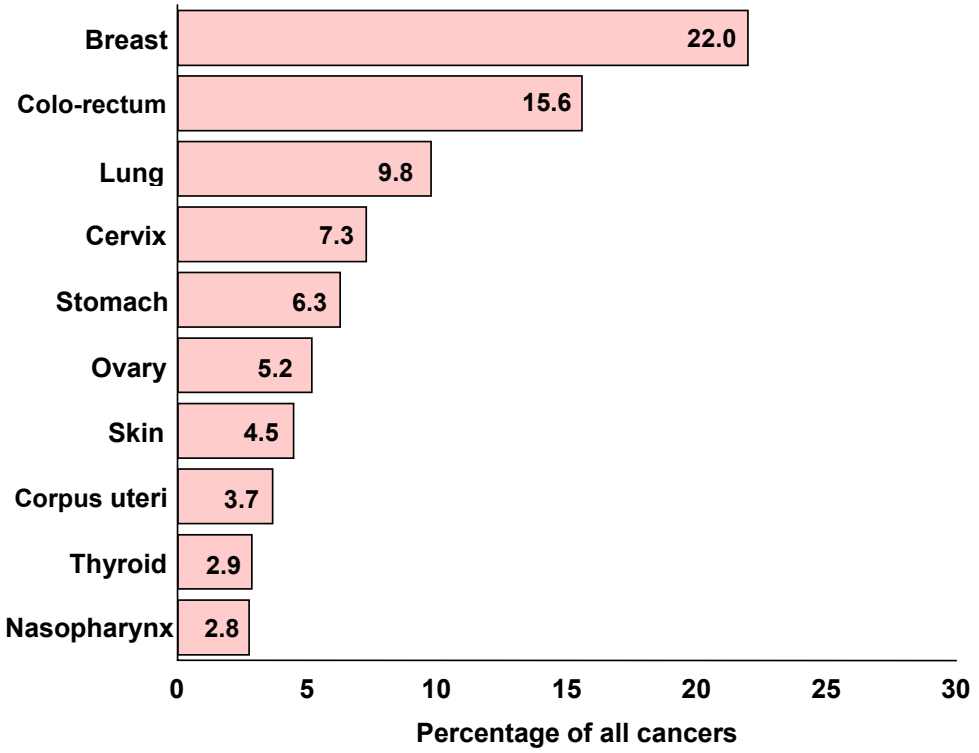


Fig. 6.1(b) TEN MOST FREQUENT CANCERS IN CHINESE FEMALES, 1993-97.

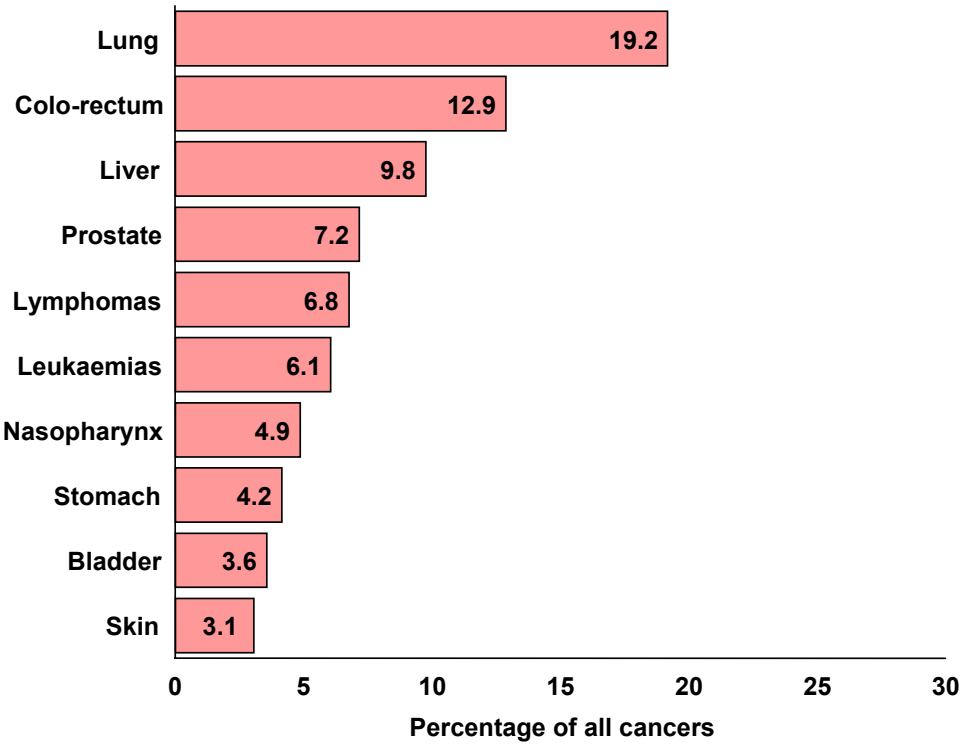


Fig. 6.1(c) TEN MOST FREQUENT CANCERS IN MALAY MALES, 1993-97.

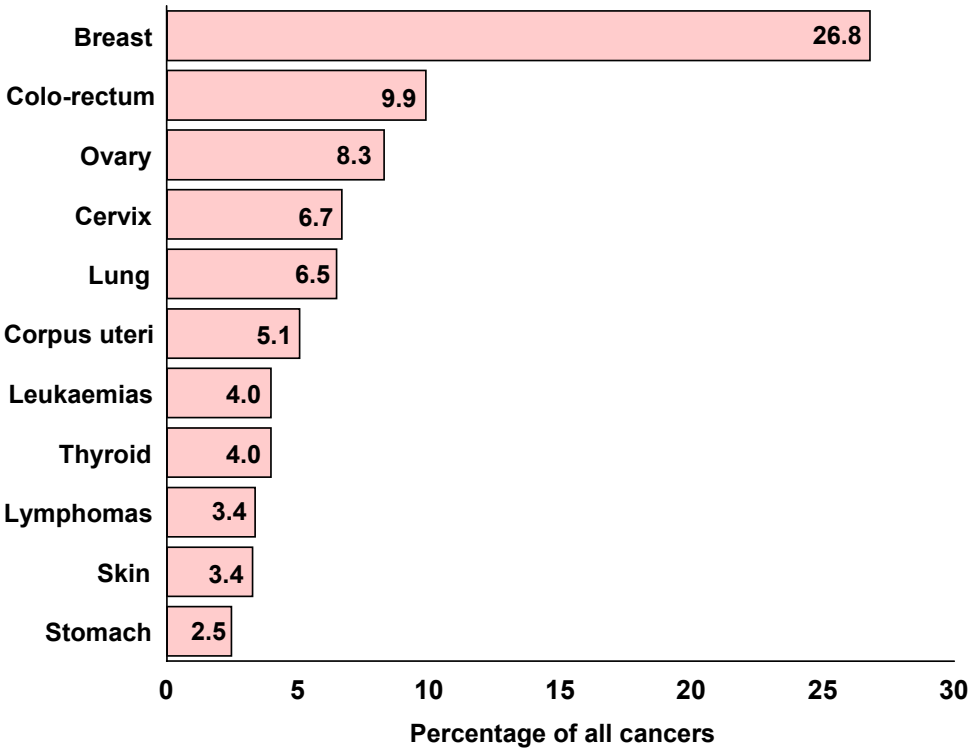


Fig. 6.1(d) TEN MOST FREQUENT CANCERS IN MALAY FEMALES, 1993-97.

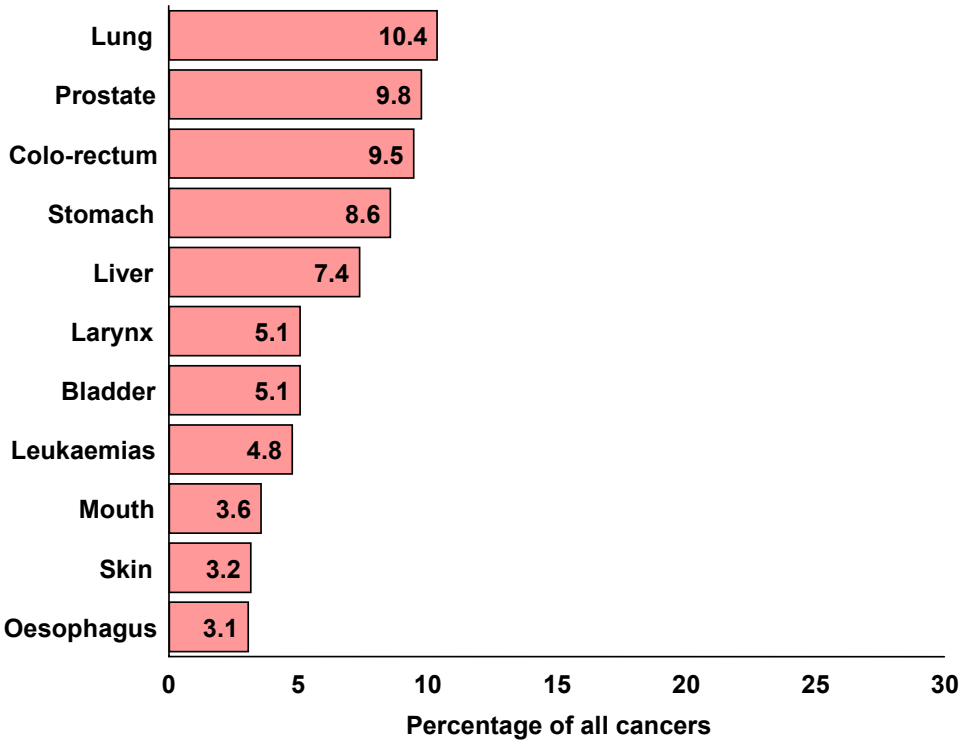


Fig. 6.1(e) TEN MOST FREQUENT CANCERS IN INDIAN MALES, 1993-97.

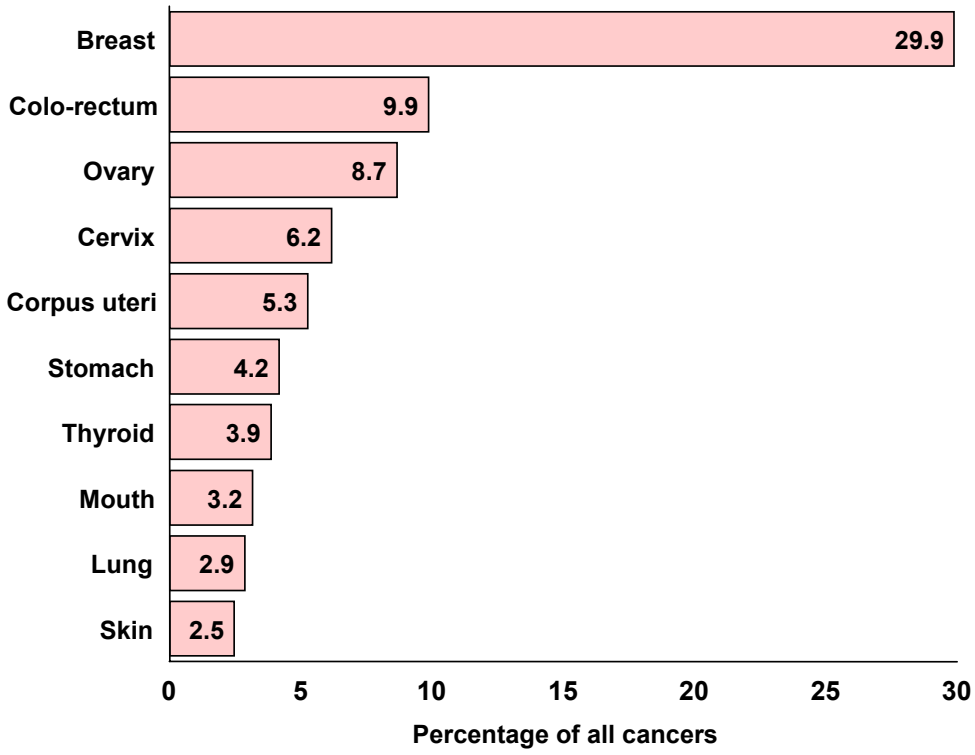


Fig. 6.1(f) TEN MOST FREQUENT CANCERS IN INDIAN FEMALES, 1993-97.

Table 6.1(a) TEN MOST FREQUENT CANCERS IN CHINESE RESIDENTS, 1993-1997

MALES					FEMALES				
Rank	Site	No.	CR	ASR	Rank	Site	No.	CR	ASR
1	Lung	2,812	47.4	56.9	1	Breast	2,984	51.0	47.1
2	Colo-rectum	2,312	39.0	45.0	2	Colo-rectum	2,120	36.2	32.1
3	Stomach	1,317	22.2	25.7	3	Lung	1,335	22.8	19.9
4	Liver	1,114	18.8	21.6	4	Cervix	996	17.0	15.4
5	Nasopharynx	1,044	17.6	16.7	5	Stomach	862	14.7	12.6
6	Prostate	718	12.1	13.8	6	Ovary	707	12.1	11.3
7	Skin (Incl. melanoma)	600	10.1	11.0	7	Skin (Incl. melanoma)	616	10.5	8.4
8	Lymphomas	438	7.4	7.8	8	Corpus uteri	499	8.5	8.3
9	Bladder	393	6.6	7.6	9	Thyroid	399	6.8	5.8
10	Leukaemias	377	6.3	7.2	10	Nasopharynx	375	6.4	5.5
	Others	2,888				Others	2,704		
	All	14,013	236.2	269.2		All	13,597	232.5	207.5

CR: Crude rate (per 100,000 per year)
ASR: Age-standardized rate (per 100,000 per year)

Table 6.1(b) TEN MOST FREQUENT CANCERS IN MALAY RESIDENTS, 1993-1997

MALES					FEMALES				
Rank	Site	No.	CR	ASR	Rank	Site	No.	CR	ASR
1	Lung	241	21.6	30.4	1	Breast	354	33.2	41.2
2	Colo-rectum	162	14.5	19.8	2	Colo-rectum	131	12.3	16.5
3	Liver	123	11.0	15.5	3	Ovary	110	10.3	12.7
4	Prostate	91	8.2	12.2	4	Cervix	88	8.3	10.5
5	Lymphomas	85	7.6	9.5	5	Lung	86	8.1	10.6
6	Leukaemias	76	6.8	8.4	6	Corpus uteri	67	6.3	7.9
7	Nasopharynx	61	5.5	7.3	7	Thyroid	53	5.0	5.7
8	Stomach	53	4.7	6.6		Leukaemias	53	5.0	6.1
9	Bladder	45	4.0	5.7	8	Lymphomas	44	4.2	5.2
10	Skin (Incl. melanoma)	39	3.4	4.3	9	Skin (Incl. melanoma)	43	4.1	5.2
	Others	280			10	Stomach	33	3.1	4.0
						Others	260		
	All	1256	112.5	154.2		All	1,322	124.1	156.3

CR: Crude rate (per 100,000 per year)
ASR: Age-standardized rate (per 100,000 per year)

Table 6.1(c) TEN MOST FREQUENT CANCERS IN INDIAN RESIDENTS, 1993-1997

MALES					FEMALES				
Rank	Site	No.	CR	ASR	Rank	Site	No.	CR	ASR
1	Lung	69	11.1	9.3	1	Breast	169	31.1	36.8
2	Prostate	65	10.4	8.3	2	Colo-rectum	56	10.3	15.1
3	Colo-rectum	63	10.1	8.6	3	Ovary	49	9.0	10.3
4	Stomach	57	9.2	8.4	4	Cervix	35	6.4	7.5
5	Liver	49	7.9	7.0	5	Corpus uteri	30	5.5	6.2
6	Larynx	33	5.3	4.7	6	Stomach	24	4.4	6.3
	Bladder	33	5.3	4.8	7	Thyroid	22	4.0	3.4
7	Leukaemias	32	5.1	5.6	8	Mouth	18	3.3	4.8
8	Mouth	24	3.9	3.5	9	Lung	17	3.1	5.2
9	Skin (Incl. melanoma)	21	3.4	3.4	10	Skin (Incl. melanoma)	14	2.6	3.8
10	Oesophagus	20	3.2	2.8		Others	132		
	Others	196							
	All	662	106.4	97.2		All	566	104.1	131.2

CR: Crude rate (per 100,000 per year)
ASR: Age-standardized rate (per 100,000 per year)

TABLE 6.2 RELATIVE RISKS OF SELECTED SITES BY ETHNIC GROUP AFTER ADJUSTMENT FOR AGE[a], 1993-97 (CHINESE AS REFERENCE GROUP).

(a) MALES

Site	World Adjusted Rate among Chinese[b]	Malay		Indian	
		RR[c]	95% CI[d]	RR[c]	95% CI[d]
Tongue	1.3	0.67	0.31-1.47	1.93	1.14-3.28
Mouth	1.6	0.08	0.01-0.59	2.25	1.43-3.53
Nasopharynx	16.7	0.37	0.29-0.47	0.07	0.03-0.13
Oesophagus	7.1	0.18	0.09-0.35	0.44	0.28-0.68
Stomach	25.7	0.28	0.22-0.37	0.34	0.26-0.44
Colon	25.4	0.43	0.34-0.54	0.19	0.13-0.27
Rectum	19.6	0.55	0.45-0.69	0.24	0.17-0.34
Liver	21.6	0.76	0.62-0.92	0.34	0.26-0.46
Larynx	5.9	0.50	0.32-0.79	0.88	0.62-1.25
Lung	56.9	0.61	0.53-0.70	0.19	0.15-0.24
Skin (ex. melanoma)	10.5	0.44	0.31-0.61	0.29	0.19-0.44
Prostate	13.8	0.97	0.78-1.20	0.74	0.57-0.96
Bladder	7.6	0.80	0.59-1.10	0.65	0.46-0.93
All sites	269.2	0.61	0.58-0.65	0.37	0.34-0.40

(b) FEMALES

Site	World Adjusted Rate among Chinese[b]	Malay		Indian	
		RR[c]	95% CI[d]	RR[c]	95% CI[d]
Tongue	0.5	0.90	0.38-2.14	1.45	0.51-4.09
Mouth	0.4	0.89	0.27-2.93	10.91	5.94-20.04
Nasopharynx	5.5	0.33	0.20-0.52	0.03	0.00-0.24
Stomach	12.6	0.34	0.24-0.49	0.52	0.34-0.78
Colon	19.5	0.51	0.40-0.64	0.48	0.35-0.67
Rectum	12.6	0.61	0.46-0.80	0.48	0.31-0.73
Liver	5.1	0.70	0.48-1.04	0.39	0.19-0.83
Lung	19.9	0.59	0.48-0.74	0.25	0.15-0.39
Skin (ex. melanoma)	8.0	0.54	0.39-0.76	0.45	0.27-0.77
Breast	47.1	0.85	0.76-0.96	0.78	0.67-0.91
Cervix uteri	15.4	0.64	0.52-0.80	0.49	0.35-0.69
Ovary	11.3	1.06	0.87-1.29	0.90	0.67-1.21
Thyroid	5.8	0.87	0.65-1.17	0.69	0.45-1.06
All sites	207.5	0.76	0.71-0.80	0.64	0.59-0.69

[a] Adjusted for age and ethnic group using generalized linear regression model for binary data with the Chinese as the reference population.
[b] Age-standardized rate (per 100,000 per year).
[c] Relative risk
[d] 95% Confidence intervals

7. AGE PATTERNS

The relative frequencies of the ten most frequent cancers for males and females in each of the four broad age-groups for the period 1993-97 are shown in Figures 7.1(a) & (b).

In children (0-14 years), the main cancers in both sexes remain the leukaemias and malignancies of the brain and nervous system.

In young adults (15-34 years), nasopharyngeal carcinoma is the commonest cancer in males. The other relatively frequent cancers in males are the lymphomas, leukaemias, malignancies of colo-rectum, brain and the nervous system. In females, breast is the main site followed by ovary, thyroid and the lymphomas.

In the middle aged (35-64 years), cancer of colo-rectum has moved to first place followed closely by lung in males; in females, it remains in second place after breast. Cancers of the nasopharyx, liver and stomach continue to be important in males. In females cancers of the cervix, ovary and lung remain common.

In the elderly (65 years and above), cancers of the lung and colo-rectum continue to be prominent. In males, the commonest is lung cancer and in females it is cancer of the colo-rectum.

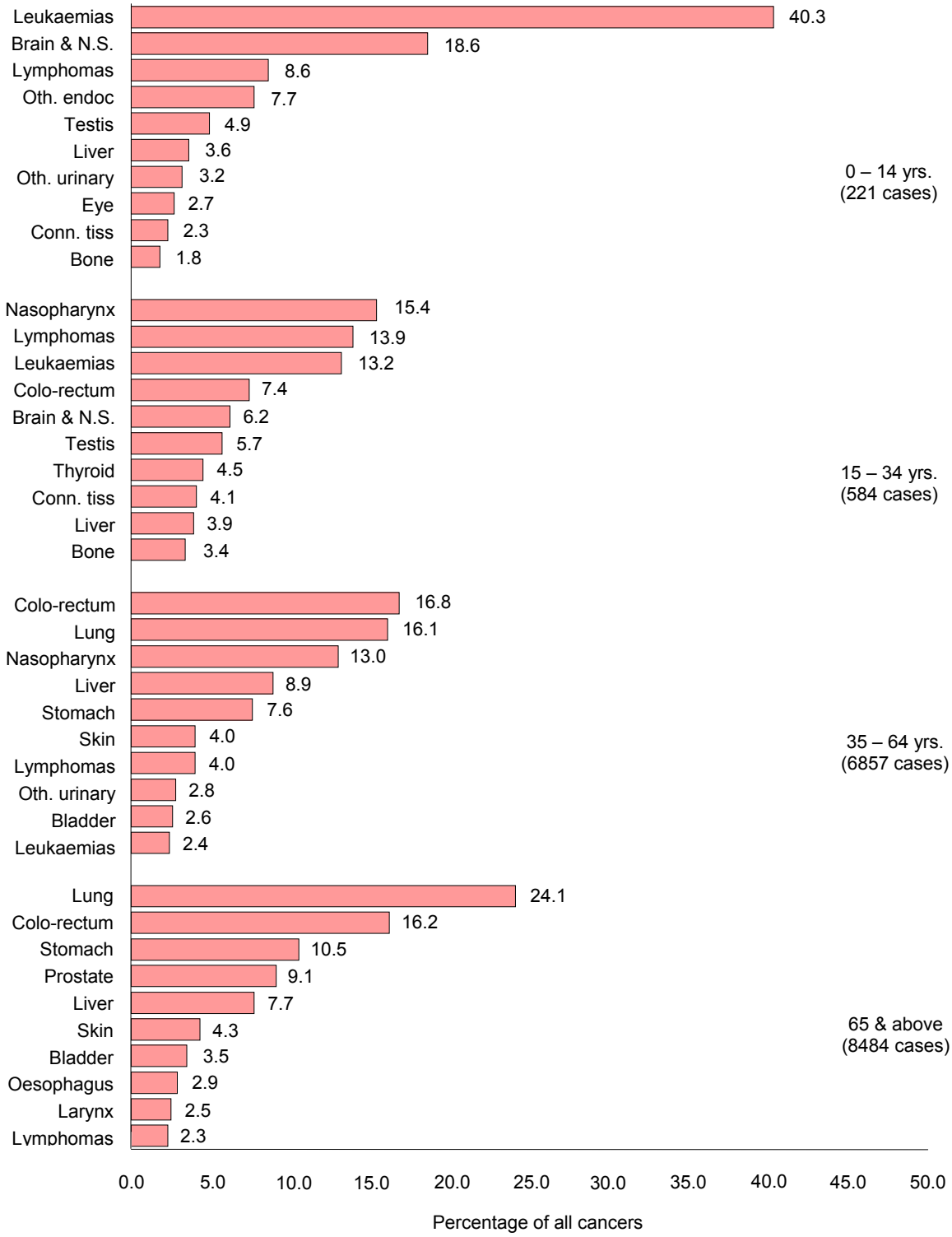


FIGURE 7.1(a) TEN MOST FREQUENT CANCERS IN ALL MALE RESIDENTS BY BROAD AGE GROUPS, 1993-1997.

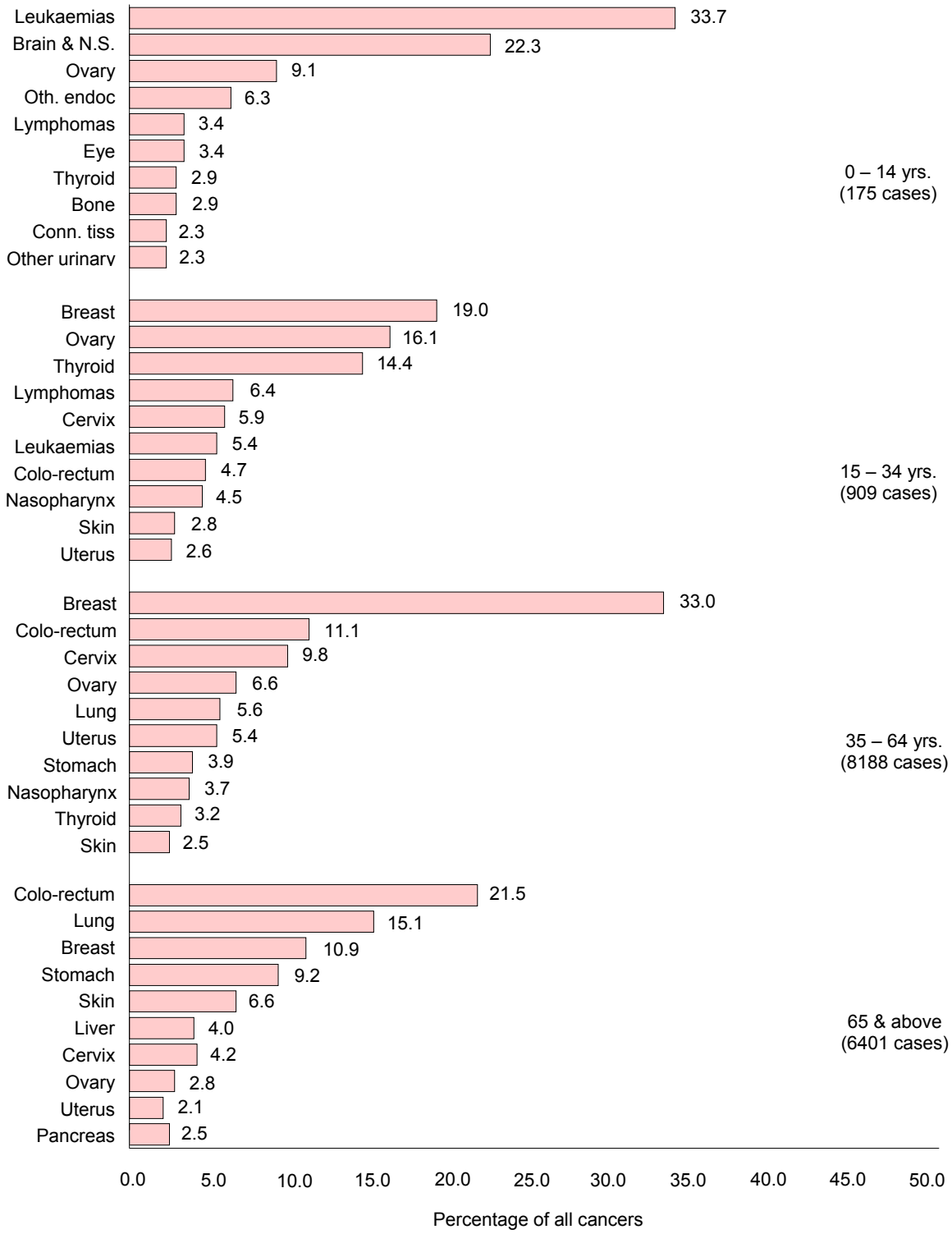


FIGURE 7.1(b) TEN MOST FREQUENT CANCERS IN ALL FEMALE RESIDENTS BY BROAD AGE GROUPS, 1993-1997.

8. TRENDS IN CANCER INCIDENCE

Thirty years of cancer registration has revealed significant alterations in the patterns of cancer occurrence in Singapore. Changes in the age-standardized cancer incidence rates for the total resident population and for the major ethnic groups are presented in Figures 8.1 and 8.2(a) & (b). The time trends for cancers of selected sites in males and females are also presented in Figures 8.3(a) & (b).

Overall, the age-standardized rates for females have been rising over the last 30 years whereas those for males appear to have declined slightly over the last 20 years after an initial rise. The age-standardized rates in Indians show a consistent decline over the last 30 years.

Changes in age-standardized incidence rates can be summarised in terms of the average percent annual change. Overall, the age-standardized rates increased by an average of 0.08% per year among males and 1.02% among females. In males, cancer of the prostate showed the highest rate of increase followed by Non-Hodgkin lymphoma, cancer of the colon, multiple myeloma and cancers of the rectum, thyroid, pancreas, skin and bladder (Figure 8.4a). In females, Hodgkin disease and Non-Hodgkin lymphoma showed the highest rates of increase followed by cancers of the brain and nervous system, breast, colon, skin (melanoma), ovary, pancreas, rectum, corpus uteri, skin (others), thyroid and lung (Figure 8.4b).

Cancer of the oesophagus showed the steepest rate of decline in both sexes. Cancers of the stomach, liver, mouth, cervix and nasopharynx also showed a decline in both sexes.

For lung cancer, both sexes showed an increase in rates between 1968-82, followed by a decrease.

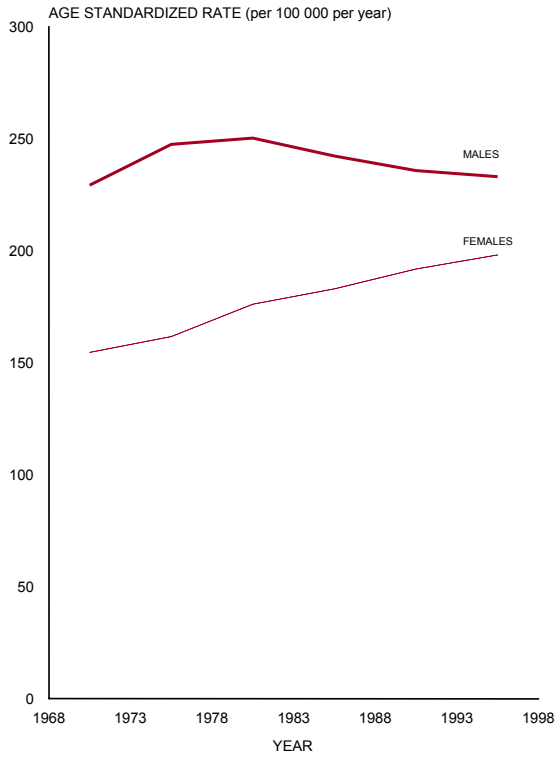


Fig. 8.1: AGE-STANDARDIZED INCIDENCE, 1968-1997.

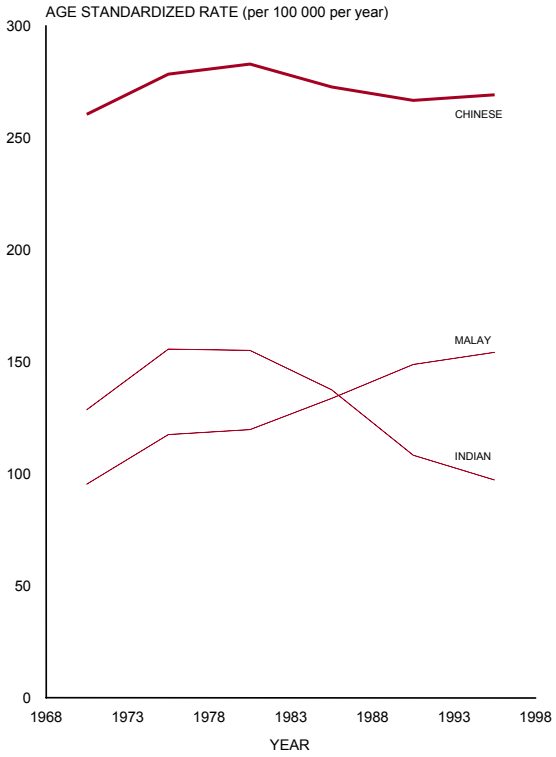


Fig. 8.2(a): AGE-STANDARDIZED INCIDENCE BY ETHNIC GROUPS, MALES, 1968-1997.

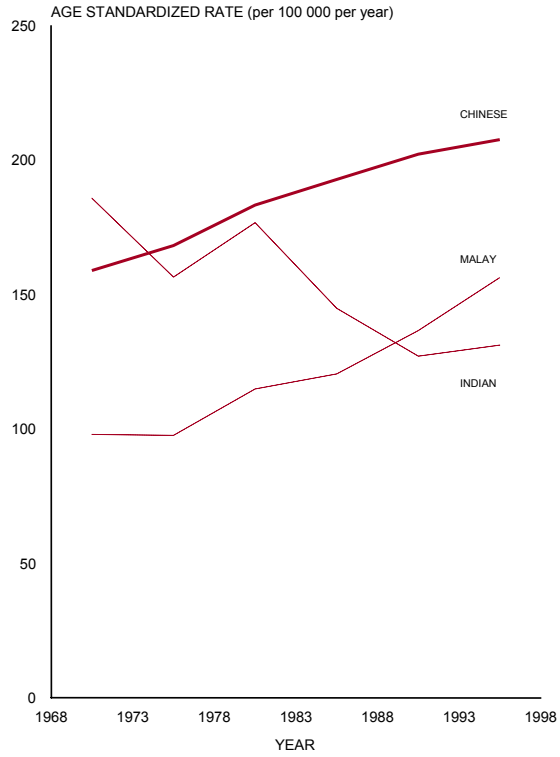


Fig. 8.2(b): AGE-STANDARDIZED INCIDENCE BY ETHNIC GROUPS, FEMALES, 1968-1997.

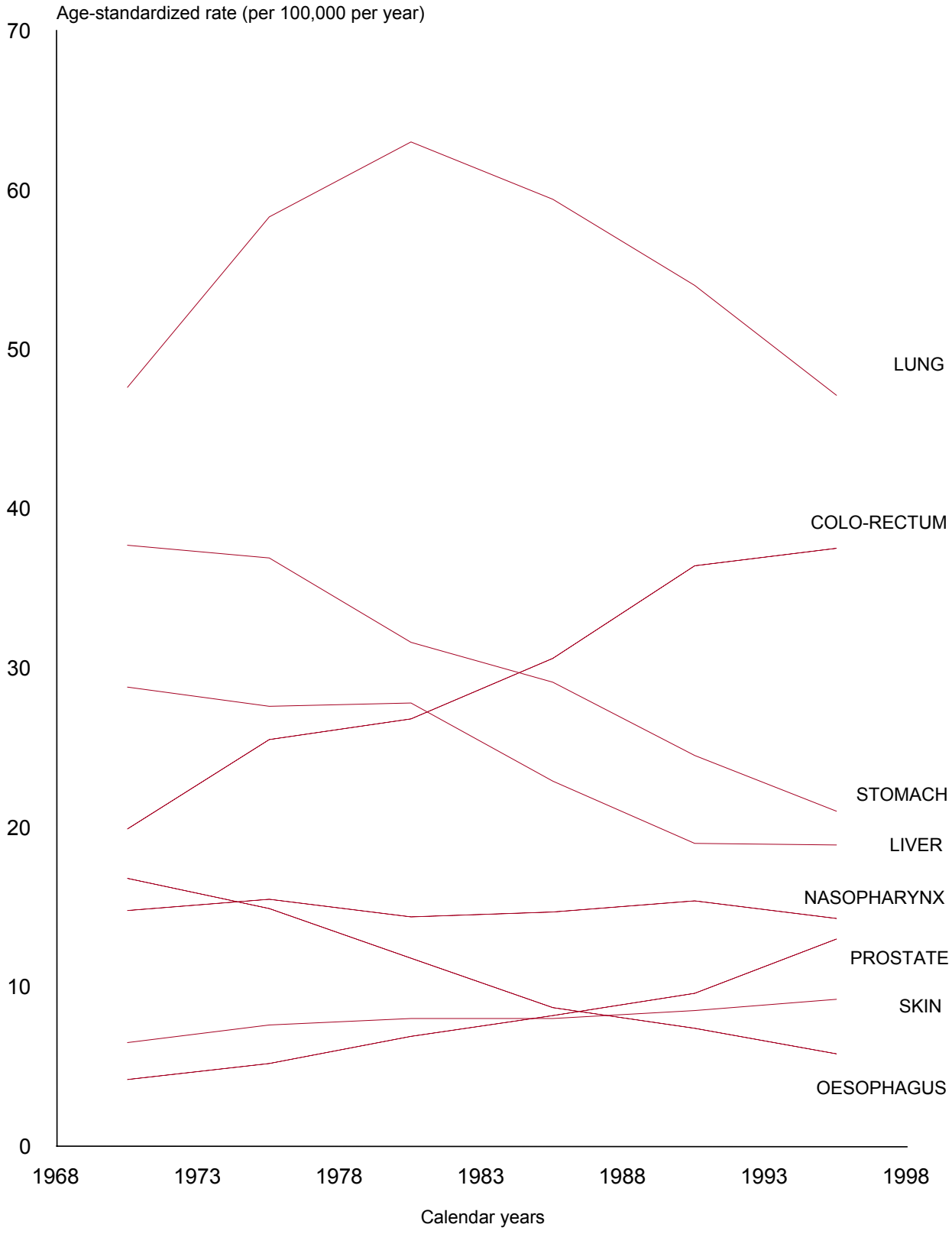


Fig. 8.3(a): TRENDS IN AGE-STANDARDIZED INCIDENCE OF SELECTED CANCER SITES IN MALES, 1968-1997.

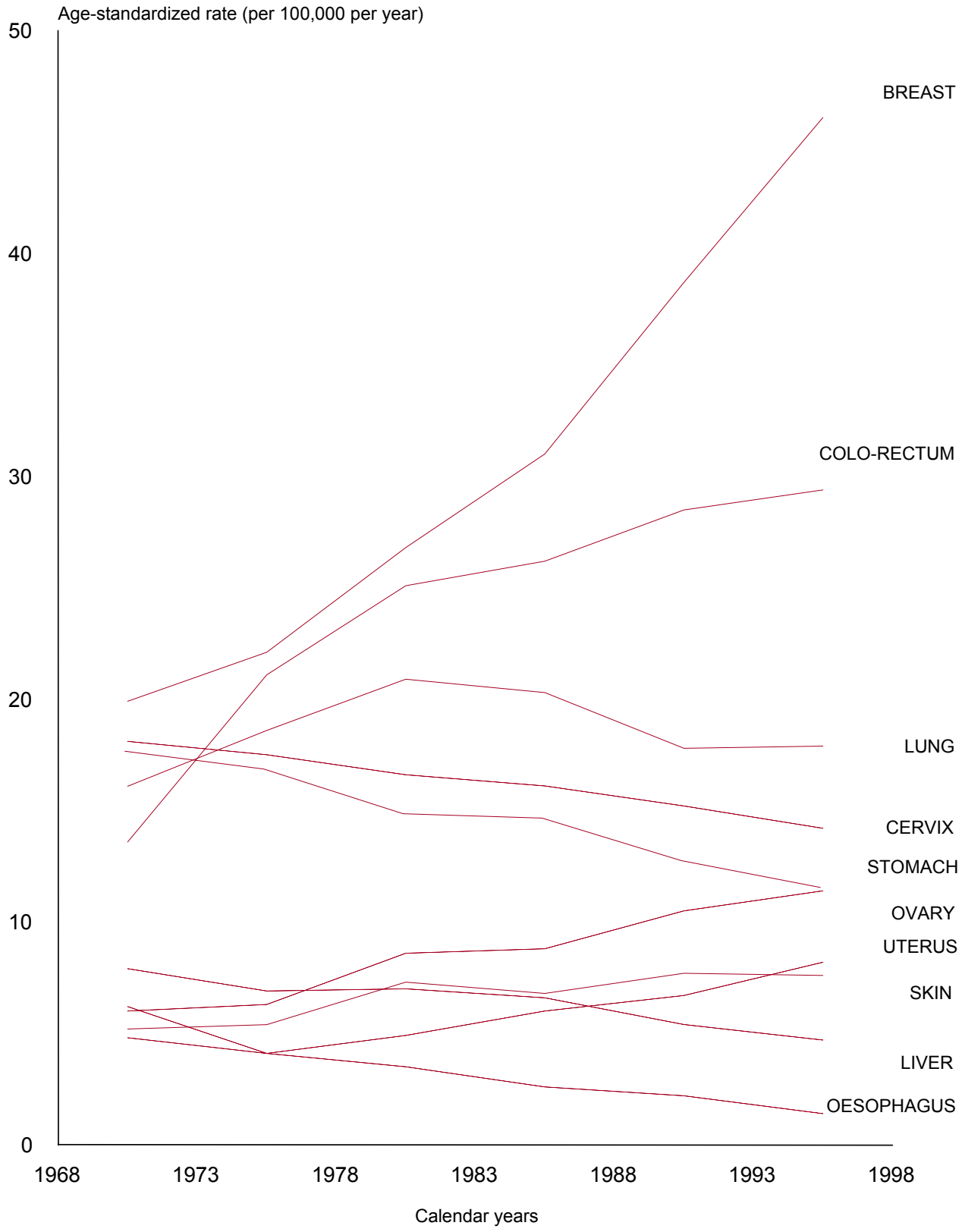


Fig. 8.3(b): TRENDS IN AGE-STANDARDIZED INCIDENCE OF SELECTED CANCER SITES IN FEMALES, 1968-1997.

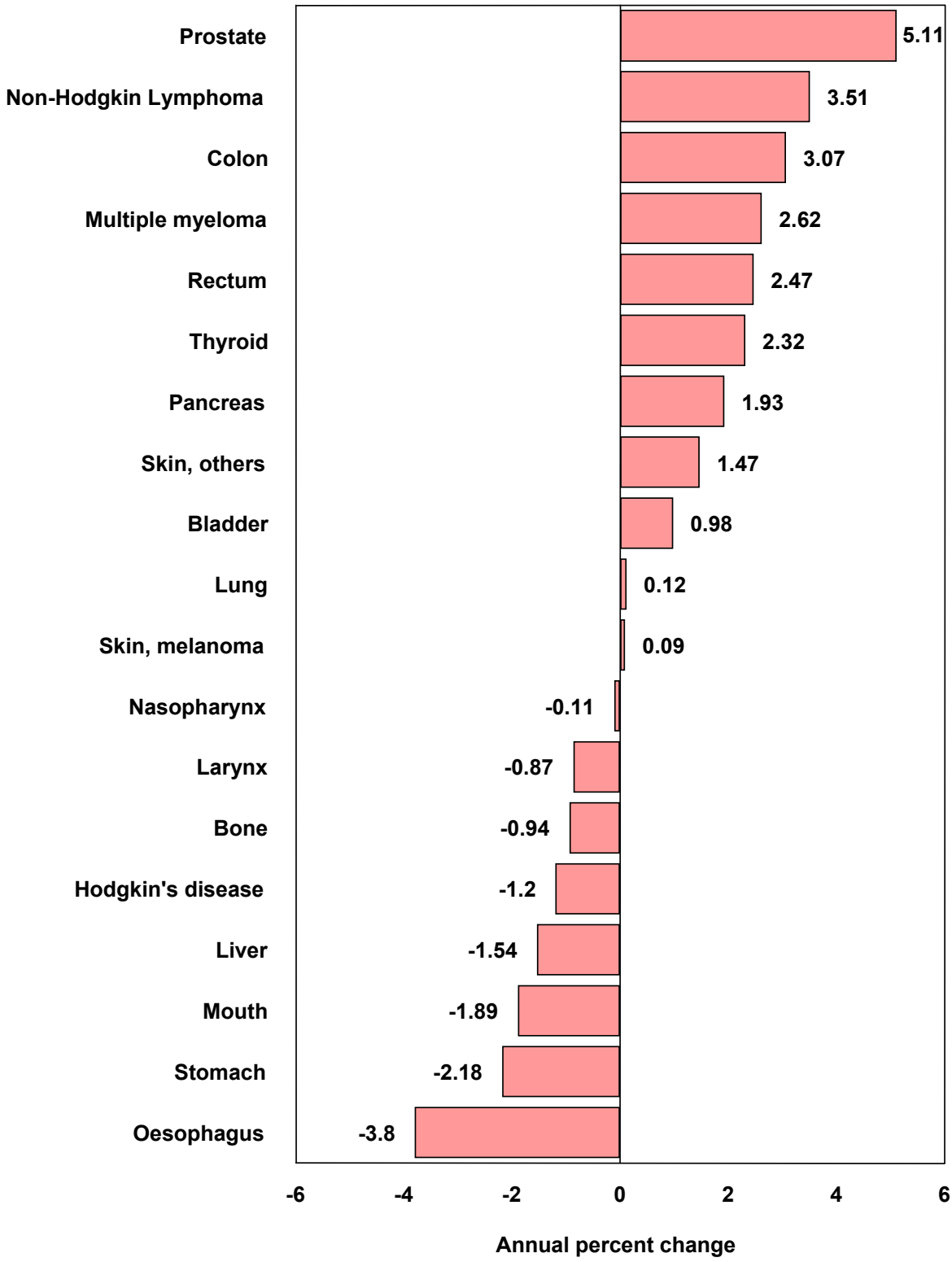


Fig. 8.4(a): AVERAGE ANNUAL PERCENT CHANGE IN AGE-STANDARDIZED INCIDENCE RATE OF SELECTED CANCER SITES IN MALES, 1968-1997.

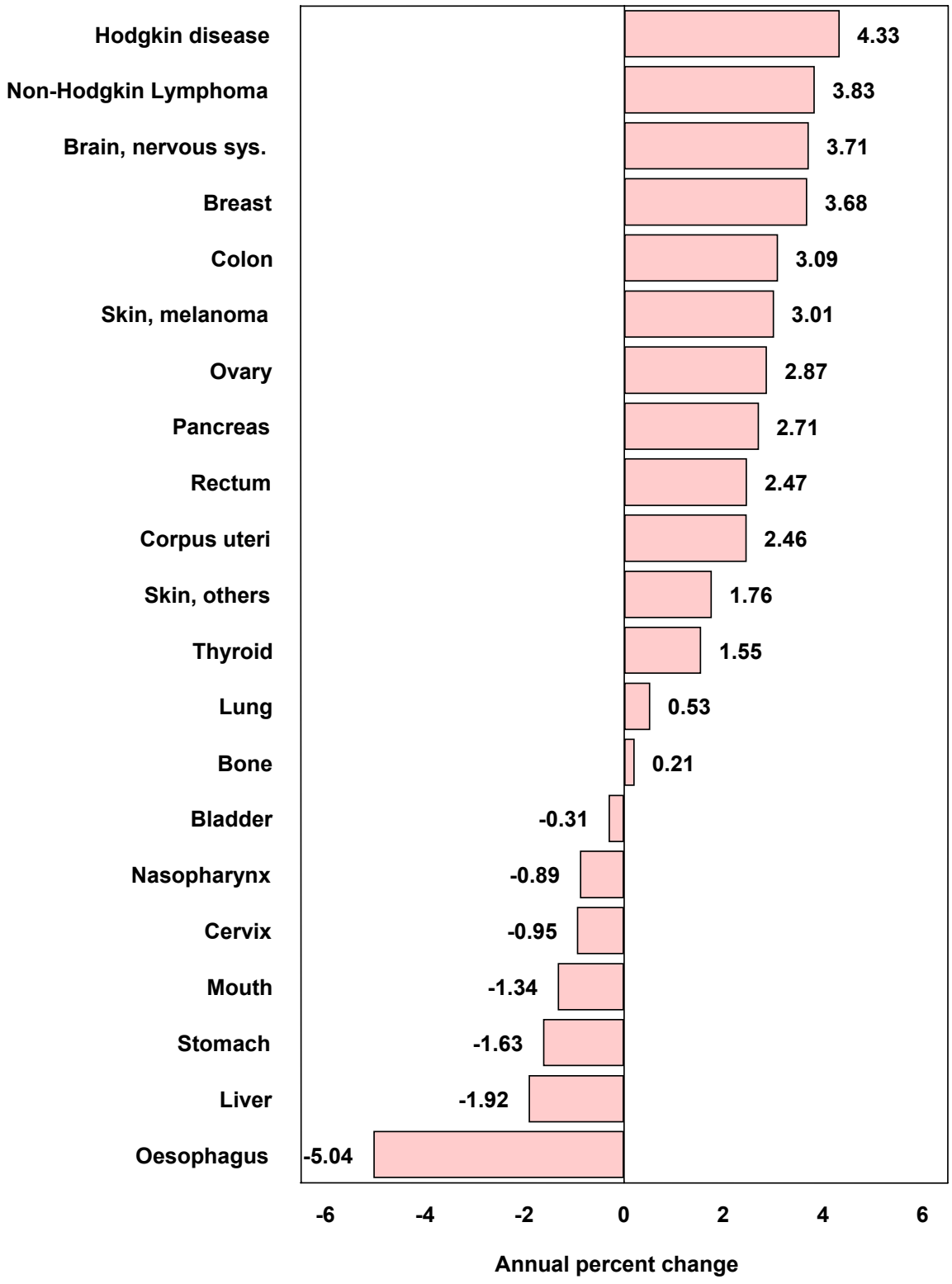


Fig. 8.4(b): AVERAGE ANNUAL PERCENT CHANGE IN AGE-STANDARDIZED INCIDENCE RATE OF SELECTED CANCER SITES IN FEMALES, 1968-1997.

This page intentionally left blank!

9. SUBSITES

The accumulated data over the 30-year period (1968-1997) have provided sufficient numbers to examine the subsite distribution in each major site, according to the ICD-9 codes.

Table 9.1 shows the numbers of cases among all residents and Chinese residents by sex and subsite, (1968-97). Any interpretation of the figures must take into consideration the large numbers of cases categorized as “NOS” (subsite not otherwise specified) indicated by fourth digit "9".

The subcategory "Other" (fourth digit 8) refers to "a malignant neoplasm that overlaps two or more subcategories within a 3-digit rubric"[10].

Table 9.1 NUMBERS OF CASES AMONG ALL RESIDENTS AND CHINESE RESIDENTS BY SEX AND SUBSITE, 1968-1997

ICD-9 codes	SITE	All Residents		Chinese	
		Male	Female	Male	Female
140	**LIP**	**17**	**6**	**10**	**4**
1400	Upper lip, vermilion	2	1	2	1
1401	Lower lip, vermilion	3	1	0	1
1403	Upper lip, inner	1	0	1	0
1404	Lower, inner	1	1	0	1
1405	Lip, unspecified, inner	0	1	0	0
1408	Other	1	0	1	0
1409	NOS	9	2	6	1
141	**TONGUE**	**490**	**194**	**342**	**157**
1410	Base	102	16	63	14
1411	Dorsum	1	0	1	0
1412	Tip & border	9	6	9	6
1413	Ventral	1	2	1	1
1414	Ant 2/3, part unspecified	1	0	1	0
1418	Other	1	1	0	1
1419	NOS	375	169	257	135
142	**SALIVARY GLANDS**	**200**	**210**	**166**	**176**
1420	Parotid	136	137	111	117
1421	Submandibular	36	41	34	32
1422	Sublingual	2	3	2	3
1428	Other	1	2	1	2
1429	NOS	25	27	18	22
143	**GUM**	**28**	**28**	**18**	**21**
1430	Upper	4	3	3	2
1431	Lower	13	9	9	8
1439	NOS	11	16	6	11

ICD-9 codes	SITE	All Residents		Chinese	
		Male	Female	Male	Female
144	**FLOOR OF MOUTH**	**100**	**28**	**80**	**15**
1449	NOS	100	28	80	15
145	**OTHER MOUTH**	**420**	**190**	**279**	**112**
1450	Cheek mucosa	145	96	67	40
1451	Vestibule	4	1	4	1
1452	Hard palate	50	26	39	24
1453	Soft palate	71	11	57	9
1454	Uvula	4	2	3	1
1455	Palate, NOS	82	26	63	19
1456	Retromolar	28	11	21	7
1458	Other	3	1	1	0
1459	NOS	33	16	24	11
146	**OROPHARYNX**	**294**	**81**	**226**	**64**
1460	Tonsil	228	66	172	51
1461	Tonsillar fossa	7	0	5	0
1462	Tonsillar pillars	6	1	5	1
1463	Vallecula	9	0	8	0
1464	Epiglottis	1	0	1	0
1465	Junctional region	1	0	1	0
1466	Lateral wall	2	1	2	1
1467	Posterior wall	5	0	5	0
1468	Other	1	0	1	0
1469	NOS	34	13	26	11
147	**NASOPHARYNX**	**4958**	**2027**	**4694**	**1949**
1479	NOS	4958	2027	4694	1949
148	**HYPOPHARYNX**	**358**	**46**	**294**	**25**
1480	Postcricoid	22	9	21	5
1481	Pyriform fossa	235	21	185	15
1483	Posterior wall	5	0	5	0
1488	Other	3	3	3	1
1489	NOS	93	13	80	4
149	**PHARYNX**	**43**	**11**	**34**	**8**
1490	NOS	43	11	34	8
150	**OESOPHAGUS**	**2556**	**891**	**2373**	**802**
1500	Cervical	18	9	18	8
1501	Thoracic	6	2	6	2
1503	Upper third	231	101	210	89
1504	Middle third	753	236	704	220
1505	Lower third	399	92	370	75

ICD-9 codes	SITE	All Residents Male	All Residents Female	Chinese Male	Chinese Female
150	**OESOPHAGUS (cont'd)**				
1508	Other	2	1	2	1
1509	NOS	1147	450	1063	407
151	**STOMACH**	**7700**	**4330**	**7031**	**4000**
1510	Cardia	662	201	601	190
1511	Pylorus	310	199	285	183
1512	Antrum	365	215	331	208
1513	Fundus	24	12	21	11
1514	Body	68	25	66	25
1515	Lesser curvature	9	4	8	4
1516	Greater curvature	3	2	3	2
1518	Other	18	13	18	12
1519	NOS	6241	3659	5698	3365
152	**SMALL INTESTINE**	**139**	**132**	**113**	**118**
1520	Duodenum	61	56	50	48
1521	Jejunum	21	33	17	31
1522	Ileum	22	8	19	8
1523	Meckel diverticulum	1	1	0	1
1528	Other	3	0	1	0
1529	NOS	31	34	26	30
153	**COLON**	**4741**	**4917**	**4246**	**4551**
1530	Hepatic flexure	138	127	125	117
1531	Transverse colon	414	483	370	451
1532	Descending colon	333	301	303	277
1533	Sigmoid colon	1560	1567	1411	1460
1534	Caecum	379	420	341	397
1535	Appendix	71	105	58	81
1536	Ascending colon	293	315	266	294
1537	Splenic flexure	131	83	113	74
1538	Other	330	367	293	340
1539	NOS	1092	1149	966	1060
154	**RECTUM**	**3847**	**3006**	**3395**	**2715**
1540	Rectosigmoid junction	618	509	565	475
1541	Rectum	3115	2389	2747	2145
1542	Anal canal	78	73	55	63
1543	Anus	27	27	19	25
1548	Others	9	8	9	7
155	**LIVER**	**6486**	**1888**	**5683**	**1696**
1550	Primary liver	5567	1437	4882	1293
1551	Intrahepatic bile ducts	191	166	163	153
1552	Not specified as primary or secondary	728	285	638	250

ICD-9 codes	SITE	All Residents Male	All Residents Female	Chinese Male	Chinese Female
156	**GALLBLADDER**	**472**	**545**	**389**	**470**
1560	Gallbladder	186	275	152	231
1561	Extrahepatic bile ducts	132	130	108	118
1562	Ampulla	140	124	119	107
1568	Other	3	3	2	3
1569	NOS	11	13	8	11
157	**PANCREAS**	**1139**	**859**	**988**	**761**
1570	Head	353	252	308	222
1571	Body	17	19	13	15
1572	Tail	17	19	13	14
1573	Pancreatic duct	2	2	2	2
1574	Islets of Langerhans	2	0	2	0
1578	Other	6	7	5	7
1579	NOS	742	560	645	501
160	**NASAL CAVITIES, SINUSES, ETC.**	**281**	**157**	**240**	**129**
1600	Nasal cavities	99	45	87	38
1601	Middle ear	29	13	25	9
1602	Maxillary sinus	120	81	102	65
1603	Ethmoidal sinus	28	15	22	14
1604	Frontal sinus	0	1	0	1
1605	Sphenoidal sinus	2	0	1	0
1608	Other	0	1	0	1
1609	NOS	3	1	3	1
161	**LARYNX**	**1606**	**191**	**1363**	**161**
1610	Glottis	605	64	518	54
1611	Supraglottic	253	41	205	34
1612	Subglottic	13	5	13	4
1613	Laryngeal cartilages	9	4	8	2
1618	Other	16	0	14	0
1619	NOS	710	77	605	67
162	**LUNG**	**14621**	**5735**	**13136**	**5358**
1620	Trachea	20	9	18	8
1622	Main bronchus	4	5	3	4
1623	Upper lobe	320	121	295	114
1624	Middle lobe	33	17	30	17
1625	Lower lobe	160	63	149	60
1628	Other	2	1	2	1
1629	NOS	14082	5519	12639	5154
163	**PLEURA**	**33**	**15**	**28**	**14**
1639	NOS	33	15	28	14

ICD-9 codes	SITE	All Residents		Chinese	
		Male	Female	Male	Female
164	**MEDIASTINUM**	**137**	**81**	**114**	**69**
1640	Thymus	82	64	70	54
1641	Heart	3	1	1	1
1642	Anterior mediastinum	9	3	4	3
1643	Posterior mediastinum	2	1	2	1
1649	NOS	41	12	37	10
170	**BONE**	**301**	**239**	**228**	**194**
1700	Skull & face	11	13	7	10
1701	Lower jaw	9	10	8	8
1702	Spine	13	7	12	5
1703	Ribs	12	9	10	7
1704	Upper limb, long	35	22	29	16
1705	Upper limb, short	2	2	2	1
1706	Pelvis	36	21	28	18
1707	Lower limb, long	136	117	101	98
1708	Lower limb, short	16	8	13	6
1709	NOS	31	30	18	25
171	**CONNECTIVE TISSUE**	**476**	**382**	**384**	**310**
1710	Head & neck	48	28	38	26
1712	Upper limb	46	46	37	36
1713	Lower limb	149	107	118	82
1714	Thorax	28	23	22	19
1715	Abdomen	17	15	16	11
1716	Pelvis	34	24	32	22
1717	Trunk	51	33	42	27
1718	Other	1	1	1	0
1719	NOS	102	105	78	87
172	**MELANOMA OF SKIN**	**148**	**133**	**121**	**111**
1720	Lip	1	0	1	0
1721	Eyelid	2	2	2	2
1722	Ear	1	2	1	2
1723	Face	5	6	4	6
1724	Scalp & neck	7	8	7	8
1725	Trunk	13	15	11	11
1726	Upper limb	20	20	16	14
1727	Lower limb	59	57	44	47
1729	NOS	40	23	35	21
173	**OTHER SKIN**	**2262**	**2237**	**1932**	**2028**
1730	Lip	65	87	55	82
1731	Eyelid	183	184	163	172
1732	Ear	144	88	125	81
1733	Face	844	1132	722	1037

ICD-9 codes	SITE	All Residents Male	All Residents Female	Chinese Male	Chinese Female
173	**OTHER SKIN (cont'd)**				
1734	Scalp & neck	141	194	116	178
1735	Trunk	214	130	183	111
1736	Upper limb	157	91	142	78
1737	Lower limb	321	156	268	134
1738	Other	21	8	19	8
1739	NOS	172	167	139	147
174	**FEMALE BREAST**	**-**	**10677**	**-**	**8965**
1749	NOS	-	10677	-	8965
175	**MALE BREAST**	**44**	**-**	**31**	**-**
1759	NOS	44	-	31	-
180	**CERVIX**	**-**	**5050**	**-**	**4430**
1809	NOS	-	5050	-	4430
181	**PLACENTA**	**-**	**145**	**-**	**113**
1819	NOS	-	145	-	113
182	**CORPUS UTERI**	**-**	**1880**	**-**	**1591**
1820	Corpus	-	1880	-	1591
183	**OVARY, ETC.**	**-**	**2975**	**-**	**2417**
1830	Ovary	-	2924	-	2379
1832	Fallopian tube	-	40	-	29
1833	Broad ligament	-	6	-	4
1838	Other	-	3	-	3
1839	NOS	-	2	-	2
184	**VAGINA, ETC.**	**-**	**261**	**-**	**227**
1840	Vagina	-	99	-	85
1841	Labia majora	-	6	-	4
1842	Labia minora	-	4	-	4
1843	Clitoris	-	3	-	3
1844	Vulva	-	145	-	128
1848	Other	-	1	-	0
1849	NOS	-	3	-	3
185	**PROSTATE**	**2267**	**-**	**1749**	**-**
1859	NOS	2267	-	1749	-
186	**TESTIS**	**357**	**-**	**275**	**-**
1860	Undescended	10	-	9	-
1869	NOS	347	-	266	-

ICD-9 codes	SITE	All Residents Male	All Residents Female	Chinese Male	Chinese Female
187	**PENIS, ETC.**	**266**	**-**	**223**	**-**
1871	Prepuce	10	-	8	-
1872	Glans	7	-	6	-
1873	Body	2	-	2	-
1874	Penis, skin	193	-	157	-
1875	Epididymis	4	-	4	-
1876	Spermatic cord	3	-	2	-
1877	Scrotum	41	-	38	-
1878	Other	4	-	4	-
1879	NOS	2	-	2	-
188	**BLADDER**	**1818**	**600**	**1518**	**549**
1889	NOS	1818	600	1518	549
189	**KIDNEY, ETC.**	**1036**	**588**	**876**	**506**
1890	Kidney	866	470	724	400
1891	Renal pelvis	95	53	82	47
1892	Ureter	58	34	55	33
1893	Urethra	6	24	6	21
1898	Other	2	1	1	1
1899	NOS	9	6	8	4
190	**EYE, ETC.**	**73**	**66**	**57**	**52**
1900	Eyeball	20	23	16	21
1901	Orbit	6	2	5	1
1902	Lacrimal gland	1	5	1	4
1903	Conjunctiva	11	4	5	2
1904	Cornea	2	0	2	0
1905	Retina	5	3	3	1
1907	Lacrimal duct	0	1	0	1
1909	NOS	28	28	25	22
191	**BRAIN**	**636**	**468**	**490**	**384**
1910	Cerebrum	31	26	26	19
1911	Frontal lobe	42	21	31	22
1912	Temporal lobe	33	20	28	18
1913	Parietal lobe	37	25	30	22
1914	Occipital lobe	7	4	6	4
1915	Ventricle	28	24	20	18
1916	Cerebellum	83	58	62	47
1917	Brain stem	20	22	18	16
1918	Other	10	6	8	6
1919	NOS	345	262	261	212

ICD-9 codes	SITE	All Residents Male	All Residents Female	Chinese Male	Chinese Female
192	**OTHER NERVOUS SYSTEM**	**42**	**56**	**38**	**42**
1920	Cranial nerves	1	6	1	6
1921	Meninges	14	28	13	21
1922	Spinal cord	17	9	16	6
1923	Spinal meninges	1	1	1	0
1929	NOS	9	12	7	9
193	**THYROID**	**545**	**1830**	**436**	**1509**
1939	NOS	545	1830	436	1509
194	**OTHER ENDOCRINES**	**128**	**80**	**110**	**71**
1940	Suprarenal	53	40	43	36
1941	Parathyroid	1	1	1	1
1943	Pituitary	35	25	30	21
1944	Pineal	30	6	27	6
1945	Carotid body	2	0	2	0
1946	Aortic body	5	8	5	7
1949	NOS	2	0	2	0

10. MULTIPLE PRIMARY SITES

The Registry's criteria for registering multiple primary cancers include the following:

(a) histological confirmation of all primary sites;
(b) exclusion of probable metastasis from the first primary site;
(c) exclusion of cancers occurring in the same site (first three digits) but different subsite (4th digit) and cancers of multicentric origin in the same organ or bilaterally paired organs.
(d) exclusion of cancers occurring in certain sites that are grouped together as a single site in the context of recognizing multiple primaries as recommended in ICD-O[9].

For the period 1968-97, there were 2611 cases with more than one primary: 2541 patients with two primaries, 68 with three and two with four primaries. Table 10.1 shows the distribution of the first and second primary sites of all subjects. Tables 10.2(a) and (b) show the details of those with more than two primaries.

Table 10.1 SITE DISTRIBUTION OF DOUBLE PRIMARY SITES, 1968-1997

First Primary site		Second primary site (ICD codes)																						
ICD9		141	143[a]	147	150	151	153	154	155	156	157	161	162	173	174	180	182	183	185	188	193	200[b]	Oth.	Ttl.
141	Tongue	0	1	0	6	3	1	1	0	0	0	4	3	1	0	0	1	0	3	0	0	0	4	28
143[a]	Mouth	5	0	0	2	4	1	1	0	1	0	1	5	1	0	1	1	0	0	1	0	0	5	29
147	Nasopharynx	13	5	0	1	7	6	10	3	2	2	3	14	15	6	8	3	3	6	2	1	9	24	143
150	Oesophagus	0	1	0	0	18	0	4	1	0	0	0	7	5	0	0	0	0	1	0	0	2	4	43
151	Stomach	0	2	5	9	0	41	19	3	0	0	3	24	8	6	5	0	2	7	1	2	7	14	158
153	Colon	0	1	7	9	42	0	29	0	5	2	4	27	22	19	9	9	19	22	13	4	11	15	269
154	Rectum	1	1	6	6	24	31	0	2	2	1	7	19	9	15	6	2	4	17	9	3	3	17	185
155	Liver	0	0	1	1	1	0	0	0	0	0	0	3	3	0	0	0	0	0	0	2	2	0	13
156	Gall bladder, etc.	0	0	0	0	1	4	1	0	0	1	0	3	0	0	2	0	0	0	0	0	0	1	13
157	Pancreas	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5
161	Larynx	0	1	3	11	9	9	8	3	0	1	1	25	8	0	1	0	0	5	5	1	1	8	100
162	Lung	6	1	5	5	11	14	8	0	0	1	6	0	12	7	3	1	0	15	6	2	8	12	123
173	Skin (ex melan.)	2	5	1	10	24	33	14	13	3	2	4	56	0	14	3	1	2	11	15	5	17	16	251
174	Breast	2	2	6	3	34	34	19	4	4	3	1	15	17	0	18	28	26	0	1	10	10	18	255
180	Cervix uteri	0	1	5	4	14	28	16	3	1	0	0	39	4	21	0	7	12	0	5	3	6	27	196
182	Corpus uteri	0	0	3	0	4	13	11	0	0	1	0	9	2	22	1	0	24	0	1	4	2	5	102
183	Ovary, etc.	0	0	1	1	3	12	11	0	0	0	0	11	0	17	4	25	0	0	3	1	2	7	98
185	Prostate	0	2	2	0	13	11	5	1	0	0	1	14	8	0	0	0	0	0	15	0	2	7	81
188	Bladder	0	0	3	7	8	15	8	3	0	0	0	13	6	2	0	0	0	20	0	0	3	18	106
193	Thyroid	1	0	4	1	3	6	7	1	1	1	2	7	7	17	1	4	2	0	2	0	5	7	79
200[b]	Lymphoma-leuk.	1	1	1	2	10	3	9	3	0	3	2	12	14	5	2	1	3	1	3	1	5	6	88
	Others	7	2	10	7	24	18	14	2	2	2	5	24	18	17	8	2	4	4	38	4	10	24	246
	Total	38	26	63	85	257	282	196	42	21	20	44	330	160	168	72	85	101	113	120	43	106	239	2,611

[a] Mouth (ICD 143-5)
[b] Lymphomas and leukaemias (ICD 200-2,204-208)

TABLE 10.2(a) LIST OF CASES WITH THREE PRIMARY SITES

Case	First primary site			Second primary site			Third primary site		
	ICD9	Histo[a]	Year[b]	ICD9	Histo[a]	Year[b]	ICD9	Histo[a]	Year[b]
1	141	8073	1976	162	8073	1983	146	8073	1984
2	145	8053	1969	151	8143	1974	162	8003	1982
3	145	80703	1997	146	80703	1997	141	80703	1997
4	147	8013	1986	188	8133	1988	158	91501	1993
5	147	8013	1988	151	8143	1990	205	9865	1992
6	148	8073	1989	173	8093	1990	185	81403	1995
7	151	8143	1985	187	8073	1987	145	8073	1990
8	151	8143	1990	173	8073	1992	185	81403	1996
9	151	8143	1989	152	8143	1989	153	8143	1989
10	151	8143	1977	153	8143	1990	202	96983	1997
11	151	8143	1985	187	8073	1987	154	8143	1988
12	151	8493	1991	153	81403	1994	188	81203	1997
13	151	8493	1976	153	81403	1995	173	80703	1997
14	151	8143	1981	153	8143	1990	185	81403	1994
15	153	8483	1975	182	81403	1994	154	81403	1996
16	153	8143	1985	188	8143	1988	185	8133	1988
17	153	8143	1987	173	8093	1989	145	8073	1990
18	153	8143	1983	202	9593	1986	154	8143	1990
19	153	8143	1986	151	8143	1987	173	8093	1989
20	153	8143	1981	182	8143	1985	189	8133	1991
21	153	8143	1991	151	81403	1996	162	80413	1996
22	154	8143	1986	150	8893	1988	173	8073	1989
23	154	8143	1980	183	8473	1981	153	8143	1982
24	154	8073	1984	173	8093	1988	188	8133	1992
25	154	8143	1986	188	8123	1988	153	8143	1990
26	154	8143	1979	193	8013	1982	153	81403	1997
27	154	81403	1993	151	84903	1997	152	81403	1997
28	161	8073	1971	173	8073	1974	155	8173	1979
29	161	8072	1986	161	8073	1989	185	8143	1991
30	161	8073	1983	154	8143	1988	173	8093	1990
31	161	8073	1989	188	8133	1991	185	80103	1995
32	161	8073	1989	151	81403	1995	153	81403	1995
33	161	8073	1974	173	8073	1988	150	8073	1988
34	162	8013	1988	154	81403	1995	153	81403	1995
35	162	8143	1988	153	8143	1992	151	81403	1996
36	162	8143	1990	185	81403	1997	188	81303	1997
37	173	8093	1972	154	8143	1989	185	8143	1989
38	173	8093	1985	154	8143	1989	151	81403	1993
39	174	8503	1989	183	84413	1993	205	98633	1993

TABLE 10.2(a) LIST OF CASES WITH THREE PRIMARY SITES (cont'd)

Case	First primary site			Second primary site			Third primary site		
	ICD9	Histo[a]	Year[b]	ICD9	Histo[a]	Year[b]	ICD9	Histo[a]	Year[b]
40	174	8503	1982	183	8443	1985	184	8073	1991
41	174	8013	1973	150	8073	1984	153	8143	1991
42	174	8013	1984	156	8143	1987	184	8073	1990
43	174	8503	1979	173	8093	1990	153	81403	1993
44	174	8013	1982	173	80703	1994	142	83103	1996
45	174	8503	1984	184	8073	1989	173	80703	1996
46	180	8073	1971	174	8503	1978	154	81403	1993
47	180	8073	1986	154	81403	1997	153	81403	1997
48	180	8073	1971	184	8073	1989	151	81453	1994
49	180	8073	1980	154	84803	1994	204	99601	1994
50	180	8072	1978	174	85003	1993	180	80703	1995
51	180	8143	1981	153	81403	1995	189	81303	1995
52	180	8073	1982	184	80703	1993	150	80703	1994
53	180	8143	1980	182	8143	1982	183	8443	1982
54	180	8073	1977	153	8483	1991	200	9693	1992
55	182	8143	1992	180	8073	1992	174	82013	1994
56	182	8143	1968	153	8143	1988	151	81403	1996
57	182	83803	1994	183	83803	1994	154	81403	1996
58	182	8143	1985	151	84903	1994	174	85203	1994
59	182	8013	1973	189	8313	1984	191	9433	1989
60	183	8143	1991	174	85003	1994	188	80103	1996
61	185	8143	1984	153	8143	1986	188	8133	1988
62	185	8143	1990	189	8313	1991	173	8093	1991
63	186	9063	1968	151	8493	1991	173	80903	1996
64	188	8123	1976	173	8093	1986	162	8143	1987
65	188	8123	1987	153	8143	1987	151	81403	1997
66	188	81203	1993	185	81403	1997	153	81403	1997
67	193	8013	1974	146	8013	1974	147	8073	1988
68	193	8053	1992	182	81403	1996	183	83803	1996

[a]Histology code
Four digit codes are based on the Manual of Tumour Nomenclature and Coding[11].
Five digit codes are based on International Classification of Diseases for Oncology[9].
[b]Year of diagnosis.

TABLE 10.2(b) LIST OF CASES WITH FOUR PRIMARY SITES

Case	Primary	ICD9	Histo[a]	Year[b]
1	First	1479	8013	1977
	Second	2008	9613	1988
	Third	1533	81403	1994
	Fourth	1416	80703	1995
2	First	1731	8093	1984
	Second	1602	8073	1987
	Third	1539	8143	1991
	Fourth	1610	80703	1993

[a]Histology code
Four digit codes are based on the Manual of Tumour Nomenclature and Coding[11].
Five digit codes are based on International Classification of Diseases for Oncology[9].
[b]Year of diagnosis.

This page intentionally left blank!

11 HISTOLOGIC TYPES

Table 11.1 shows the numbers of cases (1993-1997) among all residents by histologic type. In the interpretation of the figures, two points should be taken into consideration:

a) the different proportions of cases histologically typed, according to site;
b) the likely variations in diagnostic criteria and use of terminology among pathologists.

Notwithstanding the above comments, the available distributional data are useful as initial guides on histologic types for each major site. For more definitive studies, it would be preferable to have the slides reviewed by one or two pathologists using standardized criteria for the definition of various histologic types.

Table 11.2 shows the numbers of cases of cervical carcinoma-in-situ reported in Singapore female residents for the five 5-year periods. As there is no comprehensive national screening programme in Singapore, these figures are only minimal estimates of the prevalence of the lesion.

Table 11.1 NUMBERS OF *HISTOLOGICALLY CONFIRMED* CASES AMONG ALL RESIDENTS BY HISTOLOGIC TYPE, 1993-1997.

SITE	(ICD9)	HISTOLOGY	No.	%
140	LIP	Squamous cell carcinoma	2	100
		Total	2	100
141	TONGUE	Squamous cell carcinoma	139	94.6
		Carcinoma, NOS	2	1.4
		Carcinoma, undifferentiated	1	0.7
		Adenoid cystic carcinoma	1	0.7
		Neuroendocrine carcinoma	1	0.7
		Mucoepidermoid carcinoma	1	0.7
		Malignant melanoma	1	0.7
		Sarcoma, NOS	1	0.7
		Total	147	100
142	SALIVARY GLAND	Adenoid cystic carcinoma	21	20.0
		Mucoepidermoid carcinoma	20	19.0
		Adenocarcinoma	16	15.2
		Acinar cell carcinoma	15	14.3
		Carcinoma, undifferentiated	7	6.7
		Basal cell adenocarcinoma	5	4.8
		Carcinoma, NOS	4	3.8
		Squamous cell carcinoma	3	2.9
		Lymphoepithelial carcinoma	3	2.9
		Carcinoma in pleomorphic adenoma	2	1.9
		Tumor cells, malignant	1	0.9
		Small cell carcinoma	1	0.9
		Papillary adenocarcinoma	1	0.9

SITE	(ICD9)	HISTOLOGY	No.	%
142	SALIVARY GLAND (cont'd)	Clear cell adenocarcinoma	1	0.9
		Duct carcinoma	1	0.9
		Adenosquamous carcinoma	1	0.9
		Epithelial-myoepithelial carcinoma	1	0.9
		Spindle cell sarcoma	1	0.9
		Carcinosarcoma	1	0.9
		Total	105	100
143-145	MOUTH	Squamous cell carcinoma	131	83.4
		Mucoepidermoid carcinoma	9	5.7
		Adenocarcinoma	3	1.9
		Adenoid cystic carcinoma	3	1.9
		Malignant melanoma	3	1.9
		Carcinoma, undifferentiated	2	1.3
		Acinar cell carcinoma	2	1.3
		Mixed tumor, malignant	1	0.6
		Carcinoma, NOS	1	0.6
		Verrucous carcinoma	1	0.6
		Carcinosarcoma	1	0.6
		Total	157	100
146	OROPHARYNX	Squamous cell carcinoma	55	84.6
		Carcinoma, undifferentiated	6	9.2
		Carcinoma, NOS	2	3.1
		Spindle cell carcinoma	1	1.5
		Leiomyosarcoma	1	1.5
		Total	65	100
147	NASOPHARYNX	Carcinoma, undifferentiated	1,304	87.0
		Carcinoma, NOS	100	6.7
		Squamous cell carcinoma	87	5.8
		Large cell carcinoma	2	0.1
		Adenocarcinoma	2	0.1
		Small cell carcinoma	1	0.1
		Papillary transitional carcinoma	1	0.1
		Adenoid cystic carcinoma	1	0.1
		Kaposi sarcoma	1	0.1
		Total	1,499	100
148	HYPOPHARYNX	Squamous cell carcinoma	102	95.3
		Carcinoma, NOS	2	1.9
		Carcinoma, undifferentiated	1	0.9
		Small cell carcinoma	1	0.9
		Squamous cell carcinoma, small cell, nk	1	0.9
		Total	107	100

SITE	(ICD9)	HISTOLOGY	No.	%
150	OESOPHAGUS	Squamous cell carcinoma	402	85.4
		Adenocarcinoma	28	5.9
		Carcinoma, NOS	13	2.8
		Small cell carcinoma	8	1.7
		Cancer, NOS	4	0.8
		Carcinoma, undifferentiated	4	0.8
		Adenosquamous carcinoma	3	0.6
		Squamous cell carcinoma, large cell, nk	2	0.4
		Squamous cell carcinoma, spindle cell	2	0.4
		Signet ring cell carcinoma	1	0.2
		Malignant melanoma	1	0.2
		Sarcoma	1	0.2
		Leiomyosarcoma	1	0.2
		Smooth muscle tumor	1	0.2
		Total	471	100
151	STOMACH	Adenocarcinoma	1,704	76.5
		Signet ring cell carcinoma	347	15.6
		Carcinoma, NOS	27	1.2
		Adenocarcinoma, intestinal type	23	1.0
		Mucinous adenocarcinoma	23	1.0
		Leiomyosarcoma	22	1.0
		Carcinoma, undifferentiated	14	0.6
		Smooth muscle tumor	12	0.5
		Stromal tumor, uncertain malig. potential	10	0.4
		Squamous cell carcinoma	5	0.2
		Papillary adenocarcinoma	5	0.2
		Stromal sarcoma	5	0.2
		Cancer, NOS	4	0.2
		Carcinoma, diffuse type	4	0.2
		Carcinoid tumor, NOS	4	0.2
		Tumor, NOS	3	0.1
		Neuroendocrine carcinoma	3	0.1
		Adenosquamous carcinoma	3	0.1
		Linitis plastica	2	0.1
		Tubular adenocarcinoma	2	0.1
		Malignant tumor, spindle cell type	1	0.0
		Papillary carcinoma	1	0.0
		Clear cell adenocarcinoma	1	0.0
		Malignant melanoma	1	0.0
		Total	2,226	100
152	SMALL INTESTINE	Adenocarcinoma	43	46.7
		Leiomyosarcoma	18	19.6
		Carcinoma tumor, NOS	10	10.9
		Smooth muscle tumor	5	5.4
		Stromal sarcoma	4	4.3

SITE	(ICD9)	HISTOLOGY	No.	%
152	SMALL INTESTINE (cont'd)	Carcinoma	2	2.2
		Signet ring cell carcinoma	2	2.2
		Cancer, NOS	1	1.1
		Squamous cell carcinoma, spindle cell	1	1.1
		Neuroendocrine carcinoma	1	1.1
		Mucinous adenocarcinoma	1	1.1
		Adenosquamous carcinoma	1	1.1
		Malignant melanoma	1	1.1
		Sarcoma	1	1.1
		Stromal tumor, uncertain malignancy	1	1.1
		Total	92	100
153	COLON	Adenocarcinoma	2,443	91.2
		Mucinous adenocarcinoma	130	4.9
		Carcinoid tumor, NOS	28	1.1
		Carcinoma	18	0.7
		Adenocarcinoma in adenomatous polyp	14	0.5
		Signet ring cell carcinoma	12	0.4
		Villous adenoma	8	0.3
		Leiomyosarcoma	7	0.3
		Papillary adenocarcinoma	4	0.1
		Mucinous cystadenocarcinoma	3	0.1
		Cancer, NOS	2	0.1
		Adenosquamous carcinoma	2	0.1
		Stromal sarcoma	2	0.1
		Tumor cells, malignant	1	0.0
		Carcinoma, undifferentiated	1	0.0
		Small cell carcinoma	1	0.0
		Goblet cell carcinoid	1	0.0
		Adenocarcinoid tumor	1	0.0
		Neuroendocrine carcinoma	1	0.0
		Mucinous tumor, uncertain malignancy	1	0.0
		Total	2,680	100
154	RECTUM	Adenocarcinoma	1,788	89.8
		Mucinous adenocarcinoma	58	2.9
		Carcinoid tumor, NOS	50	2.5
		Signet ring cell carcinoma	16	0.8
		Squamous cell carcinoma	14	0.7
		Carcinoma	10	0.5
		Villous adenoma, NOS	10	0.5
		Adenocarcinoma in adenomatous polyp	7	0.4
		Cancer, NOS	6	0.3
		Leiomyosarcoma	6	0.3
		Basaloid carcinoma	5	0.3
		Malignant melanoma	4	0.2
		Carcinoma, undifferentiated	3	0.2

SITE	(ICD9)	HISTOLOGY	No.	%
154	RECTUM (cont'd)	Papillary adenocarcinoma	3	0.2
		Stromal sarcoma	3	0.2
		Neuroendocrine carcinoma	2	0.1
		Small cell carcinoma	1	0.1
		Squamous cell carcinoma, small cell, nk	1	0.1
		Mixed cell adenocarcinoma	1	0.1
		Paget disease, extramammary	1	0.1
		Smooth muscle tumour, uncert. malign.	1	0.1
		Total	1,990	100
155	LIVER	Hepatocellular carcinoma	381	83.4
		Carcinoma	26	5.7
		Cholangiocarcinoma	20	4.4
		Adenocarcinoma	11	2.4
		Cancer, NOS	8	1.8
		Hepatoblastoma	6	1.3
		Sarcoma	2	0.4
		Hepatocholangiocarcinoma	1	0.2
		Neuroendocrine carcinoma	1	0.2
		Cystadenocarcinoma	1	0.2
		Total	457	100
156	GALL BLADDER & EXTRAHEP BILE DUCT	Adenocarcinoma	196	81.0
		Papillary adenocarcinoma	12	5.0
		Carcinoma	6	2.5
		Signet ring cell carcinoma	5	2.1
		Carcinoma, undifferentiated	4	1.7
		Klatskin tumor	4	1.7
		Adenosquamous carcinoma	4	1.7
		Tumor cells, malignant	2	0.8
		Squamous cell carcinoma	2	0.8
		Mucinous adenocarcinoma	2	0.8
		Sarcoma	2	0.8
		Small cell carcinoma	1	0.4
		Carcinoid and adenocarcinoma	1	0.4
		Primitive neuroectodermal tumor	1	0.4
		Total	242	100
157	PANCREAS	Adenocarcinoma	182	77.4
		Carcinoma	18	7.7
		Carcinoma, undifferentiated	5	2.1
		Mucinous adenocarcinoma	5	2.1
		Cancer, NOS	3	1.3
		Islet cell carcinoma	3	1.3
		Papillary adenocarcinoma	3	1.3
		Mucinous cystadenocarcinoma	3	1.3

SITE	(ICD9)	HISTOLOGY	No.	%
157	PANCREAS (cont'd)	Infiltrating duct carcinoma	3	1.3
		Giant cell carcinoma	2	0.9
		Adenosquamous carcinoma	2	0.9
		Large cell carcinoma	1	0.4
		Small cell carcinoma	1	0.4
		Papillary cystadenocarcinoma	1	0.4
		Papillary cystic tumor	1	0.4
		Signet ring cell carcinoma	1	0.4
		Acinar cell carcinoma	1	0.4
		Total	235	100
160	NASAL CAVITIES, SINUSES	Squamous cell carcinoma	32	36.8
		Schneiderian carcinoma	11	12.6
		Olfactory neuroblastoma	10	11.5
		Adenoid cystic carcinoma	7	8.0
		Carcinoma, undifferentiated	6	6.9
		Adenocarcinoma	4	4.6
		Carcinoma	3	3.4
		Neuroendocrine carcinoma	2	2.3
		Squamous cell carcinoma, small cell, nk	1	1.1
		Transitional cell papilloma, inverted	1	1.1
		Basal cell adenocarcinoma	1	1.1
		Clear cell adenocarcinoma	1	1.1
		Mucoepidermoid carcinoma	1	1.1
		Mucinous adenocarcinoma	1	1.1
		Malignant melanoma	1	1.1
		Sarcoma	1	1.1
		Leiomyosarcoma	1	1.1
		Teratocarcinoma	1	1.1
		Primitive neuroectodermal tumor	1	1.1
		Neurilemmoma, malignant	1	1.1
		Total	87	100
161	LARYNX	Squamous cell carcinoma	356	95.2
		Carcinoma	6	1.6
		Spindle cell carcinoma	3	0.8
		Small cell carcinoma	2	0.5
		Cancer, NOS	1	0.3
		Carcinoma, undifferentiated	1	0.3
		Verrucous carcinoma	1	0.3
		Adenoid squamous cell carcinoma	1	0.3
		Adenocarcinoma	1	0.3
		Adenosquamous carcinoma	1	0.3
		Hemangiopericytoma	1	0.3
		Total	374	100

SITE	(ICD9)	HISTOLOGY	No.	%
162	LUNG	Adenocarcinoma	1,518	39.7
		Squamous cell carcinoma	1,043	27.1
		Small cell carcinoma	455	11.9
		Large cell carcinoma	294	7.7
		Carcinoma	239	6.2
		Cancer, NOS	78	2.0
		Carcinoma, undifferentiated	71	1.9
		Bronchiolo-alveolar adenocarcinoma	33	0.9
		Papillary adenocarcinoma	27	0.7
		Carcinoid tumor, NOS	16	0.4
		Adenosquamous carcinoma	16	0.4
		Mucinous adenocarcinoma	7	0.2
		Neuroendocrine carcinoma	5	0.1
		Sarcoma	5	0.1
		Mucoepidermoid carcinoma	4	0.1
		Spindle cell carcinoma	3	0.1
		Lymphoepithelial carcinoma	3	0.1
		Adenoid cystic carcinoma	2	0.1
		Signet ring cell carcinoma	2	0.1
		Giant cell carcinoma	1	0.0
		Paraganglioma	1	0 0
		Carcinosarcoma	1	0.0
		Hemangiopericytoma	1	0.0
		Total	3,825	100
163	PLEURA	Mesothelioma, malignant	25	83.3
		Epithelioid mesothelioma, malignant	3	11.0
		Fibrous mesothelioma, malignant	2	6.7
		Total	30	100
164	THYMUS & MEDIASTINUM	Malignant thymoma	29	48.3
		Germinoma	7	1.7
		Carcinoma	4	6.7
		Carcinoma, undifferentiated	3	5.0
		Sarcoma	3	5.0
		Yolk sac tumor	2	3.3
		Teratoma, malignant	2	3.3
		Tumor cells, malignant	1	1.7
		Large cell carcinoma	1	1.7
		Adenocarcinoma	1	1.7
		Carcinoid tumor, NOS	1	1.7
		Mucoepidermoid carcinoma	1	1.7
		Fibrous histiocytoma, malignant	1	1.7
		Embryonal carcinoma	1	1.7
		Mixed germ cell tumor	1	1.7

SITE	(ICD9)	HISTOLOGY	No.	%
164	THYMUS & MEDIASTINUM (cont'd)	Hemangiosarcoma	1	1.7
		Neuroblastoma	1	1.7
		Total	60	100
170	BONE	Osteosarcoma	25	32.9
		Giant cell tumor, NOS	14	18.4
		Chondrosarcoma	13	17.1
		Fibrous histiocytoma, malignant	5	6.6
		Sarcoma	4	5.3
		Ewings sarcoma	4	5.3
		Fibroblastic osteosarcoma	2	2.6
		Chordoma	2	2.6
		Leiomyosarcoma	1	1.3
		Hemangiosarcoma	1	1.3
		Epithelioid hemangioendothelioma	1	1.3
		Small cell osteosarcoma	1	1.3
		Aggressive osteoblastoma	1	1.3
		Giant cell tumor, malignant	1	1.3
		Ameloblastoma, malignant	1	1.3
		Total	76	100
171	CONNECTIVE TISSUE	Fibrous histiocytoma, malignant	31	17.2
		Leiomyosarcoma	22	12.2
		Sarcoma	16	8.9
		Neurilemmoma, malignant	16	8.9
		Myxoid liposarcoma	13	7.2
		Liposarcoma, NOS	10	5.6
		Hemangiosarcoma	8	4.4
		Synovial sarcoma	7	3.9
		Rhabdomyosarcoma	6	3.3
		Hemangioendothelioma	6	3.4
		Epithelioid sarcoma	5	2.8
		Fibrosarcoma	5	2.8
		Peripheral neuroectodermal tumor	5	2.8
		Kaposi sarcoma	4	2.2
		Hemangiopericytoma, malignant	4	2.2
		Cancer, NOS	3	1.7
		Liposarcoma, well differentiated	3	1.7
		Myxoid chondrosarcoma	3	1.7
		Neuroblastoma	3	1.7
		Myxosarcoma	2	1.7
		Smooth muscle tumor	2	1.7
		Hemangiopericytoma, NOS	2	1.7
		Alveolar soft part sarcoma	2	1.7
		Agressive fibromatosis	1	0.6
		Mesenchymoma, malignant	1	0.6
		Total	180	100

SITE	(ICD9)	HISTOLOGY	No.	%
172	MELANOMA OF SKIN	Malignant melanoma	69	100
		Total	69	100
173	SKIN, excluding melanoma	Basal cell carcinoma	824	63.0
		Squamous cell carcinoma	361	27.6
		Dermatofibrosarcoma protuberans	42	3.2
		Sebaceous adenocarcinoma	13	1.0
		Adnexal carcinoma	10	0.8
		Sweat gland adenocarcinoma	9	0.7
		Verrucous carcinoma	8	0.6
		Carcinoma	4	0.3
		Basosquamous carcinoma	4	0.3
		Tricholemmoma, malignant	4	0.3
		Eccrine poroma, malignant	3	0.2
		Fibrous histiocytoma, malignant	3	0.2
		Adenoid cystic carcinoma	2	0.2
		Pagets disease, extramammary	2	0.2
		Carcinosarcoma	2	0.2
		Kaposi sarcoma	2	0.2
		Tumor cells, malignant	1	0.1
		Carcinoma, undifferentiated	1	0.1
		Squamous cell carcinoma, spindle cell	1	0.1
		Adenoid squamous cell carcinoma	1	0.1
		Merkel cell carcinoma	1	0.1
		Clear cell adenocarcinoma	1	0.1
		Apocrine adenocarcinoma	1	0.1
		Mucoepidermoid carcinoma	1	0.1
		Mucinous adenocarcinoma	1	0.1
		Spindle cell sarcoma	1	0.1
		Atypical fibrous histiocytoma	1	0.1
		Hemangiosarcoma	1	0.1
		Hemangioendothelioma	1	0.1
		Neurilemmoma, malignant	1	0.1
		Total	1,307	100
174	FEMALE BREAST	Infiltrating duct carcinoma	2,799	79.2
		Lobular carcinoma	155	4.4
		Carcinoma	131	3.7
		Mucinous adenocarcinoma	92	2.6
		Medullary carcinoma	41	1.2
		Phyllodes tumor, NOS	40	1.1
		Adenocarcinoma	37	1.0
		Papillary carcinoma	37	1.0
		Phyllodes tumor, malignant	28	0.8
		Intraductal carcinoma	27	0.8
		Infiltrating duct and lobular carcinoma	27	0.8
		Cribriform carcinoma	25	0.7

SITE	(ICD9)	HISTOLOGY	No.	%
174	FEMALE BREAST (cont'd)	Comedocarcinoma	25	0.7
		Tubular adenocarcinoma	20	0.6
		Paget disease, mammary	17	0.5
		Cancer, NOS	14	0.4
		Squamous cell carcinoma	5	0.1
		Large cell carcinoma	2	0.1
		Intracystic carcinoma	2	0.1
		Fibrous histiocytoma, malignant	2	0.1
		Sarcoma	2	0.1
		Tumor, NOS	1	0.0
		Carcinoma, anaplastic	1	0.0
		Neuroendocrine carcinoma	1	0.0
		Glycogen-rich carcinoma	1	0.0
		Mixed cell adenocarcinoma	1	0.0
		Osteosarcoma	1	0.0
		Total	3,534	100
175	MALE BREAST	Infiltrating duct carcinoma	14	82.4
		Infiltrating duct and lobular carcinoma	2	11.8
		Lobular carcinoma	1	5.9
		Total	17	100
180	CERVIX UTERI	Squamous cell carcinoma	537	48.3
		Squamous cell carcinoma, large cell, nk	192	17.3
		Adenocarcinoma	160	14.4
		Squamous cell carcinoma, keratinising	138	12.4
		Carcinoma	24	2.2
		Adenosquamous carcinoma	24	2.2
		Small cell carcinoma	7	0.6
		Papillary adenocarcinoma	7	0.6
		Papillary squamous cell carcinoma	4	0.4
		Large cell carcinoma	3	0.3
		Neuroendocrine carcinoma	3	0.3
		Leiomyosarcoma	3	0.3
		Cancer, NOS	2	0.2
		Squamous cell carcinoma, small cell, nk	2	0.2
		Mucinous adenocarcinoma	2	0.2
		Pseudosarcomatous carcinoma	1	0.1
		Adenoid squamous cell carcinoma	1	0.1
		Clear cell adenocarcinoma	1	0.1
		Signet ring cell carcinoma	1	0.1
		Mesodermal mixed tumor	1	0.1
		Total	1,113	100

SITE	(ICD9)	HISTOLOGY	No.	%
181	PLACENTA	Choriocarcinoma	8	80.0
		Invasive hydatidiform mole	2	20.0
		Total	10	100
182	CORPUS UTERI	Adenocarcinoma	293	49.3
		Endometrioid carcinoma	132	22.2
		Leiomyosarcoma	29	4.9
		Serous adenocarcinoma	23	3.9
		Mullerian mixed tumor	20	3.4
		Endometrial stromal sarcoma	18	3.1
		Papillary adenocarcinoma	17	2.8
		Adenosquamous carcinoma	14	2.4
		Carcinoma	11	1.9
		Smooth muscle tumor	10	1.7
		Clear cell adenocarcinoma	8	1.3
		Adenosarcoma	5	0.8
		Carcinoma, undifferentiated	4	0.7
		Squamous cell carcinoma	2	0.3
		Tumor cells, malignant	1	0.2
		Malignant tumor, small cell type	1	0.2
		Carcinoma, anaplastic	1	0.2
		Small cell carcinoma	1	0.2
		Squamous cell carcinoma, large cell, nk	1	0.2
		Mixed cell adenocarcinoma	1	0.2
		Mucinous adenocarcinoma	1	0.2
		Sarcoma	1	0.2
		Total	594	100
183	OVARY & UTERINE ADNEXA	Serous cystadenocarcinoma	157	18.4
		Mucinous tumor, borderline malignancy	114	13.4
		Endometrioid carcinoma	109	12.8
		Clear cell adenocarcinoma	92	10.8
		Mucinous cystadenocarcinoma	88	10.3
		Adenocarcinoma	66	7.8
		Serous cystadenoma, borderline malig.	58	6.8
		Teratoma, malignant	29	3.4
		Serous surface papillary carcinoma	23	2.7
		Granulosa cell tumor	19	2.2
		Germinoma	17	2.0
		Carcinoma, undifferentiated	10	1.2
		Papillary adenocarcinoma	10	0.2
		Squamous cell carcinoma	8	0.9
		Carcinoma	6	0.7
		Yolk sac tumor	6	0.7
		Mullerian mixed tumor	5	0.6
		Teratoma, NOS	4	0.5
		Mixed germ cell tumor	4	0.5

SITE	(ICD9)	HISTOLOGY	No.	%
183	OVARY & UTERINE ADNEXA (cont'd)	Carcinoid tumor, NOS	3	0.4
		Transitional cell carcinoma	2	0.2
		Juvenile granulosa cell tumor	2	0.2
		Brenner tumor, borderline malignancy	2	0.2
		Brenner tumor, malignant	2	0.2
		Tumor, NOS	1	0.1
		Tumor cells, malignant	1	0.1
		Small cell carcinoma	1	0.1
		Endometrioid tumor, borderline malig.	1	0.1
		Cystadenocarcinoma	1	0.1
		Papillary cystadenoma, borderline malig.	1	0.1
		Signet ring cell carcinoma	1	0.1
		Adenosquamous carcinoma	1	0.1
		Sex cord-stromal tumor	1	0.1
		Granulosa cell tumor, malignant	1	0.1
		Fibrosarcoma	1	0.1
		Leiomyosarcoma	1	0.1
		Smooth muscle tumor	1	0.1
		Papillary adenofibroma, borderline	1	0.1
		Mesothelioma, malignant	1	0.1
		Total	851	100
184	VAGINA & VULVA	Squamous cell carcinoma	46	59.0
		Pagets disease, extramammary	10	12.8
		Adenocarcinoma	5	6.4
		Malignant melanoma	4	5.1
		Basal cell carcinoma	3	3.8
		Squamous cell carcinoma, large cell, nk	2	2.6
		Papillary adenocarcinoma	2	2.6
		Malignant tumor, NOS	1	1.3
		Carcinoma	1	1.3
		Basaloid carcinoma	1	1.3
		Clear cell adenocarcinoma	1	1.3
		Adenosquamous carcinoma	1	1.3
		Smooth muscle tumor	1	1.3
		Total	78	100
185	PROSTATE	Adenocarcinoma	812	94.1
		Carcinoma	34	3.9
		Transitional cell carcinoma	5	0.6
		Cancer, NOS	3	0.3
		Acinar cell carcinoma	2	0.2
		Carcinoma, undifferentiated	1	0.1
		Neuroendocrine carcinoma	1	0.1

SITE	(ICD9)	HISTOLOGY	No.	%
185	PROSTATE (cont'd)	Papillary duct carcinoma	1	0.1
		Adenosquamous carcinoma	1	0.1
		Sarcoma	1	0.1
		Smooth muscle tumor	1	0.1
		Embryonal rhabdomyosarcoma	1	0.1
		Total	863	100
186	TESTIS	Seminoma	45	51.7
		Mixed germ cell tumor	12	13.8
		Yolk sac tumor	11	12.6
		Embryonal carcinoma	5	5.7
		Teratoma, malignant	5	5.7
		Leydig cell tumor	2	2.3
		Teratoma, NOS	2	2.3
		Sex cord-stromal tumor, malignant	1	1.1
		Granulosa cell tumor, NOS	1	1.1
		Granulosa cell tumor, malignant	1	1.1
		Spindle cell sarcoma	1	1.1
		Spermatocytic seminoma	1	1.1
		Total	87	100
187	PENIS, SCROTUM	Squamous cell carcinoma	46	70.8
		Pagets disease, extramammary	12	18.5
		Verrucous carcinoma	2	3.1
		Papillary adenocarcinoma	2	3.1
		Basal cell carcinoma	1	1.5
		Liposarcoma	1	1.5
		Leiomyosarcoma	1	1.5
		Total	65	100
188	URINARY BLADDER	Transitional cell carcinoma	292	48.5
		Papillary transitional cell carcinoma	264	43.9
		Adenocarcinoma	11	1.8
		Carcinoma	10	1.7
		Squamous cell carcinoma	6	1.0
		Cancer, NOS	4	0.7
		Clear cell adenocarcinoma	4	0.7
		Spindle cell carcinoma	2	0.3
		Transitional cell papilloma, inverted	2	0.3
		Mucinous adenocarcinoma	2	0.3
		Paraganglioma	2	0.3
		Sarcomatoid carcinoma	1	0.2
		Small cell carcinoma	1	0.2
		Papillary adenocarcinoma	1	0.2
		Total	602	100

SITE	(ICD9)	HISTOLOGY	No.	%
189	KIDNEY & OTHER URINARY ORGANS	Renal cell carcinoma	291	64.1
		Transitional cell carcinoma	64	14.1
		Papillary transitional cell carcinoma	38	8.4
		Clear cell adenocarcinoma	18	4.0
		Squamous cell carcinoma	10	2.2
		Wilms tumor	8	1.8
		Adenocarcinoma	7	1.5
		Papillary adenocarcinoma	5	1.1
		Cancer, NOS	4	0.9
		Clear cell sarcoma	2	0.4
		Tumor, NOS	1	0.2
		Carcinoma	1	0.2
		Large cell carcinoma	1	0.2
		Squamous cell carcinoma, small cell, nk	1	0.2
		Oxyphilic adenocarcinoma	1	0.2
		Spindle cell sarcoma	1	0.2
		Neuroblastoma	1	0.2
		Total	454	100
190	EYE, ORBIT & LACRIMAL GLAND	Retinoblastoma	10	62.5
		Malignant melanoma	3	18.8
		Squamous cell carcinoma	1	6.3
		Rhabdomyosarcoma	1	6.3
		Medulloepithelioma	1	6.3
		Total	16	100
191-192	BRAIN, NERVOUS SYSTEM	Astrocytoma	61	23.2
		Glioblastoma multiforme	59	22.4
		Astrocytoma, anaplastic	30	11.4
		Medulloblastoma	22	8.4
		Oligodendroglioma	12	4.6
		Pilocytic astrocytoma	11	4.2
		Glioma, malignant	9	3.4
		Ependymoma	9	3.4
		Meningioma, malignant	7	2.7
		Germinoma	6	2.3
		Primitive neuroectodermal tumor	6	2.3
		Mixed glioma	4	1.5
		Gemistocytic astrocytoma	4	1.5
		Fibrillary astrocytoma	4	1.5
		Hemangioblastoma	3	1.1
		Malignant melanoma	2	0.8
		Desmoplastic medulloblastoma	2	0.8
		Meningiomatosis	2	0.8
		Tumor cells, malignant	1	0.4
		Malignant tumor, fusiform cell type	1	0.4
		Embryonal carcinoma	1	0.4

SITE	(ICD9)	HISTOLOGY	No.	%
191-192	BRAIN, NERVOUS SYSTEM (cont'd)	Hemangioendothelioma	1	0.4
		Hemangiopericytoma	1	0.4
		Ependymoma, anaplastic	1	0.4
		Papillary ependymoma	1	0.4
		Myxopapillary ependymoma	1	0.4
		Pleomorphic xanthoastrocytoma	1	0.4
		Oligodendroglioma, anaplastic	1	0.4
		Total	263	100
193	THYROID	Papillary adenocarcinoma	404	66.1
		Follicular adenocarcinoma	143	23.4
		Papillary carcinoma, follicular variant	18	2.9
		Carcinoma, undifferentiated	15	2.5
		Medullary carcinoma	13	2.1
		Oxyphilic adenocarcinoma	11	1.8
		Carcinoma	3	0.5
		Tumor cells, malignant	1	0.2
		Squamous cell carcinoma	1	0.2
		Adenocarcinoma	1	0.2
		Clear cell adenocarcinoma	1	0.2
		Total	611	100
194	OTHER ENDOCRINE	Craniopharyngioma	16	26.7
		Neuroblastoma	14	23.3
		Adrenal cortical carcinoma	9	15.0
		Carcinoma	3	5.0
		Paraganglioma	3	5.0
		Germinoma	3	5.0
		Glomus jugulare tumor	2	3.3
		Carotid body tumor	2	3.3
		Extra-adrenal paraganglioma	2	3.3
		Pinealoma	2	3.3
		Cancer, NOS	1	1.7
		Pheochromocytoma, malignant	1	1.7
		Choriocarcinoma	1	1.7
		Primitive neuroectodermal tumor	1	1.7
		Total	60	100
200 202	LYMPHOMA, NON-HODGKIN	ML, large,diffuse	295	34.7
		ML, NOS	165	19.4
		ML, immunoblastic	56	6.6
		ML, small lymphocytic	37	4.3
		ML, centroblastic, diffuse	34	4.0
		Peripheral T-cell lymphoma	32	3.8
		Burkitts lymphoma	27	3.2
		Mycosis fungoides	22	2.6
		ML, large cell, follicular	20	2.4

SITE	(ICD9)	HISTOLOGY	No.	%
200 202	LYMPHOMA, NON-HODGKIN (cont'd)	ML, mixed small/large cleaved	17	2.0
		ML, centroblastic-centrocytic,follicular	15	1.8
		ML, small cleaved/follicular	15	1.8
		Peripheral T-cell lymphoma, pleomorphic	15	1.8
		ML, lymphoblastic	13	1.5
		ML, follicular	13	1.5
		ML, diffuse	12	1.4
		ML, mixed small/large diffuse	11	1.3
		ML, centroblastic-centrocytic	6	0.7
		Cutaneous lymphoma	6	0.7
		Angiocentric T-cell lymphoma	6	0.7
		ML, small cell, noncleaved	5	0.6
		Hairy cell leukaemia	5	0.6
		Malignant histiocytosis	4	0.5
		ML, lymphocytic intermediate	3	0.3
		ML, large cell, noncleaved	3	0.3
		ML, centroblastic, follicular	3	0.3
		Monocytoid B-cell lymphoma	3	0.3
		ML, lymphoplasmacytic	2	0.2
		Peripheral T-cell lymphoma	2	0.2
		ML, small cleaved cell, diffuse	1	0.1
		ML, large cell, cleaved, diffuse	1	0.1
		Sezary disease	1	0.1
		T-zone lymphoma	1	0.1
		Total	851	100
201	HODGKIN DISEASE	HD, nodular sclerosis, nos	45	53.6
		HD, mixed cellularity	18	21.4
		HD, NOS	13	15.5
		HD, lymphocytic predominance	2	2.4
		HD, nodular sclerosis, mixed cellularity	2	2.4
		HD, lymphocytic predominance, diffuse	1	1.2
		HD, lymphocytic predominance, nodular	1	1.2
		HD, nodular sclerosis, cellular phase	1	1.2
		HD, nodular sclerosis, lymphocytic depl	1	1.2
		Total	84	100
203	MULTIPLE MYELOMA	Multiple myeloma	160	95.2
		Plasmacytoma	7	4.2
		Immunoproliferative disease	1	0.6
		Total	168	100
204	LYMPHATIC LEUKAEMIA	Acute lymphoblastic leukaemia	185	84.5
		Chronic lymphocytic leukaemia	28	12.8
		Adult T-cell leukaemia	4	1.8
		Lymphoid leukaemia	2	0.9
		Total	219	100

SITE	(ICD9)	HISTOLOGY	No.	%
205	MYELOID LEUKAEMIA	Acute Myeloid leukaemia	288	68.7
		Chronic myeloid leukaemia	109	26.0
		Myeloid leukaemia, NOS	6	1.4
		Acute promyelocytic leukaemia	6	1.4
		Myeloid sarcoma	5	1.2
		Chronic myelomonocytic leukaemia	3	0.7
		Aleukemic myeloid leukaemia	2	0.5
		Total	419	100
206	MONOCYTIC LEUKAEMIA	Acute monocytic leukaemia	1	50.0
		Chronic monocytic leukaemia	1	50.0
		Total	2	100
207	LEUKAEMIA, OTH. SPECIFIED	Acute megakaryoblastic leukaemia	3	75.0
		Lymphosarcoma cell leukaemia	1	25.0
		Total	4	100
208	LEUKAEMIA, NOS	Chronic myeloproliferative disease	99	47.1
		Acute leukaemia	47	22.4
		Leukaemia, NOS	34	16.2
		Myelodysplastic syndrome	13	6.2
		Essential thrombocythemia	11	5.2
		Subacute leukaemia	2	1.0
		Polycythemia vera	2	1.0
		Myelosclerosis with myeloid metaplasia	1	0.5
		Chronic leukaemia	1	0.5
		Total	210	100

nk: non-keratinizing

This page intentionally left blank!

Table 11.2 Number of cases of cervical carcinoma-in-situ in female residents by age groups, 1968-1997.

Age (years)	'68-'72	'73-'77	'78-'82	'83-'87	'88-'92	'93-'97	Total
0-4	0	0	0	0	0	0	0
5-9	0	0	0	0	0	0	0
10-14	0	0	0	0	0	0	0
15-19	1	0	0	0	4	1	6
20-24	7	5	4	10	17	24	67
25-29	37	61	42	77	120	77	414
30-34	103	131	104	225	286	221	1,070
35-39	118	125	108	227	352	332	1,262
40-44	108	111	112	161	315	276	1,083
45-49	58	84	77	114	201	216	750
50-54	26	27	30	55	100	104	342
55-59	10	6	11	21	46	45	139
60-64	4	5	13	10	28	36	96
65-69	5	4	3	6	20	27	65
70-74	1	2	3	6	10	11	33
75-79	0	2	0	0	4	4	10
>=80	0	0	2	4	1	4	11
Unkn.	1	2	0	4	16	5	28
Total	479	565	509	920	1,520	1,383	5,376

12 COMMENTARY ON SELECTED SITES

12.1 Tongue (ICD9: 141 / ICDO: C01-C02)

Consistent with previous findings, the incidence rates for the disease among Indians remained higher than for the other ethnic groups, with overall risks over the latest 5 year period being 1.9 and 1.5 times that of Chinese for males and females respectively. The risks for Malays were slightly lower than for Chinese, but the small numbers of cases in Malays should be borne in mind. Incidence rates among Indians in Singapore are lower than those in India for the period 1988-1992. The incidence rate of 2.2 per 100,000 among Indian males is consistent with the previously observed decline from 5.2 per 100,000 in 1973-77 to 2.8 per 100,000 in 1988-92.

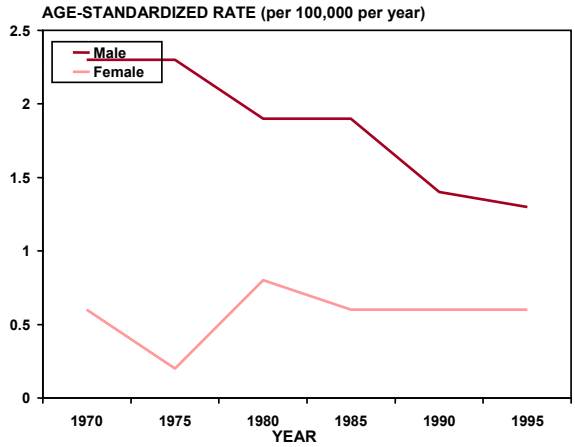
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	94	0.6	1.3	-
Chinese	70	0.5	1.3	1.0
Malays	7	0.6	0.9	0.7 (0.3-1.5)
Indians	17	2.6	2.2	1.9 (1.1-3.3)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	53	0.3	0.6	-
Chinese	43	0.3	0.5	1.0
Malays	6	0.5	0.5	0.9 (0.4-2.1)
Indians	4	0.7	0.9	1.5 (0.5-4.1)

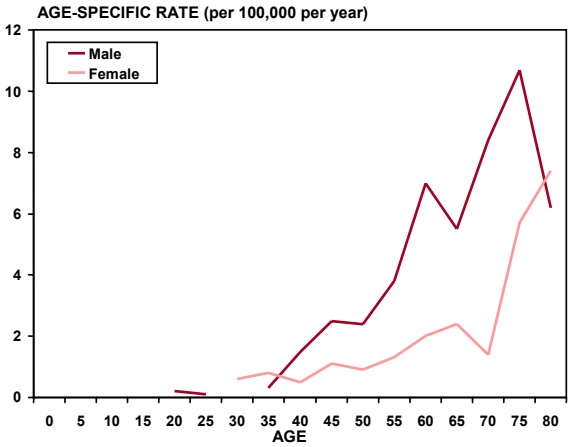
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1410	Base	102	16
1411	Dorsum	1	0
1412	Tip & border	9	6
1413	Ventral	1	2
1414	Anterior, 2/3	1	0
1416	Lingual tonsil	71	48
1418	Other	1	1
1419	NOS	304	121
Total		490	194

HISTOLOGY 1993-97	Number	%
Squamous cell carcinoma	139	94.6
Carcinoma, NOS	2	1.4
Carcinoma, undifferentiated	1	0.7
Adenoid cystic carcinoma	1	0.7
Neuroendocrine carcinoma	1	0.7
Mucoepidermoid carcinoma	1	0.7
Malignant melanoma	1	0.7
Sarcoma, NOS	1	0.7
Total	147	100

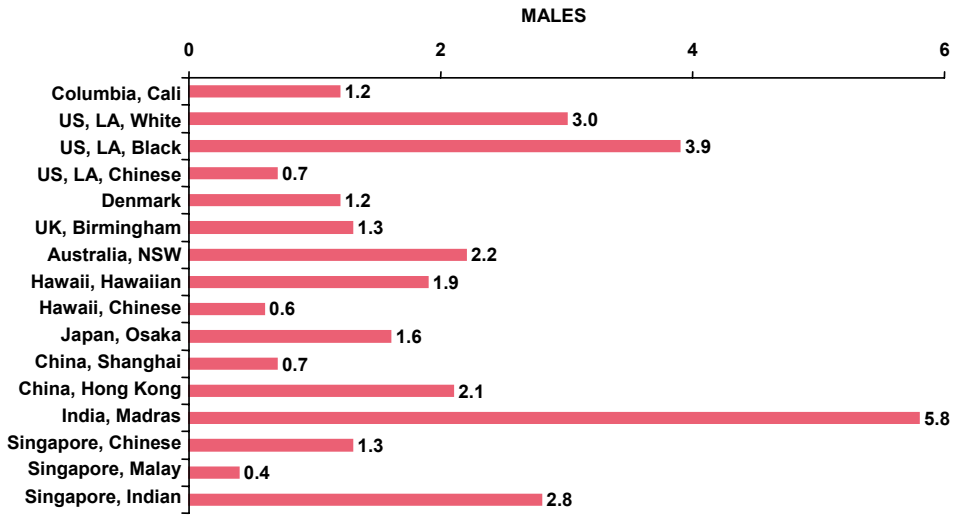


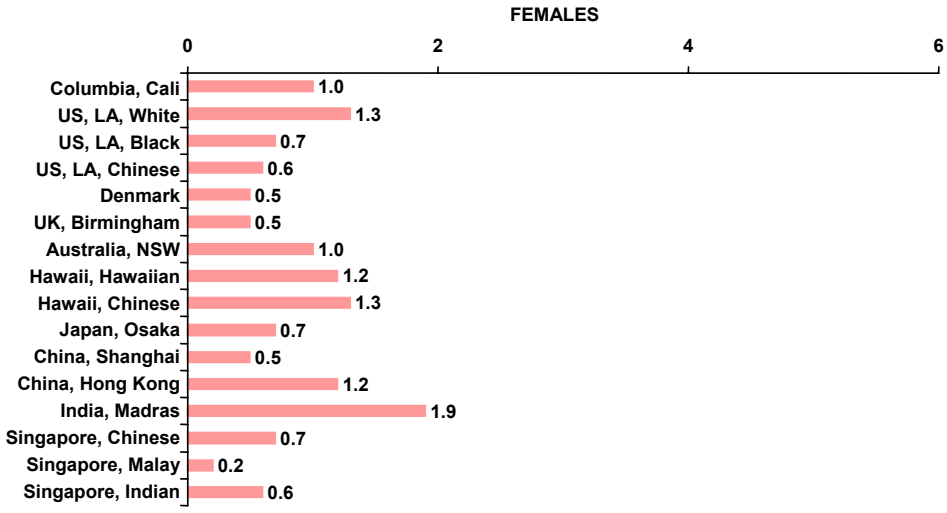
TONGUE: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



TONGUE: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

TONGUE: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.2 Salivary gland (ICD9: 142 / ICDO: C07-C08)

The number of cases occurring in Singapore is small. The data show no evidence of any significant difference between ethnic groups, and little variation in incidence over the 30-year period. The commonest subsite is the parotid gland (66.6%), and the male:female ratio of this cancer remains close to unity. The adenoid cystic, mucoepidermoid, adeno- and acinar cell carcinomas make up about 70% of the salivary gland cancers with specified histological subtypes.

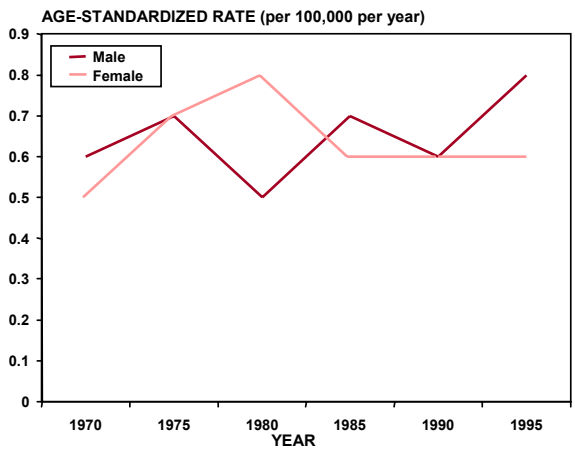
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	58	0.4	0.8	-
Chinese	50	0.4	0.9	1.0
Malays	5	0.4	0.4	0.5 (0.3-1.6)
Indians	3	0.5	0.6	0.5 (0.2-1.6)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	49	0.3	0.6	-
Chinese	43	0.3	0.7	1.0
Malays	2	0.2	0.2	0.3 (0.1-1.3)
Indians	3	0.5	0.9	0.9 (0.3-3.0)

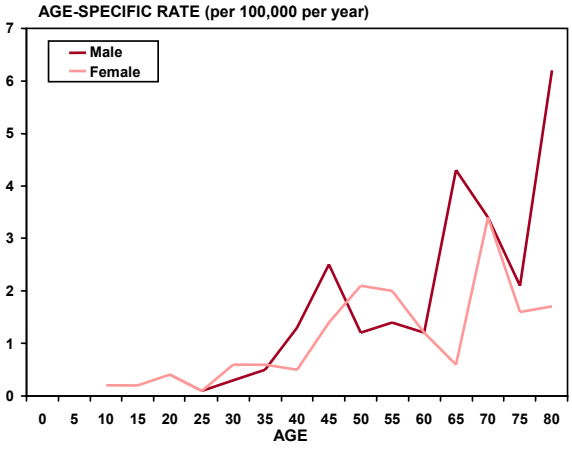
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1420	Parotid	136	137
1421	Submandibular	36	41
1422	Sublingual	2	3
1428	Other	1	2
1429	NOS	25	27
Total		200	210

HISTOLOGY 1993-97	Number	%
Adenoid cystic carcinoma	21	20.0
Mucoepidermoid carcinoma	20	19.0
Adenocarcinoma	16	15.2
Acinar cell carcinoma	15	14.3
Carcinoma, undifferentiated	7	6.7
Basal cell adenocarcinoma	5	4.8
Carcinoma, NOS	4	3.8
Squamous cell carcinoma	3	2.9
Lymphoepithelial carcinoma	3	2.9
Ca in pleomorphic adenoma	2	1.9
Tumor cells, malignant	1	0.9
Small cell carcinoma	1	0.9
Papillary adenocarcinoma	1	0.9
Clear cell adenocarcinoma	1	0.9
Duct carcinoma	1	0.9
Adenosquamous carcinoma	1	0.9
Epithel-myoepithelial ca.	1	0.9
Others	1	1.8
Total	105	100

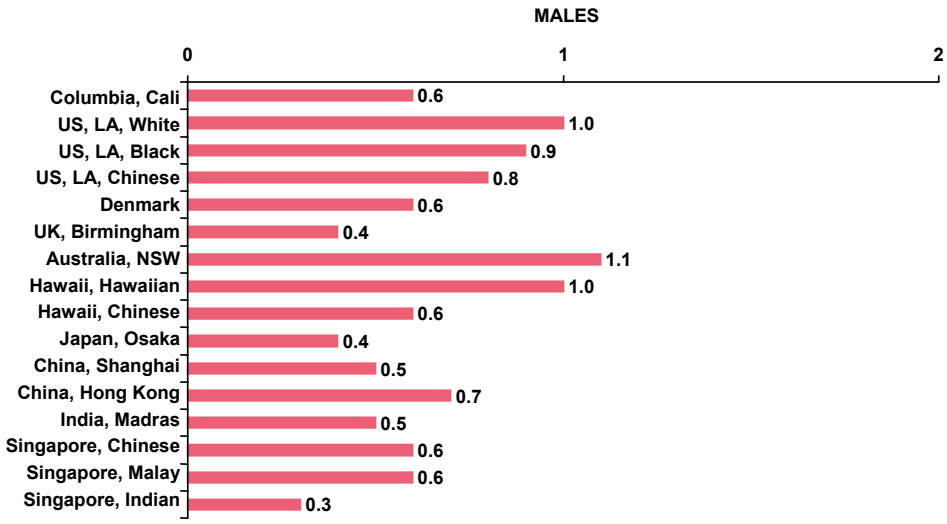


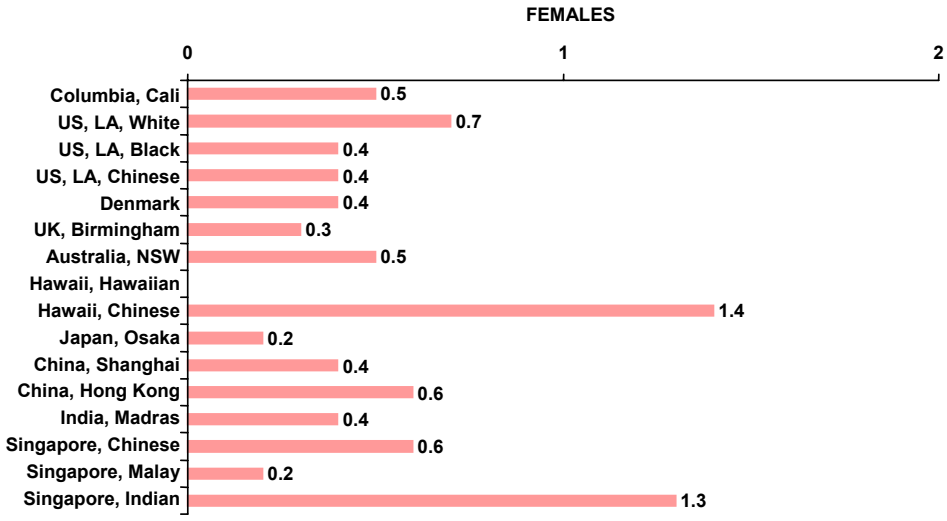
SALIVARY GLAND: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



SALIVARY GLAND: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

SALIVARY GLAND: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.3 Mouth (ICD9: 143-5 / ICDO: C03-C06)

Consistent with the global pattern, the incidence of this cancer among Indians in Singapore remains markedly higher than the other ethnic groups, for both males and females. The trend among Indian males indicates a decrease over the 30-year period, from 8.1 per 100,000 in 1968-72 to 3.5 per 100,000 in the latest 5-year period.

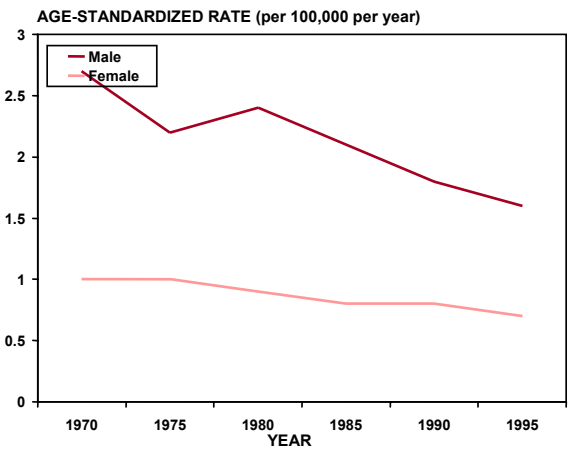
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	109	0.7	1.6	-
Chinese	83	0.6	1.6	1.0
Malays	1	0.1	0.1	0.1 (0.0-0.6)
Indians	24	3.6	3.5	2.2 (1.4-3.5)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	51	0.3	0.7	-
Chinese	30	0.2	0.4	1.0
Malays	3	0.2	0.5	0.9 (0.3-2.9)
Indians	18	3.2	4.8	10.9 (5.9-20.0)

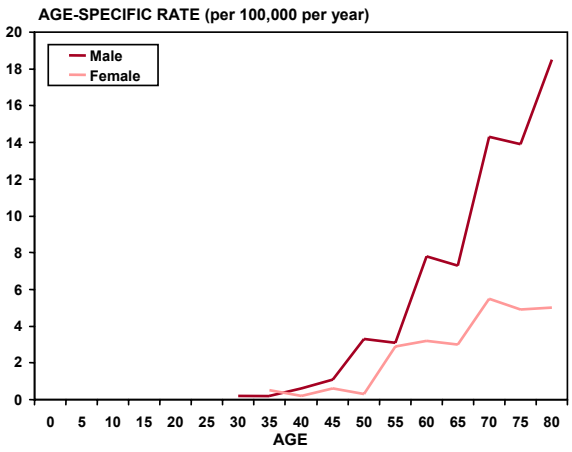
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1430	Gum, upper	4	3
1431	Gum, lower	13	9
1439	Gum, NOS	11	16
1441	Lateral portion	0	1
1449	Flr of mouth NOS	100	28
1450	Cheek mucosa	145	96
1451	Vestibule	4	1
1452	Hard palate	50	26
1453	Soft palate	71	11
1454	Uvula	4	2
1455	Palate, NOS	82	26
1456	Retromolar	28	11
1458	Others	3	1
1459	Oth mouth, NOS	33	16
Total		548	246

HISTOLOGY 1993-97	Number	%
Squamous cell carcinoma	131	83.4
Mucoepidermoid ca.	9	5.7
Adenocarcinoma	3	1.9
Adenoid cystic carcinoma	3	1.9
Malignant melanoma	3	1.9
Carcinoma, undiff.	2	1.3
Acinar cell carcinoma	2	1.3
Mixed tumor, malignant	1	0.6
Carcinoma, NOS	1	0.6
Verrucous carcinoma	1	0.6
Carcinosarcoma	1	0.6
Total	157	100

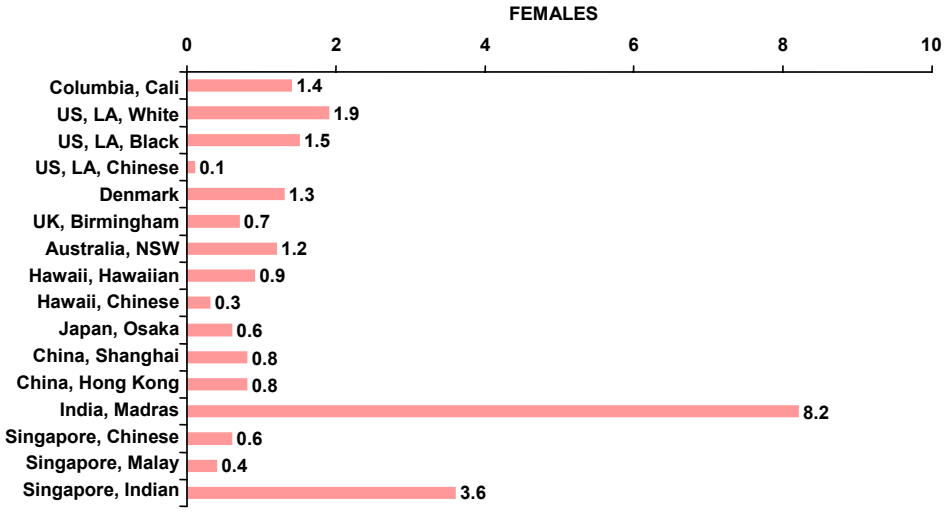


MOUTH: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



MOUTH: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

MOUTH: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.4 Nasopharynx (ICD9: 147 / ICDO: C11)

Incidence rates in Singapore Chinese remain among the highest in Asia, after Hong Kong, and are substantially higher than those for Chinese in Hawaii and the US. In comparison to the Chinese, Malays have about 30-40% of the risk. The number of cases among Indians is too small for comment. The male to female ratio among Chinese in 1993-1997 is 2.8:1.

Among Chinese, the incidence rates of the disease remained remarkably stable between 1968-1992, but in 1993-1997 showed a marginal decrease, especially in females. This cancer has maintained its ranking as the fifth most common cancer in Chinese males and constitutes 7% of all cancers diagnosed in 1993-97. Data presented in previous publications for the period 1968-1987[1-3] showed that Cantonese had significantly higher risks than other Chinese dialect groups.

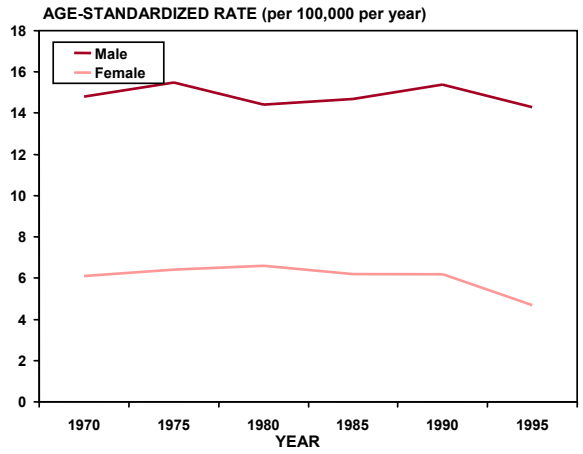
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1121	6.9	14.3	-
Chinese	1044	7.5	16.7	1.0
Malays	61	4.9	7.3	0.4 (0.3-0.5)
Indians	8	1.2	1.3	0.1 (0.0-0.1)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	395	2.5	4.7	-
Chinese	375	2.8	5.5	1.0
Malays	18	1.4	2.0	0.3 (0.2-0.5)
Indians	1	0.2	0.1	0.0 (0.0-0.2)

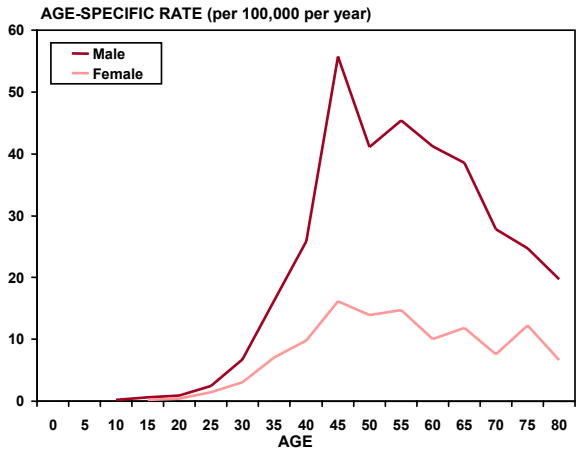
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97 Subsite		Males	Females
1479	NOS	4,958	2,027
Total		4,958	2,027

HISTOLOGY 1993-97	Number	%
Carcinoma, undiff.	1,282	85.5
Carcinoma, NOS	100	6.7
Squamous cell ca.	80	5.3
Carcinoma, anaplastic	22	1.5
Sq.cell ca., large cell, nk	7	0.5
Large cell carcinoma	2	0.1
Adenocarcinoma	2	0.1
Small cell carcinoma	1	0.1
Pap.transit.cell ca.	1	0.1
Adenoid cystic ca.	1	0.1
Kaposi sarcoma	1	0.1
Total	1,499	100

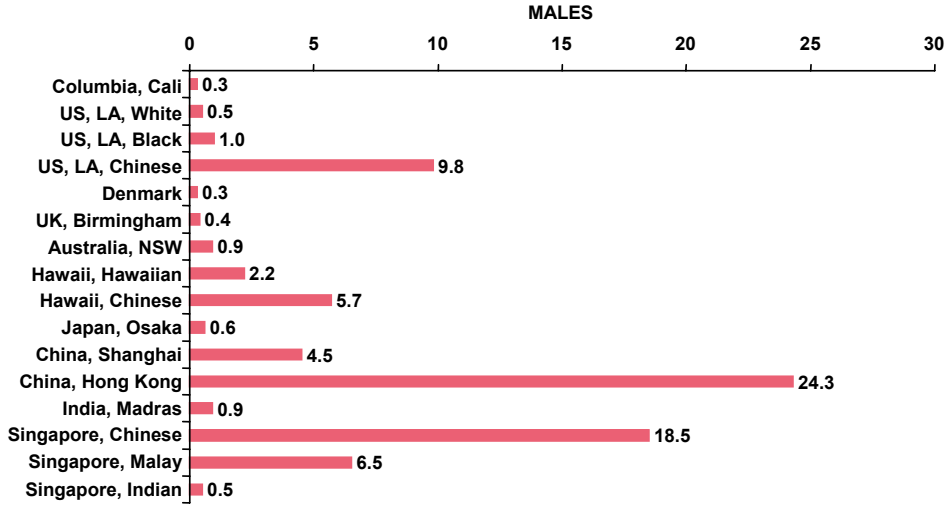


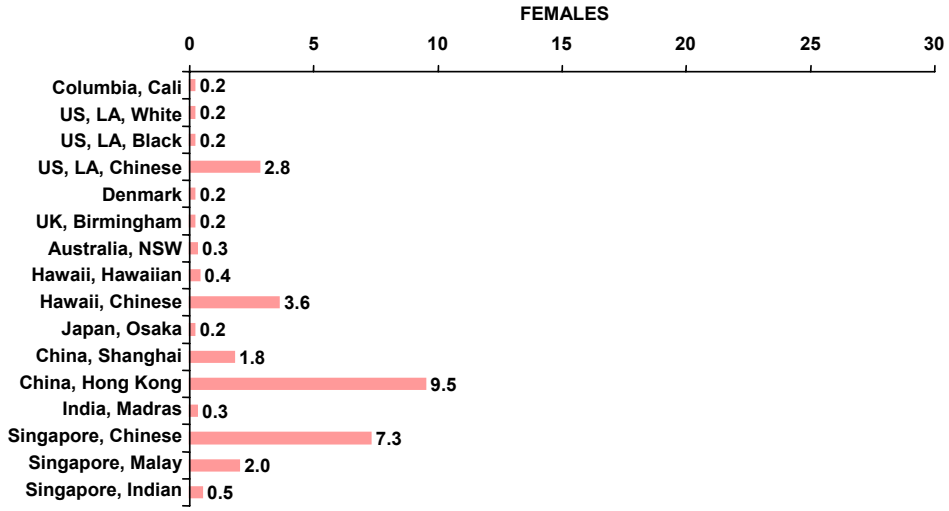
NASOPHARYNX: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



NASOPHARYNX: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

NASOPHARYNX: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.5 Oesophagus (ICD9: 150 / ICDO: C15)

Since 1968, rates of oesophageal cancer in Singapore have declined sharply, and this trend has continued in 1993-1997. This is in line with the trend noted in Chinese populations in Asia. The annual incidence rates (per 100,000) for Chinese males and females locally were 20.1 and 6.4 in 1968-72 compared with 7.1 and 1.4 in 1993-1997, a reduction of 65% and 78%, respectively.

The risks for this cancer among Malays and Indians remain generally lower than that for Chinese, although comparison is limited by small numbers. Data presented in previous publications for the period 1968-1987[1-3] showed that Hokkiens and Teochews had significantly higher risks than other Chinese dialect groups; foreign-born Chinese also had higher risks than the local-born.

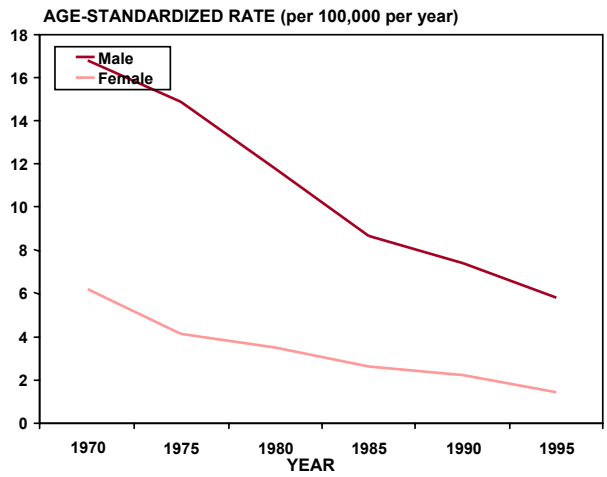
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	389	2.4	5.8	-
Chinese	357	2.5	7.1	1.0
Malays	9	0.7	1.1	0.2 (0.1-0.3)
Indians	20	3.0	2.8	0.4 (0.3-0.7)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	117	0.7	1.4	-
Chinese	104	0.8	1.4	1.0
Malays	6	0.5	0.8	0.6 (0.3-1.4)
Indians	7	1.2	1.8	1.6 (0.7-3.4)

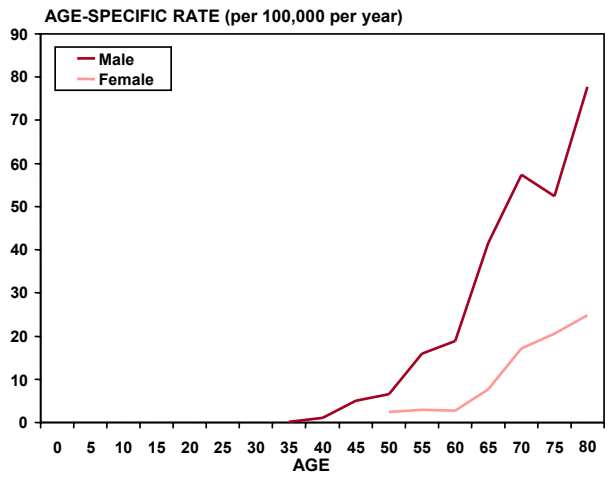
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97 Subsite		Males	Females
1500	Cervical	18	9
1501	Thoracic	6	2
1503	Upper third	231	101
1504	Middle third	753	236
1505	Lower third	399	92
1508	Other	2	1
1509	NOS	1,149	450
Total		2,556	891

HISTOLOGY 1993-97	Number	%
Squamous cell ca.	402	85.4
Adenocarcinoma	28	5.9
Carcinoma, NOS	13	2.8
Small cell carcinoma	8	1.7
Cancer, NOS	4	0.8
Carcinoma, undiff.	4	0.8
Adenosquamous ca.	3	0.6
Sq.cell ca., large cell, nk	2	0.4
Sq. cell ca., spindle cell	2	0.4
Signet ring cell ca.	1	0.2
Malignant melanoma	1	0.2
Sarcoma	1	0.2
Leiomyosarcoma	1	0.2
Smooth muscle tumor	1	0.2
Total	471	100

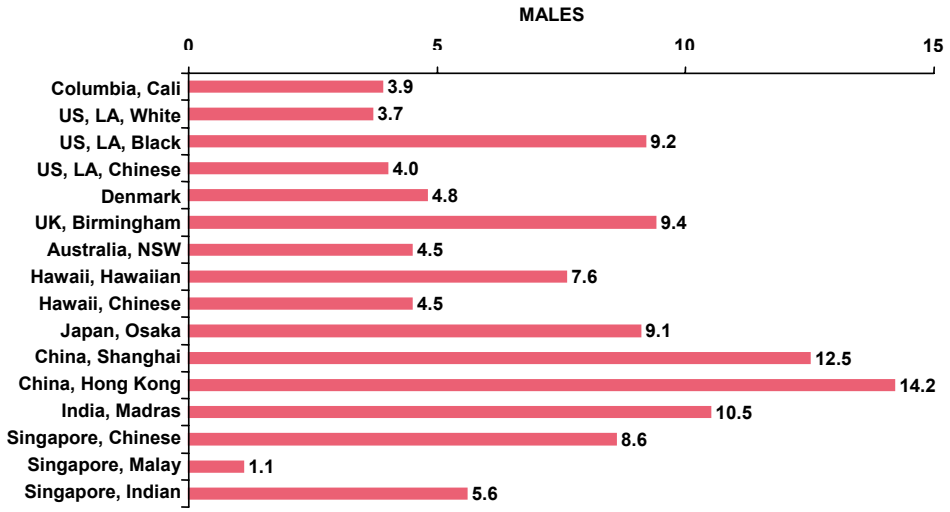


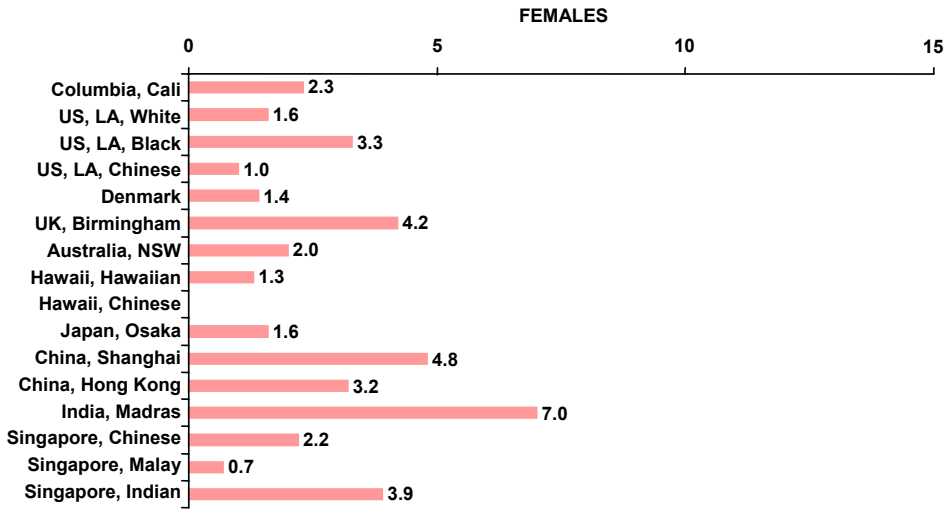
OESOPHAGUS: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



OESOPHAGUS: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

OESOPHAGUS: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.6 Stomach (ICD9: 151 / ICDO: C16)

Although it remains the third most common cancer diagnosed in males, and the fifth most common in females, the steady decline in the incidence of stomach cancer has continued, especially among males. The male:female ratio has remained at about 1.5.

The highest incidence of this cancer occurs among the Chinese, with age-adjusted relative risks for Malay males and females being about one-third of that of their Chinese counterparts, and Indian females about half, for the period 1993-1997. Data presented in previous publications for the period 1968-1987[1-3] showed that Hokkiens and Teochews had significantly higher risks than other Chinese dialect groups; foreign-born Chinese also had higher risks than the local-born.

Most countries in the world have experienced a continuing decline in the incidence of this cancer. Rates in Asia, and particularly in Japan, are still the highest in the world. Singapore's incidence rates for Chinese remain between those of Hong Kong and Shanghai.

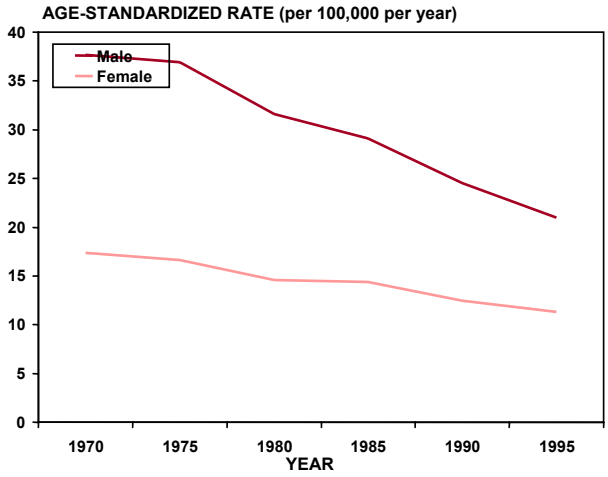
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1435	8.9	21.0	-
Chinese	1317	9.4	25.7	1.0
Malays	53	4.2	6.6	0.3 (0.2-0.4)
Indians	57	8.6	8.4	0.3 (0.3-0.4)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	927	5.9	11.3	-
Chinese	862	6.3	12.6	1.0
Malays	33	2.5	4.0	0.3 (0.2-0.5)
Indians	24	4.2	6.3	0.5 (0.3-0.8)

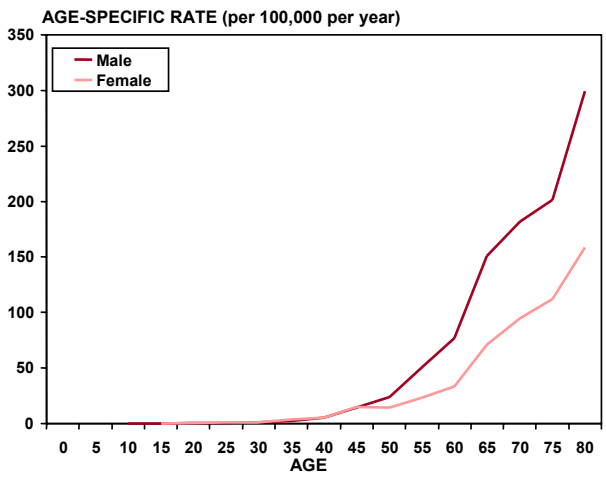
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1510	Cardia	662	201
1511	Pylorus	310	199
1512	Antrum	365	215
1513	Fundus	24	12
1514	Body	68	25
1515	Lesser curvature	9	4
1516	Greater curvature	3	2
1518	Other	18	13
1519	NOS	6,241	3,659
Total		7,700	4,330

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	1,704	76.5
Signet ring cell ca.	347	15.6
Carcinoma, NOS	27	1.2
Adenoca., intest. type	23	1.0
Muc. adenocarcinoma	23	1.0
Leiomyosarcoma	22	1.0
Carcinoma, undiff.	14	0.6
Smooth muscle tumor	12	0.5
Stromal.tum.uncer.malig	10	0.4
Sq. cell carcinoma	5	0.2
Pap. adenocarcinoma	5	0.2
Stromal sarcoma	5	0.2
Cancer, NOS	4	0.2
Carcinoma, diffuse type	4	0.2
Carcinoid tumor, NOS	4	0.2
Others, specified	17	0.5
Total	2,226	100

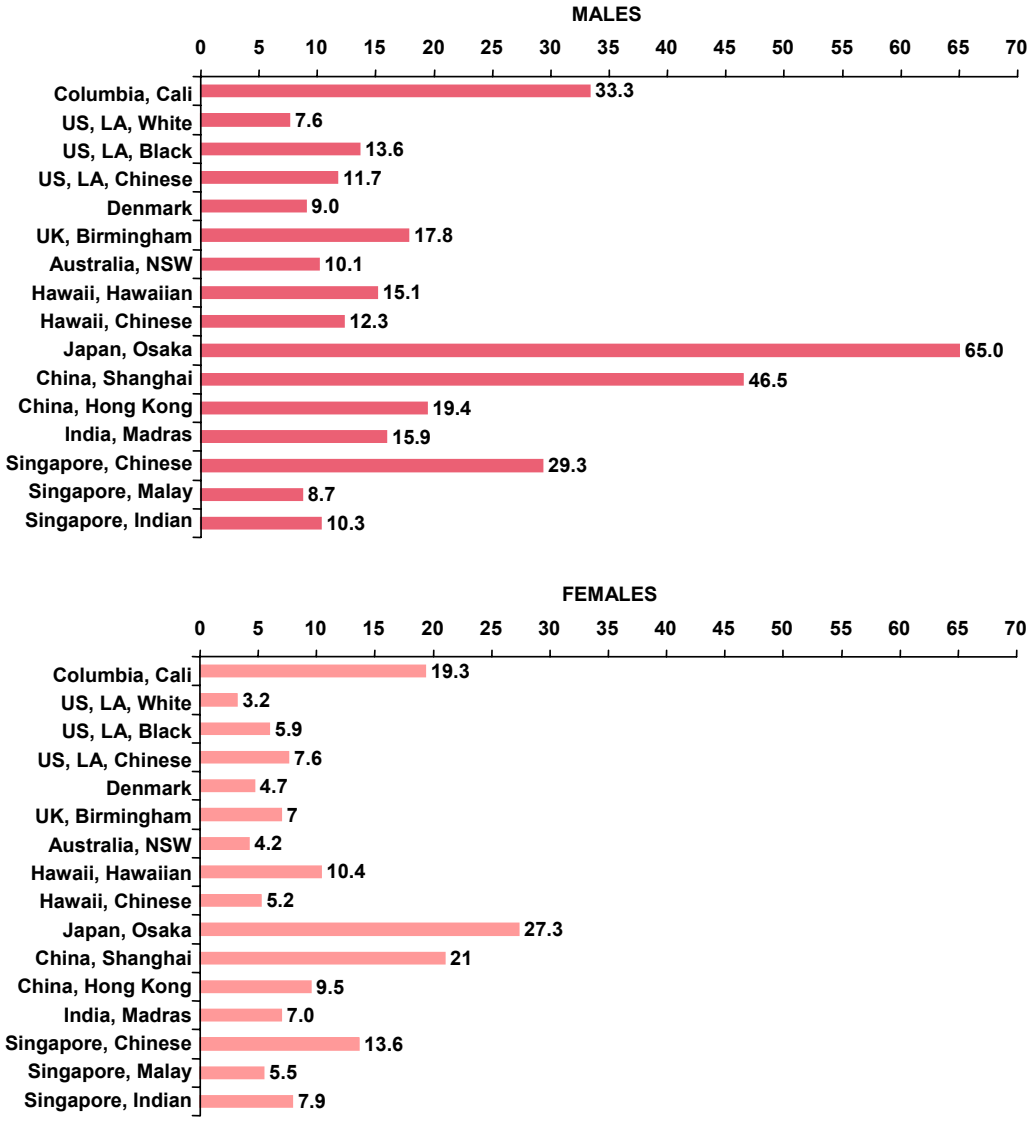


STOMACH: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



STOMACH: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

STOMACH: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.7 Colon (ICD9: 153 / ICDO: C18)

Cancer of the large bowel (colon and rectum) ranks second in developed countries, and this has also been the case for both males and females in Singapore since 1983. The geographical pattern of these cancers suggests the predominance of dietary factors in their aetiology, with high rates in the West and lower rates in Asia. The incidence rates in Singapore Chinese are now slightly higher than those of Chinese in Hawaii and Los Angeles, and comparable to those in Europe, Australia and Hong Kong.

The age-standardized rates for colon cancer in 1993-1997 demonstrate a two-fold increase over the risks experienced by Singaporeans in 1968-72, which were 10.4 and 9.0 per 100,000 for males and females, respectively. A recent publication[18] on trends in colorectal cancer among Chinese Singaporeans, by anatomic subsite, reported a steeper increase for distal lesions of the colon (3-4% annually) than proximal, and that the pattern of change demonstrated a significant cohort effect. There was also no shift in the ratio of proximal : distal lesions between 1968 and 1992, in contrast with countries such as the US and parts of Europe, where this phenomenon has been attributed to more widespread use of screening.

Among the ethnic groups, Malay and Indian females have a risk about half that of Chinese, and Malay and Indian males 40% and 20%, respectively. Data presented in previous publications for the period 1968-1987[1-3] showed that local-born Chinese had higher risks than the foreign-born.

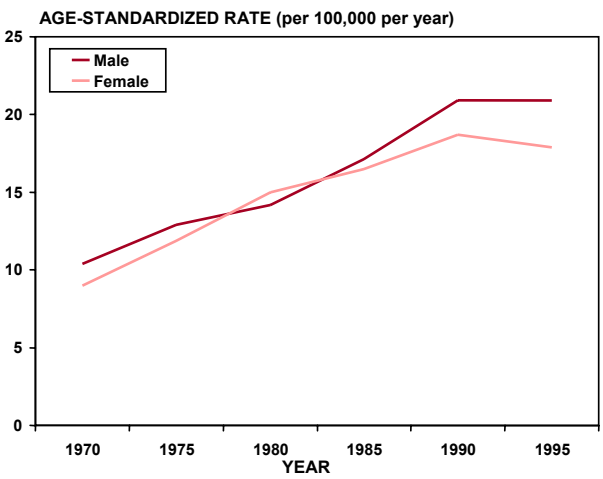
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1430	8.9	20.9	-
Chinese	1297	9.3	25.4	1.0
Malays	80	6.4	9.2	0.4 (0.3-0.5)
Indians	32	4.8	4.4	0.2 (0.1-0.3)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1427	9.1	17.9	-
Chinese	1300	9.6	19.5	1.0
Malays	74	5.6	9.2	0.5 (0.4-0.6)
Indians	34	6.0	9.4	0.5 (0.3-0.7)

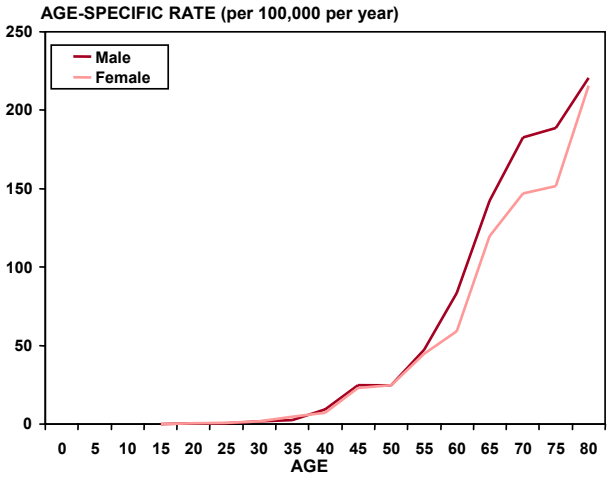
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1530	Hepatic flexure	138	127
1531	Transverse colon	414	483
1532	Desc. colon	333	301
1533	Sigmoid colon	1,560	1,567
1534	Caecum	379	420
1535	Appendix	71	105
1536	Ascending colon	293	315
1537	Splenic flexure	131	83
1538	Other	330	367
1539	NOS	1,092	1,149
Total		4,741	4,917

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	2,443	91.2
Mucinous adenoca.	130	4.9
Carcinoid tumor, NOS	21	0.8
Carcinoma	18	0.7
Adenocarcinoma in adenomatous polyp	14	0.5
Signet ring cell carcinoma	12	0.4
Villous adenoma	8	0.3
Carcinoid tumor, NOS	7	0.3
Leiomyosarcoma	7	0.3
Papillary adenocarcinoma	4	0.1
Mucinous cystadenoca.	3	0.1
Others, specified	13	0.3
Total	2,680	100

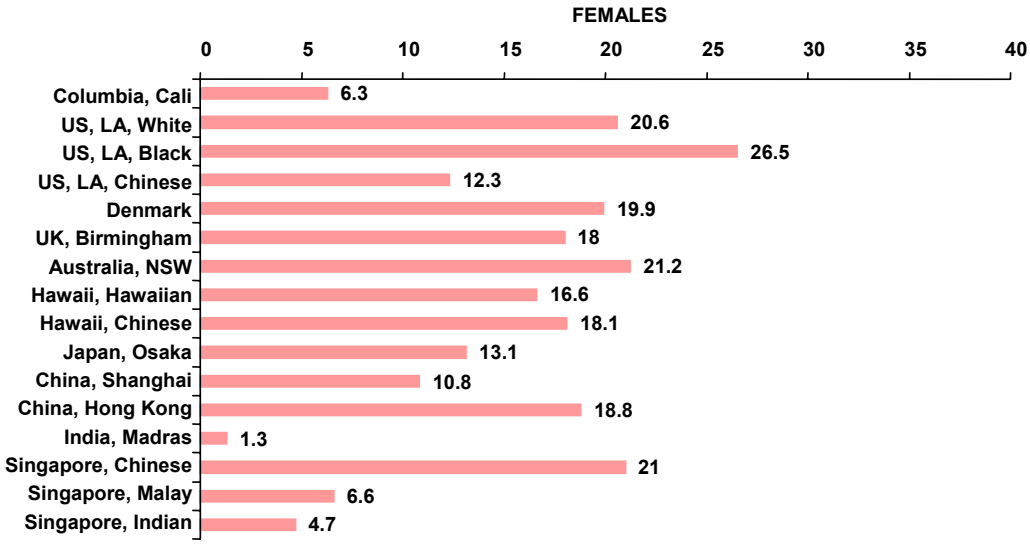


COLON: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



COLON: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

COLON: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.8 Rectum (ICD9: 154 / ICDO: C19-C21)

Cancers of the rectum (including 'rectosigmoid junction') constituted 44.4% and 38.8% of cancers of the large bowel among males and females in 1993-97, respectively. Incidence rates in Singapore are comparable with those in developed countries. A recent publication[18] on trends in colorectal cancer among Chinese Singaporeans, by anatomic subsite, reported that for the period 1968-1992, rectal carcinoma increased slightly among males (annual increase about 1.8%) and was fairly stable among females. The rates in 1993-97 show an increase over the previous 5-year period, although this was smaller in magnitude compared with the increase in colon cancer.

As it can be difficult to determine the exact anatomical origin of tumours arising near the rectosigmoid junction, it should be noted that data on large bowel cancers, particularly for international comparisons, may be affected by the degree to which 'sigmoid colon' (ICD9 1533 / ICD-O 187) and 'rectosigmoid junction' (ICD9 1540 / ICD-O 199) are differentiated in the notification process. A further category of 'overlapping' lesions (i.e. where two or more subsites are involved) is currently included with cancers of the colon.

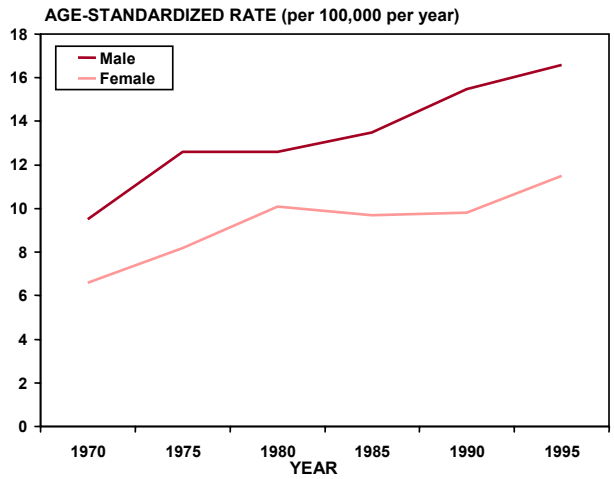
The age-adjusted relative risk between ethnic groups for rectal cancer is similar to colon cancer, with all groups except Indian males demonstrating a risk 50-60% that of Chinese. Indians generally have lower risks, especially the males, although the numbers are small.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1140	7.1	16.6	-
Chinese	1015	7.2	19.6	1.0
Malays	82	6.5	10.6	0.6 (0.4-0.7)
Indians	31	4.7	4.2	0.2 (0.2-0.3)
INCIDENCE DATA (1993-1997)	**Females**			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	903	5.8	11.5	-
Chinese	820	6.0	12.6	1.0
Malays	57	4.3	7.3	0.6 (0.5-0.8)
Indians	22	3.9	5.7	0.5 (0.3-0.7)

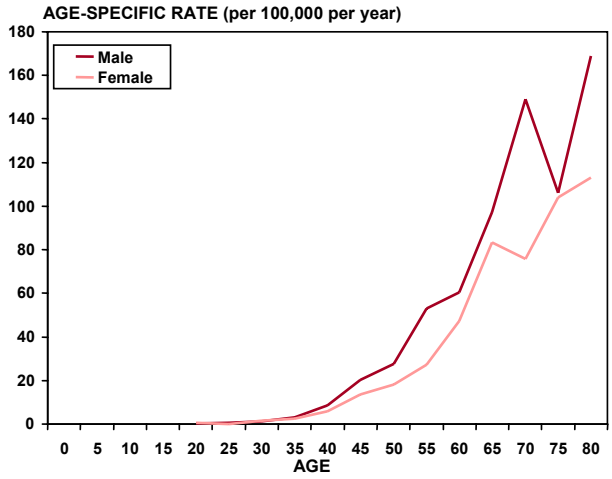
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1540	Rectosig. junction	618	509
1541	Rectum	3,115	2,389
1542	Anal canal	78	73
1543	Anus	27	27
1548	Others	9	8
Total		3,847	3,006

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	1,788	89.8
Mucinous adenocarcinoma	58	2.9
Carcinoid tumor, NOS	50	2.5
Signet ring cell carcinoma	16	0.8
Squamous cell carcinoma	14	0.7
Carcinoma	10	0.5
Villous adenoma, NOS	10	0.5
Adenocarcinoma in adenomatous polyp	7	0.4
Cancer, NOS	6	0.3
Leiomyosarcoma	6	0.3
Basaloid carcinoma	5	0.3
Malignant melanoma	4	0.2
Carcinoma, undiff.	3	0.2
Papillary adenocarcinoma	3	0.2
Stromal sarcoma	3	0.2
Others, specified	7	0.6
Total	1,990	100

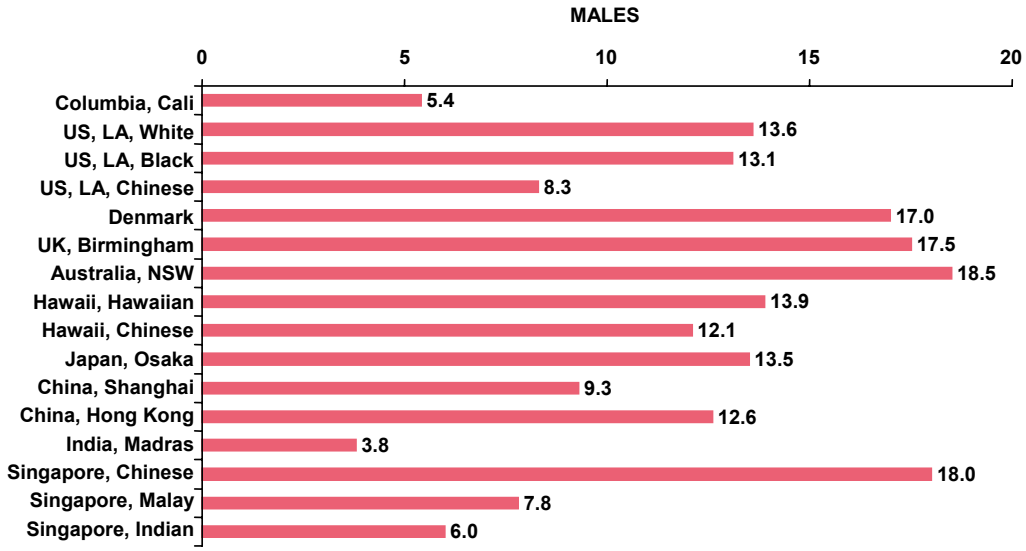


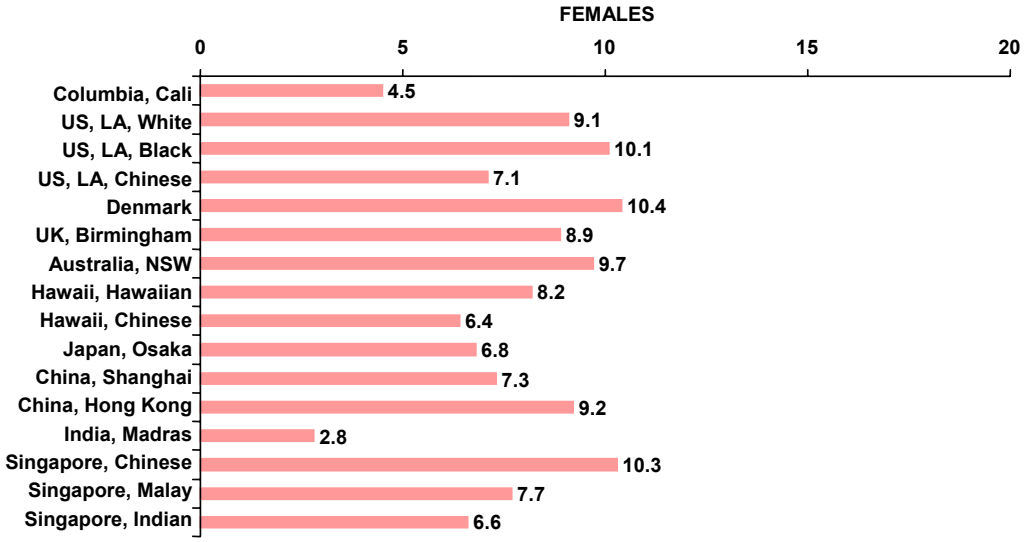
RECTUM: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



RECTUM: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

RECTUM: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.9 Liver (ICD9: 155 / ICDO: C22)

Among males, this cancer retained its ranking as the fourth most frequent cancer, and constituted 8% of cancers diagnosed in 1993-97. Overall, incidence rates continued to show a slight decline in both males and females. The male: female ratio was 3.4:1. Incidence among Chinese in Singapore during the period 1988-92, although still considerably higher than in the West, was lower than that in Japan, Shanghai and Hong Kong.

The risks among Indians were 30% and 40% that of the Chinese for males and females respectively, with risks for Malays being intermediate.

As before, the monitoring of rates for liver cancer by the Registry continues to constitute an important part of the surveillance system accompanying the nationwide immunization programme against Hepatitis B.

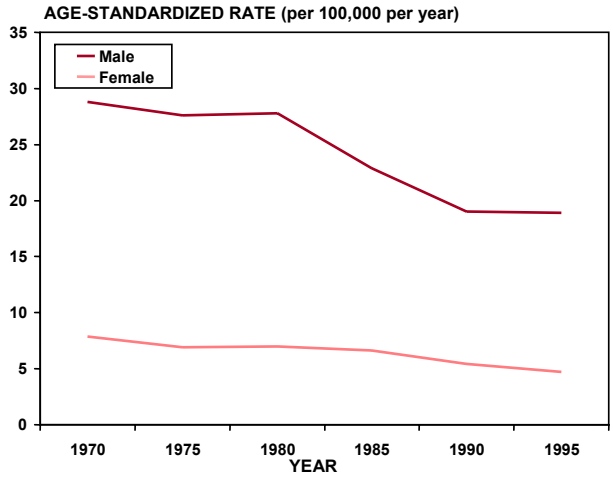
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1296	8.0	18.9	-
Chinese	1114	7.9	21.6	1.0
Malays	123	9.8	15.5	0.8 (0.6-0.9)
Indians	49	7.4	7.0	0.3 (0.3-0.5)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	378	2.4	4.7	-
Chinese	342	2.5	5.1	1.0
Malays	26	2.0	3.3	0.7 (0.5-1.0)
Indians	7	1.2	1.6	0.4 (0.2-0.8)

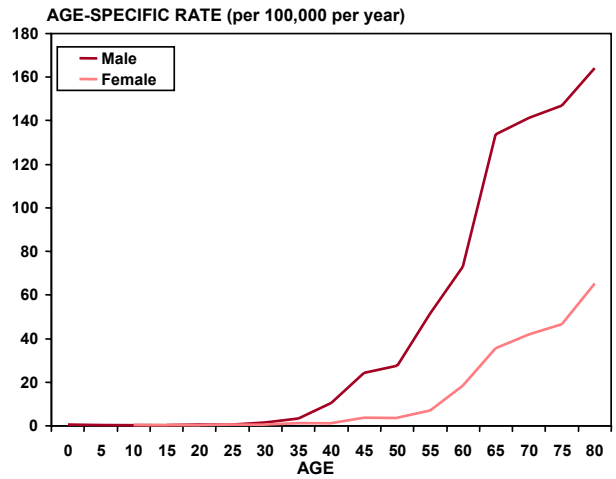
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97 Subsite		Males	Females
1550	Primary liver	5,567	1,437
1551	Intrahep.bile dcts	191	166
1552	Not specified as primary or sec.	728	285
Total		6,486	1,888

HISTOLOGY 1993-97	Number	%
Hepatocellular carcinoma	381	83.6
Carcinoma	26	5.7
Cholangiocarcinoma	20	4.4
Adenocarcinoma	11	2.4
Cancer, NOS	8	1.8
Hepatoblastoma	6	1.3
Hepatocholangio ca.	1	0.2
Neuroendocrine carcinoma	1	0.2
Cystadenocarcinoma	1	0.2
Sarcoma	1	0.2
Total	456	100

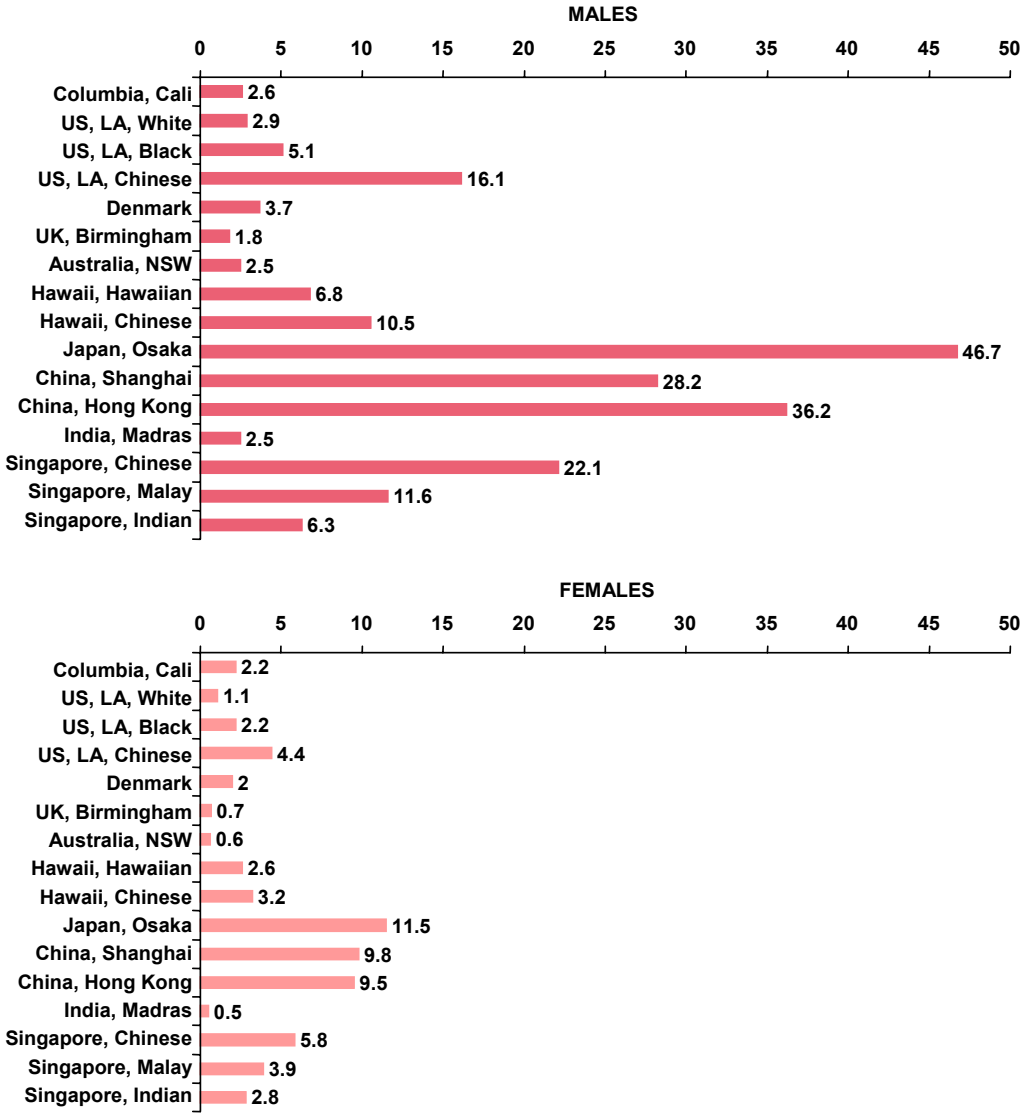


LIVER: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



LIVER: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

LIVER: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.10 Gall bladder (ICD9: 156 / ICDO: C23-C24)

Of the 320 cases notified to the Registry in 1993-97, 54.6% occurred in females, giving a female:male ratio of 1.2:1. Rates among females continued to increase, and among males, the incidence rate was also higher than in the previous five-year period. The incidence among Singapore Chinese remains lower than that in Hong Kong. Comparisons between ethnic groups are difficult because of the small number of cases.

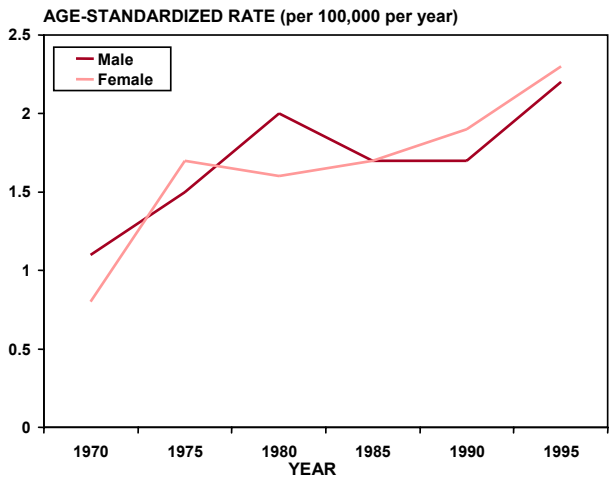
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	145	0.9	2.2	-
Chinese	120	0.9	2.3	1.0
Malays	13	1.0	1.8	0.8 (0.4-1.3)
Indians	9	1.4	1.1	0.6 (0.3-1.2)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	175	1.1	2.3	-
Chinese	144	1.1	2.2	1.0
Malays	20	1.5	2.5	1.3 (0.8-2.0)
Indians	11	1.9	2.7	1.4 (0.8-2.6)

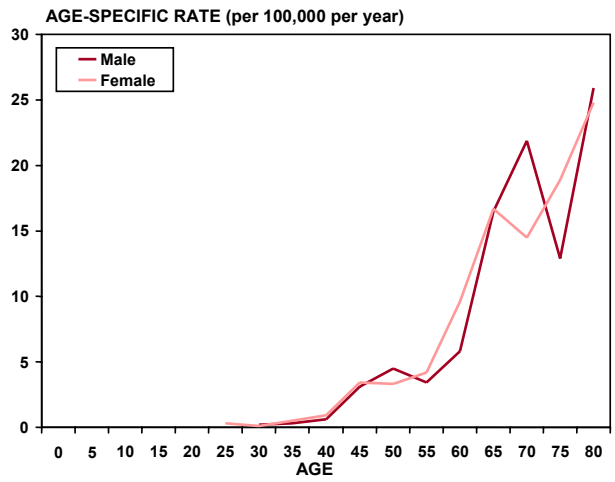
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1560	Gallbladder	186	275
1561	Extrahep.bile dcts	132	130
1562	Ampulla	140	124
1568	Other	3	3
1569	NOS	11	13
Total		472	545

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	196	81.0
Papillary adenoca.	12	5.0
Carcinoma	6	2.5
Signet ring cell ca.	5	2.1
Carcinoma, undiff.	4	1.7
Klatskin tumor	4	1.7
Adenosquamous ca.	4	1.7
Tumor cells, malignant	2	0.8
Squamous cell ca.	2	0.8
Mucinous adenoca.	2	0.8
Sarcoma	2	0.8
Small cell carcinoma	1	0.4
Carcinoid & adenoca.	1	0.4
Prim.neuroecto. tumor	1	0.4
Total	242	100

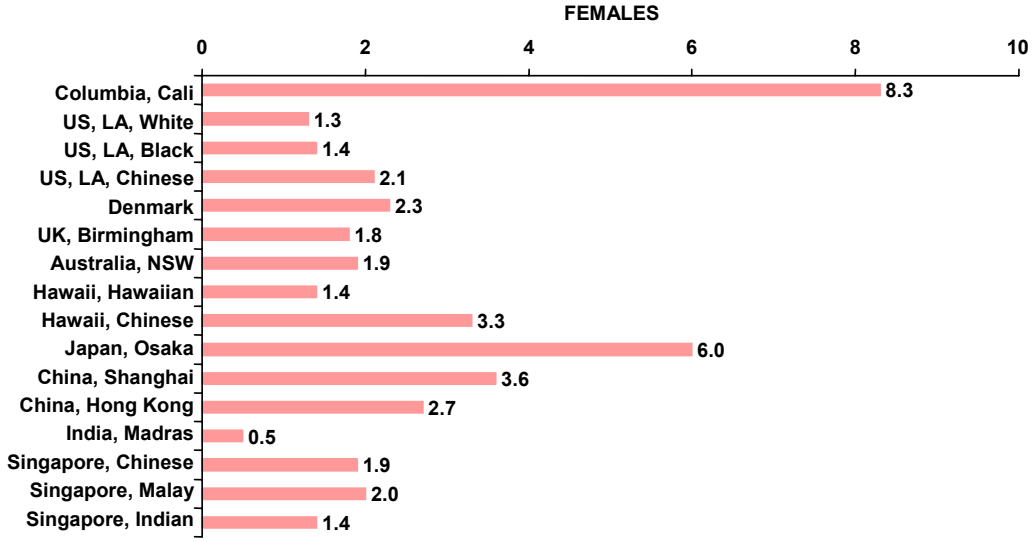


GALLBLADDER: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



GALLBLADDER: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

GALLBLADDER: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.11 Pancreas (ICD9: 157 / ICDO: C25)

In 1993-1997, pancreatic cancer constituted about 2% of all cancers diagnosed in males, and 3% of those in females. The age-standardized incidence rates were similar or slightly higher compared to those in the previous five-year period, and consistent with an overall increase over the last thirty years. Comparisons between ethnic groups are limited by small numbers, but among males, Malays and Indians appear to have a lower risk.

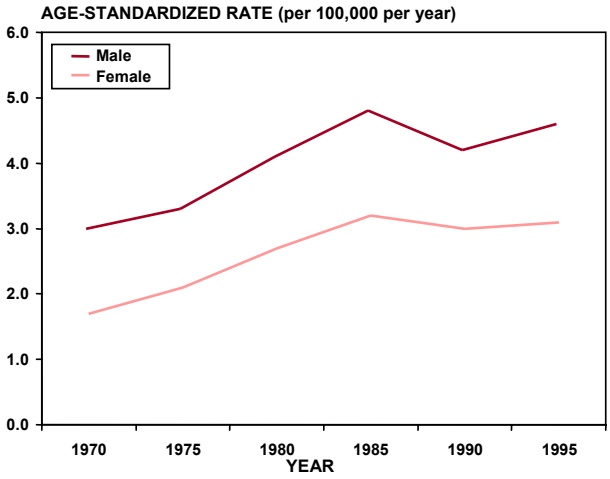
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	310	1.9	4.6	-
Chinese	268	1.9	5.4	1.0
Malays	23	1.8	3.1	0.6 (0.4-0.9)
Indians	16	2.4	2.1	0.5 (0.3-0.8)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	244	1.6	3.1	-
Chinese	214	1.6	3.2	1.0
Malays	18	1.4	2.4	0.8 (0.5-1.3)
Indians	10	1.8	3.1	0.9 (0.5-1.8)

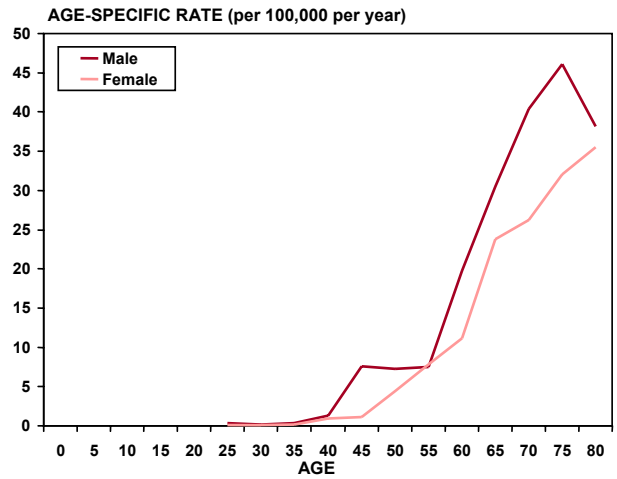
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97 Subsite		Males	Females
1570	Head	353	252
1571	Body	17	19
1572	Tail	17	19
1573	Pancreatic duct	2	2
1574	Islets Langerhans	2	0
1578	Other	6	7
1579	NOS	742	560
Total		1,139	859

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	182	77.4
Carcinoma	18	7.7
Carcinoma, undiff.	5	2.1
Mucinous adenoca.	5	2.1
Cancer, NOS	3	1.3
Islet cell carcinoma	3	1.3
Papillary adenoca.	3	1.3
Muc. cystadenoca.	3	1.3
Infiltrating duct ca.	3	1.3
Giant cell carcinoma	2	0.9
Adenosquamous ca.	2	0.9
Others, specified	6	2.4
Total	235	100

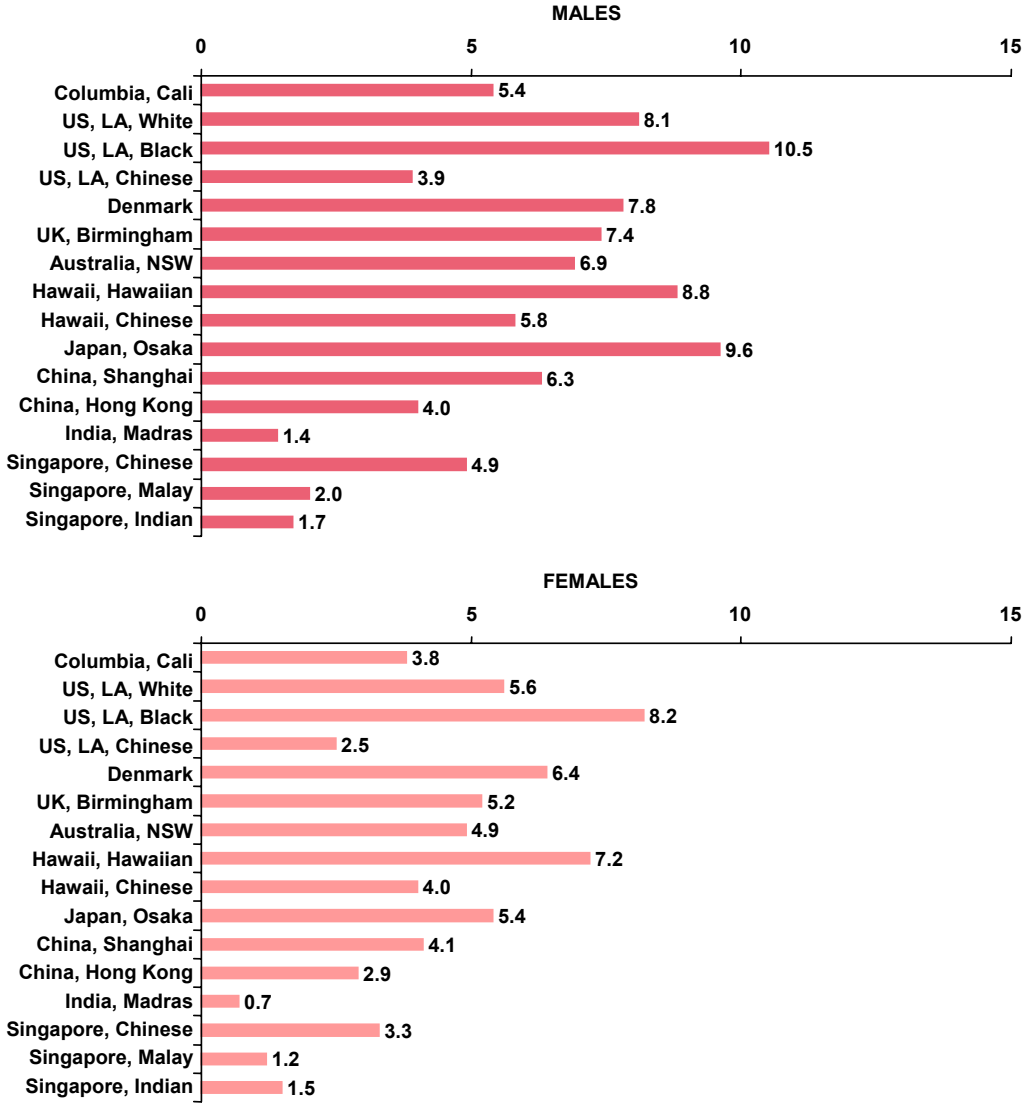


PANCREAS: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



PANCREAS: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

PANCREAS: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.12 Nasal cavities, sinuses (ICD9: 160 / ICDO: C30-C31)

This cancer is relatively uncommon in Singapore, with only 88 cases occurring in 1993-97. The risk for both males and females has generally fallen since 1973-77. Ethnic group comparisons are limited by the small number of cases involved.

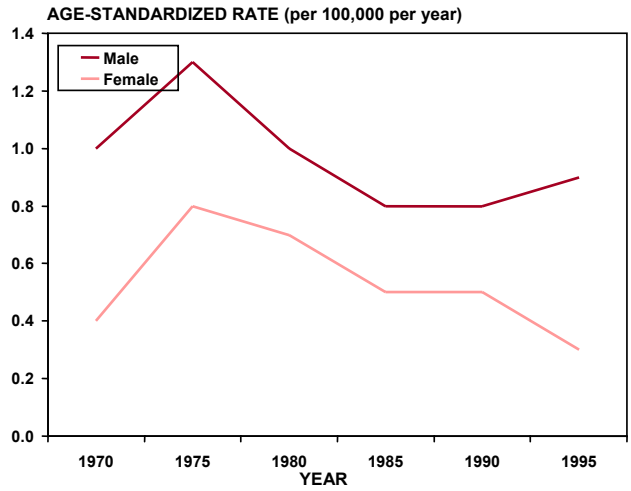
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	63	0.4	0.9	-
Chinese	57	0.4	1.1	1.0
Malays	3	0.2	0.5	0.4 (0.1-1.1)
Indians	3	0.5	0.3	0.4 (0.1-1.3)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	25	0.2	0.3	-
Chinese	23	0.2	0.4	1.0
Malays	-	-	-	-
Indians	2	0.4	0.3	1.3 (0.3-5.3)

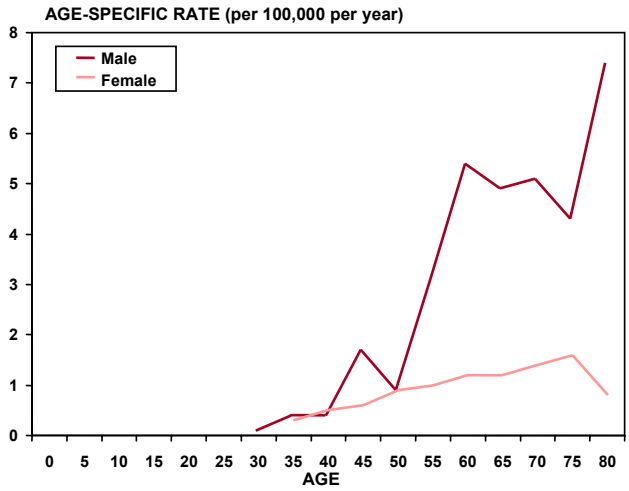
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1600	Nasal cavities	99	45
1601	Middle ear	29	13
1602	Maxillary sinus	120	81
1603	Ethmoidal sinus	28	15
1604	Frontal sinus	0	1
1605	Sphenoidal sinus	2	0
1608	Other	0	1
1609	NOS	3	1
Total		281	157

HISTOLOGY 1993-97	Number	%
Squamous cell carcinoma	32	36.8
Schneiderian carcinoma	11	12.6
Olfactory neuroblastoma	10	11.5
Adenoid cystic carcinoma	7	8.0
Carcinoma, undiff.	6	6.9
Adenocarcinoma	4	4.6
Carcinoma	3	3.4
Neuroendocrine ca.	2	2.3
Sq. cell ca., small cell, nk	1	1.1
Trans. cell papill., inverted	1	1.1
Basal cell adenocarcinoma	1	1.1
Clear cell adenocarcinoma	1	1.1
Mucoepidermoid ca.	1	1.1
Mucinous adenoca.	1	1.1
Malignant melanoma	1	1.1
Sarcoma	1	1.1
Leiomyosarcoma	1	1.1
Teratocarcinoma	1	1.1
Prim. neuroecto. tumor	1	1.1
Neurilemmoma, malignant	1	1.1
Total	87	100

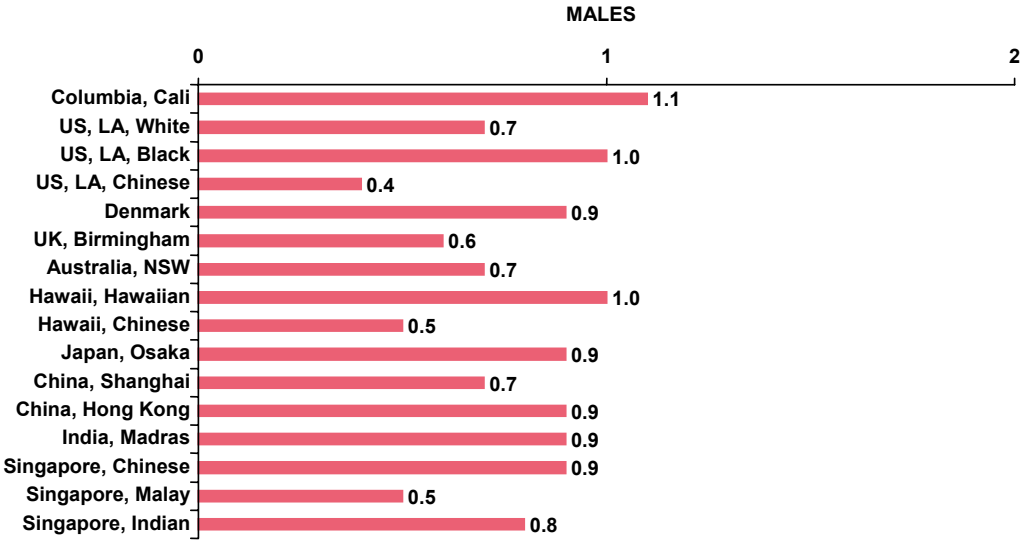


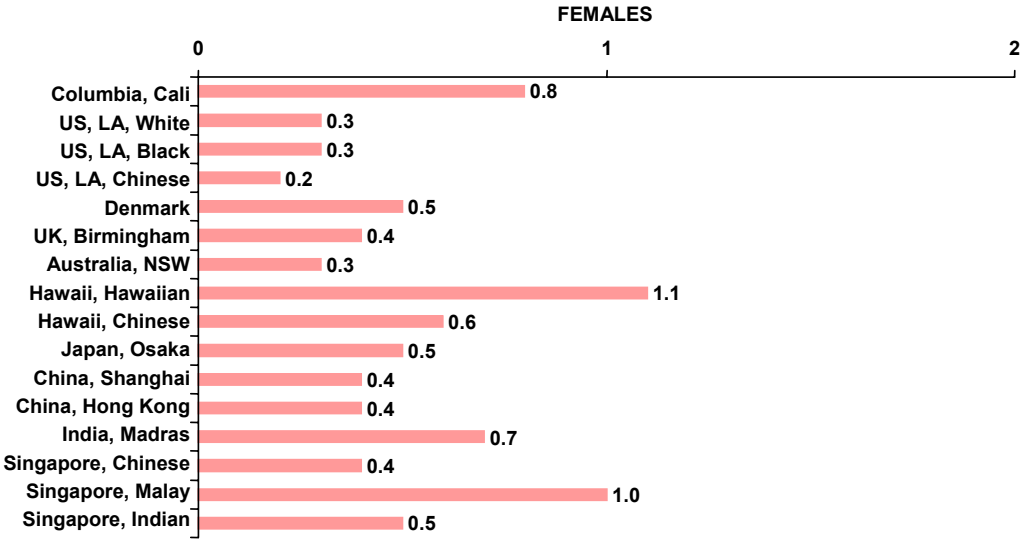
NASAL CAVITY: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



NASAL CAVITY: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

NASAL CAVITY: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.13 Larynx (ICD9: 161 / ICDO: C32)

Cancer of the larynx exhibits a marked male predominance, consistent with the global pattern. In 1993-1997, the male : female ratio was 11.1:1. Malays have the lowest risk among local males; about half that of Chinese. There is a suggestion of an overall decline in incidence rates among Chinese males since 1968-72.

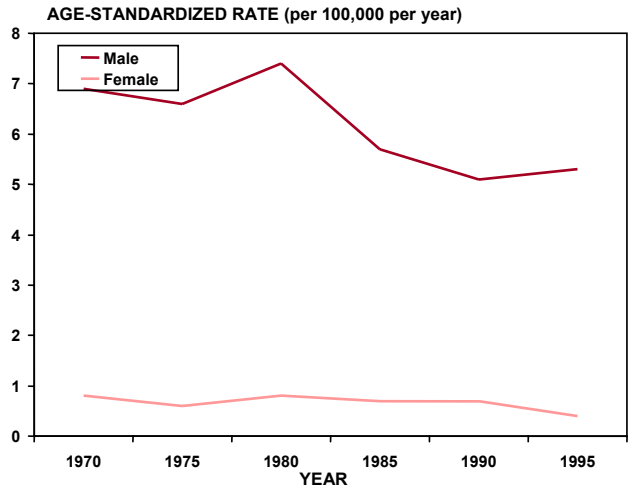
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	354	2.2	5.3	-
Chinese	293	2.1	5.9	1.0
Malays	21	1.7	2.6	0.5 (0.3-0.8)
Indians	33	5.0	4.7	0.9 (0.6-1.2)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	32	0.2	0.4	-
Chinese	28	0.2	0.5	1.0
Malays	1	0.1	0.1	0.3 (0.0-2.4)
Indians	3	0.5	0.8	2.0 (0.6-6.7)

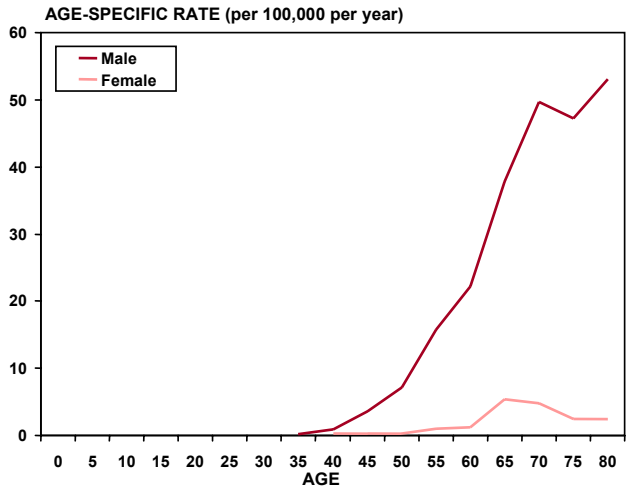
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1610	Glottis	605	64
1611	Supraglottic	253	41
1612	Subglottic	13	5
1613	Laryn. cartilages	9	4
1618	Other	16	0
1619	NOS	710	77
Total		1,606	191

HISTOLOGY 1993-97	Number	%
Squamous cell ca.	356	95.2
Carcinoma	6	1.6
Spindle cell carcinoma	3	0.8
Small cell carcinoma	2	0.5
Cancer, NOS	1	0.3
Carcinoma, undiff.	1	0.3
Verrucous carcinoma	1	0.3
Adenoid sq. cell ca.	1	0.3
Adenocarcinoma	1	0.3
Adenosquamous ca.	1	0.3
Hemangiopericytoma	1	0.3
Total	374	100

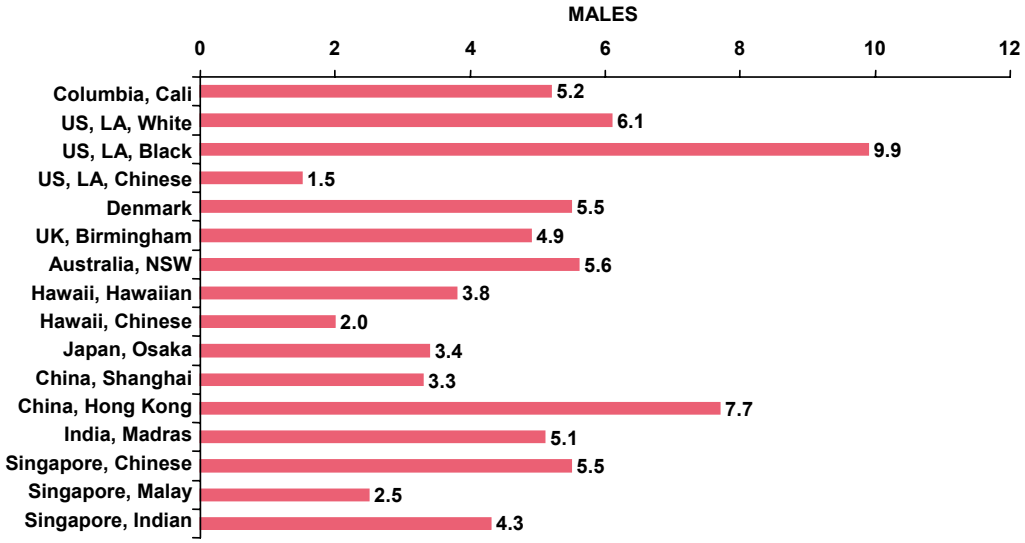


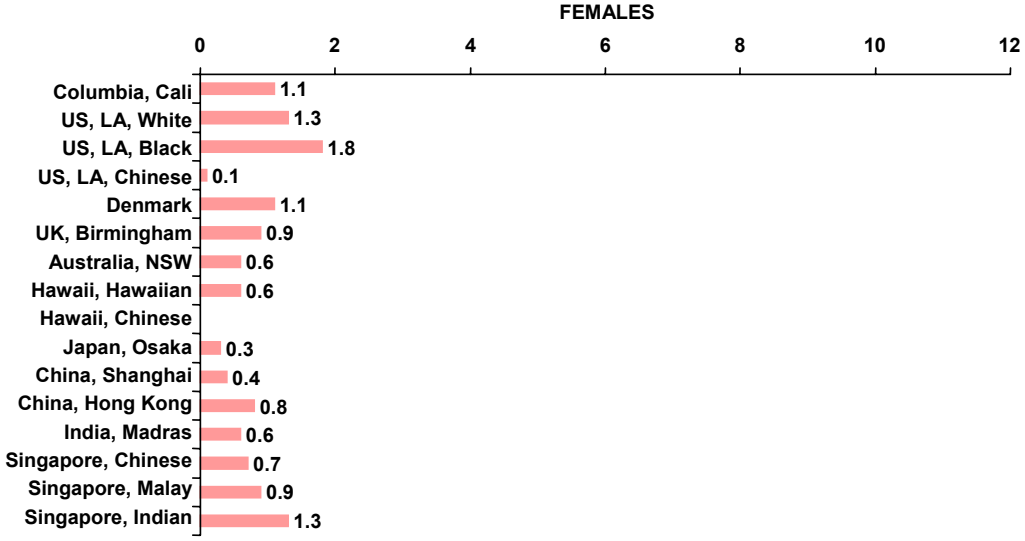
LARYNX: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



LARYNX: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

LARYNX: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.14 Lung (ICD9: 162 / ICDO: C33-C34)

The global risk for lung cancer varies more than tenfold, with Indians in Singapore and India being among those at lowest risk. Our local data show that, overall, Malays and Indians have about 60% and 20%, respectively, of the risk exhibited by Chinese. Generally, the male:female ratio was 2.2:1.

Trends in other populations have been observed to parallel changes in tobacco consumption. In Singapore, most sex-ethnic groups showed an increase in rates between 1968 and 1982, followed by a slight decrease. The incidence rates for men have continued to decrease for the latest five-year period while those for females have remained fairly constant.

A recent local study of trends[19] among Chinese females for the period 1968-92, reported that Cantonese women had a higher rate compared with Hokkiens (relative risk 2.6, 95% confidence interval 2.4 – 2.8). Both period and birth cohort effects could be discerned, with the risk being highest for women born around 1910, and falling off in later cohorts.

Histologically, it is worth noting that the proportion of adenocarcinomas among females has increased from 18.8% in 1968-72 to 24.9% in 1978-82 and 41.5% in 1993-97.

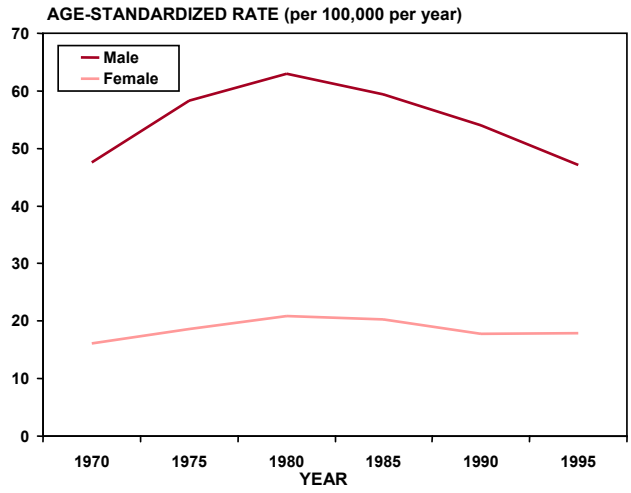
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	3158	19.6	47.1	-
Chinese	2812	20.1	56.9	1.0
Malays	241	19.2	30.4	0.6 (0.5-0.7)
Indians	69	10.4	9.3	0.2 (0.2-0.2)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1443	9.2	17.9	-
Chinese	1335	9.8	19.9	1.0
Malays	86	6.5	10.6	0.6 (0.5-0.7)
Indians	17	3.0	5.2	0.2 (0.2-0.4)

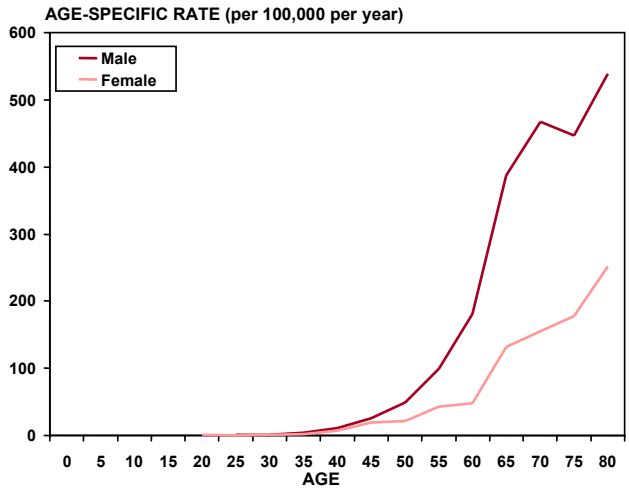
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1620	Trachea	20	9
1622	Main bronchus	4	5
1623	Upper lobe	320	121
1624	Middle lobe	33	17
1625	Lower lobe	160	63
1628	Other	2	1
1629	NOS	14,082	5,519
Total		14,621	5,735

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	1,518	39.7
Squamous cell carcinoma	1,032	27.0
Small cell carcinoma	455	11.9
Large cell carcinoma	294	7.7
Carcinoma	239	6.2
Cancer, NOS	78	2.0
Carcinoma, undiff.	71	1.9
Bronchiolo-alveolar ca.	33	0.9
Papillary adenocarcinoma	27	0.7
Carcinoid tumor, NOS	16	0.4
Adenosquamous ca.	16	0.4
Sq. cell ca., keratinizing	8	0.2
Mucinous adenoca.	7	0.2
Neuroendocrine ca.	5	0.1
Sarcoma	5	0.1
Others, specified	21	0.6
Total	3,825	100

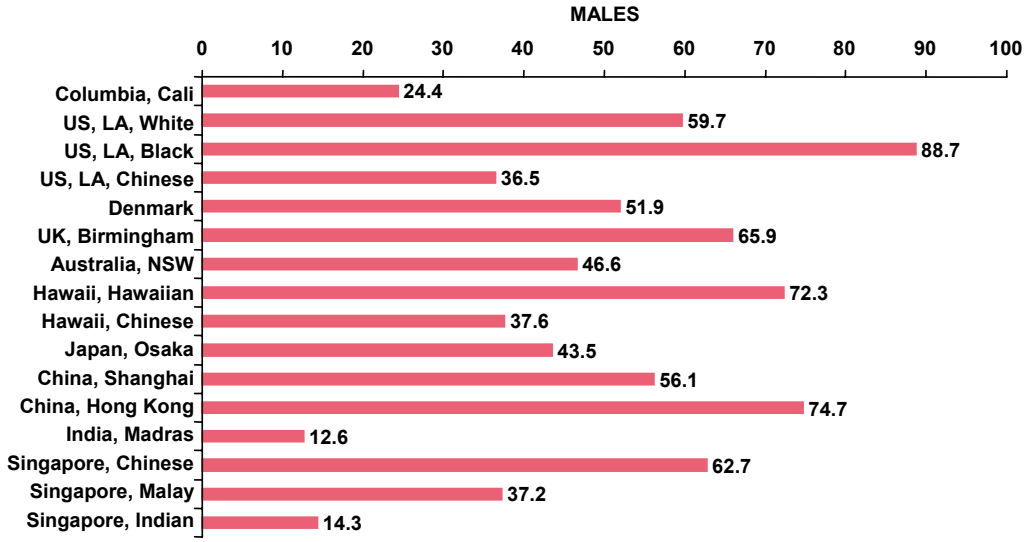


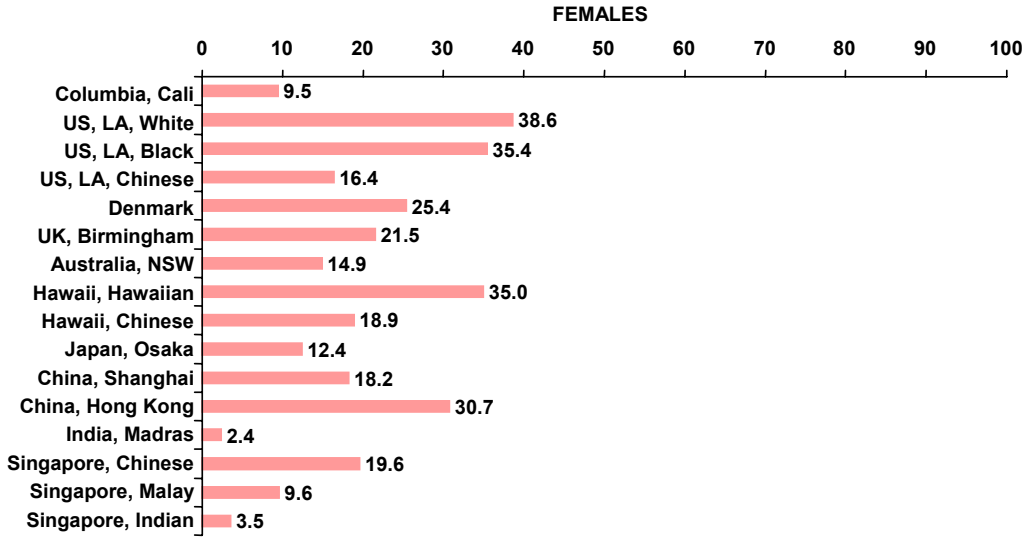
LUNG: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



LUNG: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

LUNG: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.15 Bone (ICD9: 170 / ICDO: C40-C41)

A total of 81 cancers of this site were notified in 1993-97. Comparisons between ethnic group and five-year periods are limited by the small number of cases.

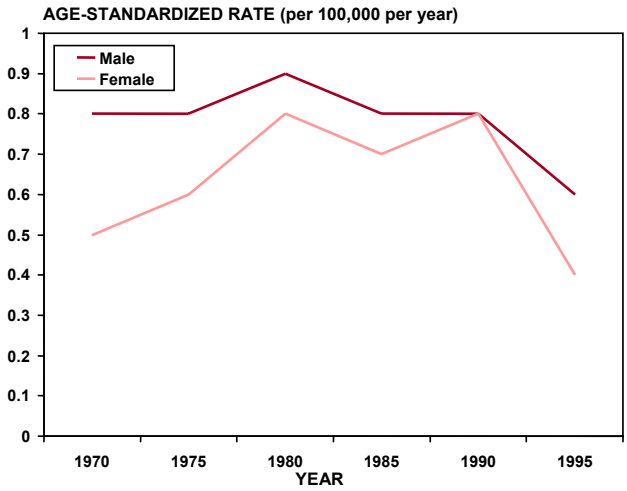
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	49	0.3	0.6	-
Chinese	39	0.3	0.6	1.0
Malays	7	0.6	0.8	1.0 (0.5-2.3)
Indians	3	0.5	0.7	0.7 (0.2-2.3)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	32	0.2	0.4	-
Chinese	27	0.2	0.5	1.0
Malays	5	0.4	0.4	1.1 (0.4-2.8)
Indians	-	-	-	-

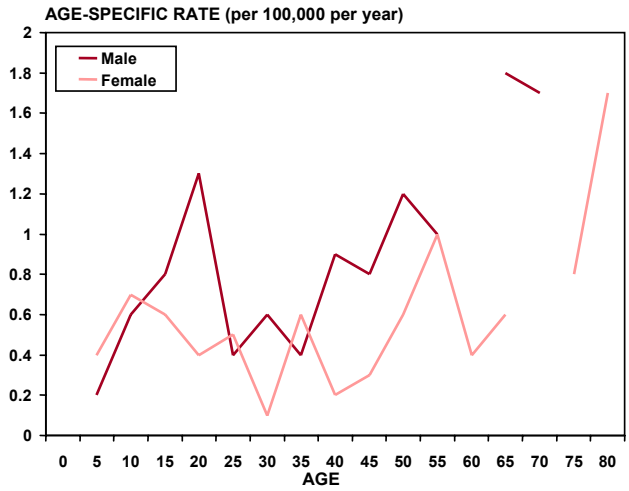
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1700	Skull & face	11	13
1701	Lower jaw	9	10
1702	Spine	13	7
1703	Ribs	12	9
1704	Upper limb, long	35	22
1705	Upper limb, short	2	2
1706	Pelvis	36	21
1707	Lower limb, long	136	117
1708	Lower limb, short	16	8
1709	NOS	31	30
Total		301	239

HISTOLOGY 1993-97	Number	%
Osteosarcoma	25	32.9
Giant cell tumor, NOS	14	18.4
Chondrosarcoma	13	17.1
Fib.histiocytoma malig.	5	6.6
Sarcoma	4	5.3
Ewings sarcoma	4	5.3
Fibroblastic osteosarcoma	2	2.6
Chordoma	2	2.6
Leiomyosarcoma	1	1.3
Hemangiosarcoma	1	1.3
Ep. hemangioendothelioma	1	1.3
Small cell osteosarcoma	1	1.3
Aggressive osteoblastoma	1	1.3
Giant cell tumor, malignant	1	1.3
Ameloblastoma, malignant	1	1.3
Total	76	100

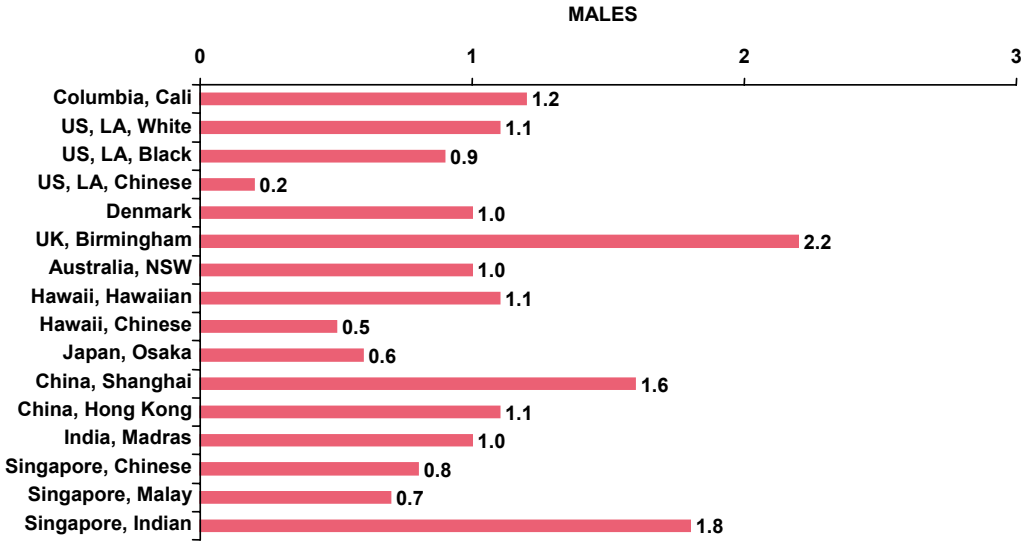


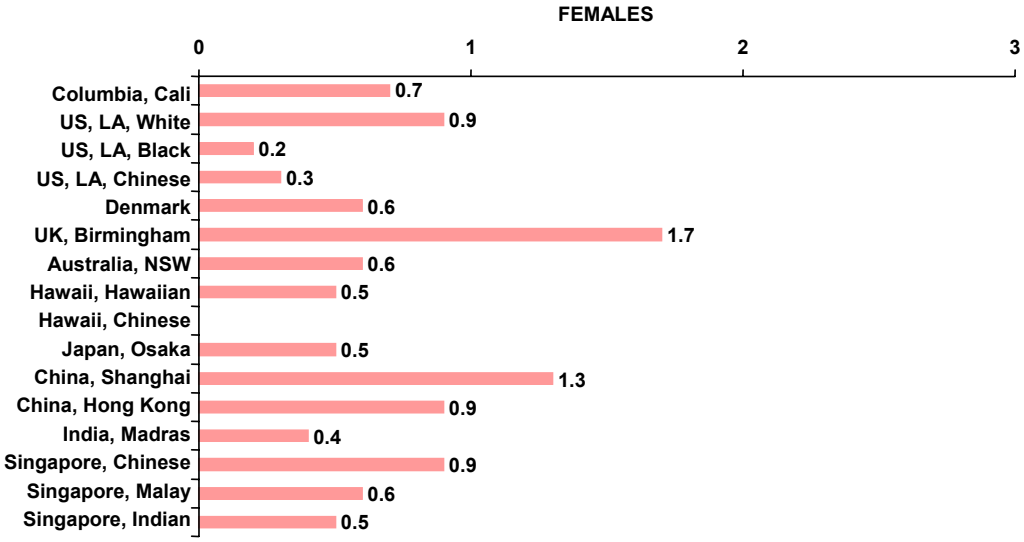
BONE: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



BONE: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

BONE: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) **1988-1992**[14]





12.16 Skin, melanoma (ICD9: 172 / ICDO: C44)

In contrast to its high incidence in Caucasian, melanoma of the skin is a rare cancer in Singapore. Only 69 cases were diagnosed locally in 1993-97.

In the ICDO coding system, melanoma of the skin is combined with other skin cancers under the topographical code C44, whereas in ICD9 it was coded separately (ICD9 172). This change should be noted when comparing the incidence of skin cancers over time.

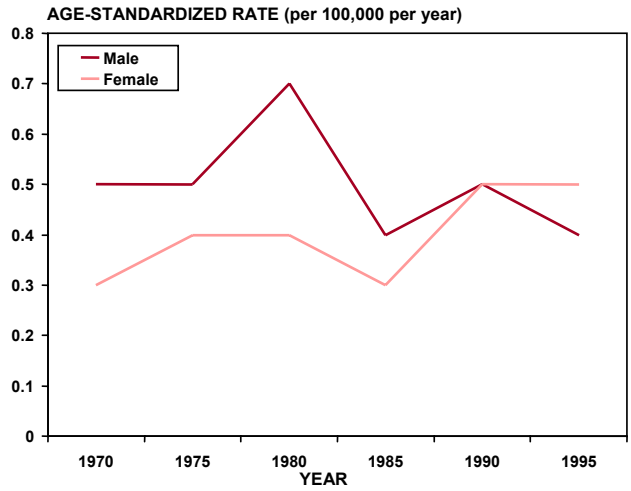
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	30	0.2	0.4	-
Chinese	27	0.2	0.5	1.0
Malays	3	0.2	0.3	0.8 (0.2-2.5)
Indians	-	-	-	-

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	39	0.2	0.5	-
Chinese	29	0.2	0.4	1.0
Malays	8	0.6	1.0	2.2 (1.0-4.7)
Indians	-	-	-	-

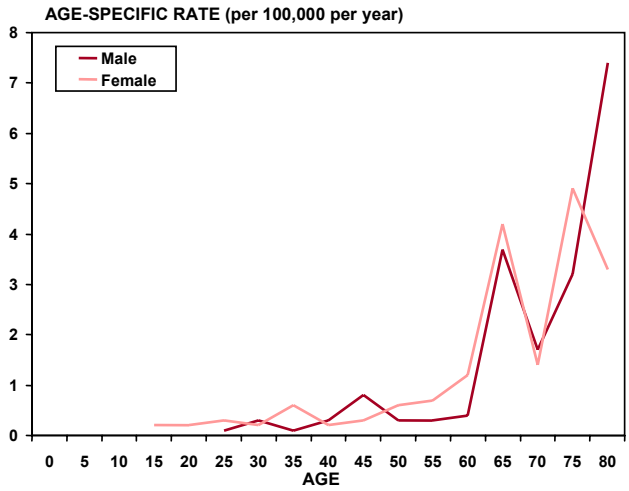
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1720	Lip	1	0
1721	Eyelid	2	2
1722	Ear	1	2
1723	Face	5	6
1724	Scalp & neck	7	8
1725	Trunk	13	15
1726	Upper limb	20	20
1727	Lower limb	59	57
1729	NOS	40	23
Total		148	133

HISTOLOGY 1993-97	Number	%
Malignant melanoma	69	100
Total	69	100

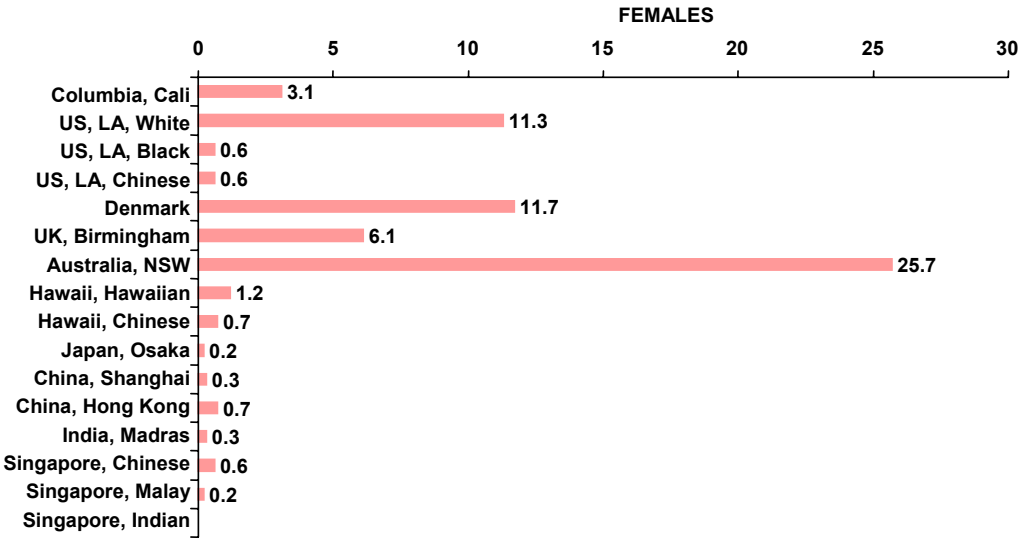


SKIN, MELANOMA: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



SKIN, MELANOMA: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

SKIN, MELANOMA: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.17 Skin, others (ICD9: 173 / ICDO: C44)

A total of 1318 cases of non-melanoma cancer of the skin were notified in 1993-97, of which the predominant histological type was basal cell carcinoma (63.0%) followed by squamous cell carcinoma (27.6%). The major proportion of these cancers (60.9% in males and 75.2% in females) occurred on the head and neck.

Among ethnic groups, Malays and Indians continue to have substantially lower risks than Chinese.

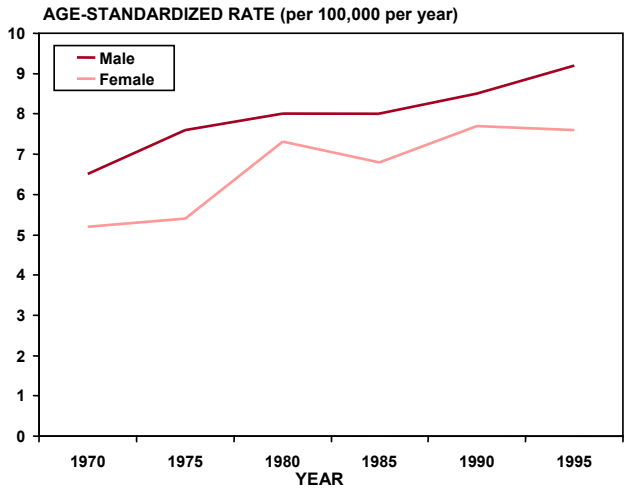
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	658	4.1	9.2	-
Chinese	573	4.1	10.5	1.0
Malays	36	2.9	4.0	0.4 (0.3-0.6)
Indians	21	3.2	3.4	0.3 (0.2-0.4)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	655	4.2	7.6	-
Chinese	587	4.3	8.0	1.0
Malays	35	2.6	4.2	0.6 (0.4-0.8)
Indians	14	2.5	3.8	0.5 (0.3-0.8)

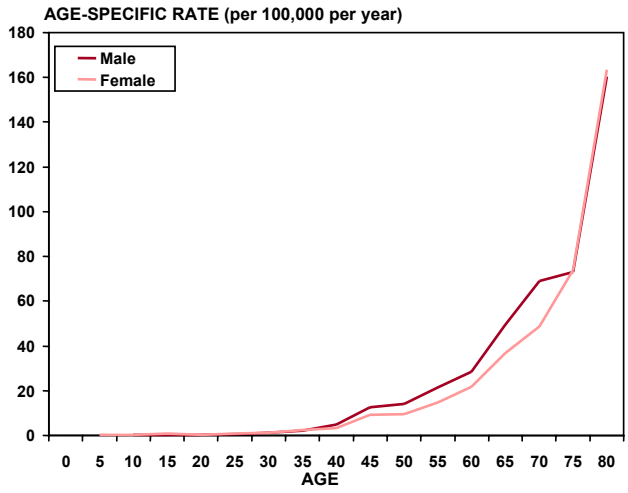
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1730	Lip	65	87
1731	Eyelid	183	184
1732	Ear	144	88
1733	Face	844	1,132
1734	Scalp & neck	141	194
1735	Trunk	214	130
1736	Upper limb	157	91
1737	Lower limb	321	156
1738	Other	21	8
1739	NOS	172	167
Total		2,262	2,237

HISTOLOGY 1993-97	Number	%
Basal cell carcinoma	824	63.0
Squamous cell carcinoma	361	27.6
Dermatofibro. protuberans	42	3.2
Sebaceous adenoca.	13	1.0
Adnexal carcinoma	10	0.8
Sweat gland adenoca.	9	0.7
Verrucous carcinoma	8	0.6
Carcinoma	4	0.3
Basosquamous carcinoma	4	0.3
Tricholemmoma, malig.	4	0.3
Eccrine poroma, malignant	3	0.2
Fib. histiocytoma,malig.	3	0.2
Adenoid cystic carcinoma	2	0.2
Pagets dis., extramam.	2	0.2
Carcinosarcoma	2	0.2
Kaposi sarcoma	2	0.2
Others, specified	14	1.4
Total	1,307	100



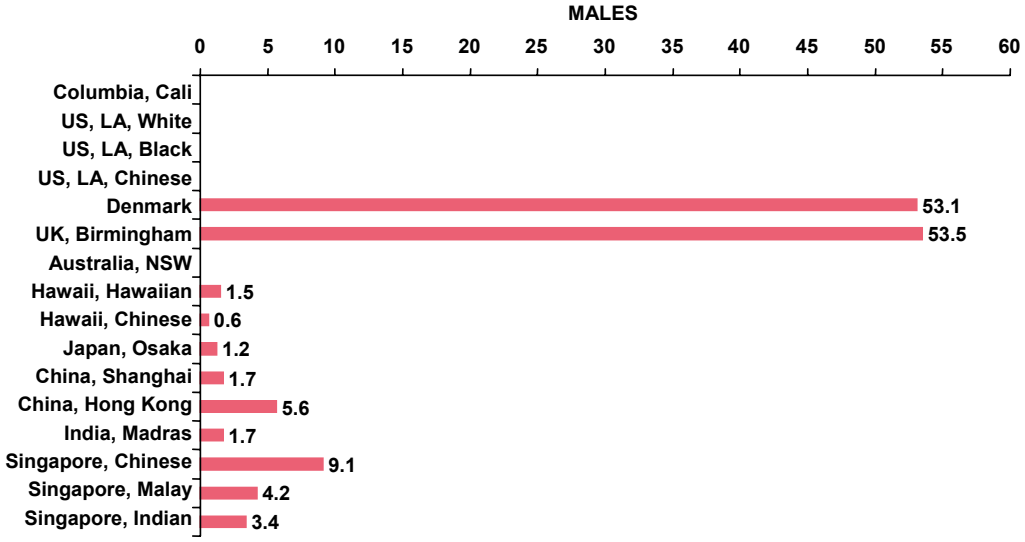
SKIN, OTHERS: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97

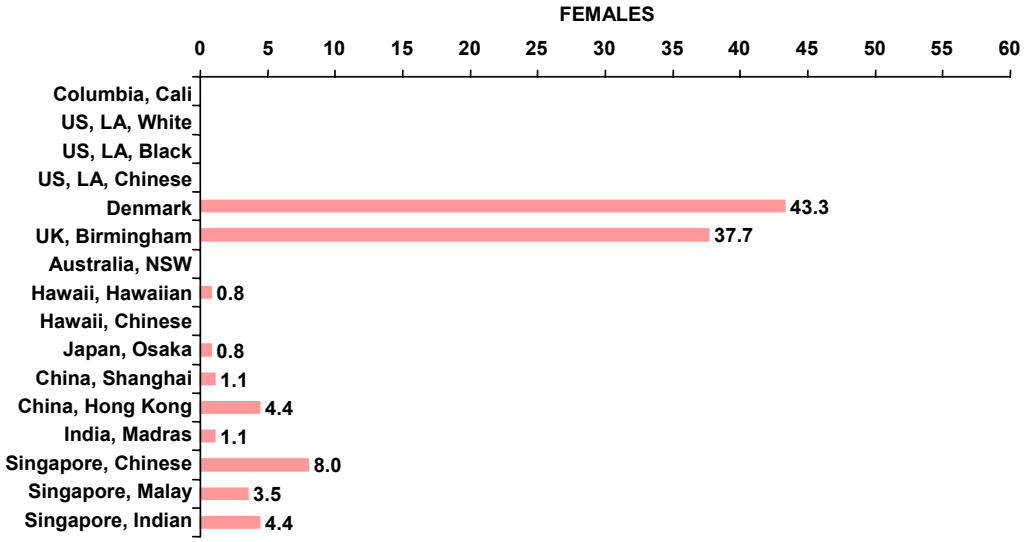


SKIN, OTHERS: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

SKIN, OTHERS: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]

No comparable data available for Australia (NSW), Columbia (Cali) and the United States (Los Angeles)





12.18 Female Breast (ICD9: 174 / ICDO: C50)

Cancer of the breast has remained the most frequent cancer among females over the last thirty years. The previously observed upward trend in incidence has continued, and the incidence rate in 1993-1997 is 2.3 times that in 1968-72. The pattern of increase over time is consistent across all three ethnic groups.

The age pattern for 1993-97 continues to show a peak at the pre-menopausal ages, with the highest rates experienced among women aged 45-49. The rates tend to fall off in the older age groups. Of the 3,574 cases diagnosed in 1993-1997, 1,684 (47.1%) were in women below 50 years of age. Data presented in previous publications for the period 1968-1987[1-3] showed that local-born Chinese had higher risk than the foreign-born.

Among ethnic groups, Malay and Indian women appear to have risks that are lower than that of Chinese women by about 10 or 20%.

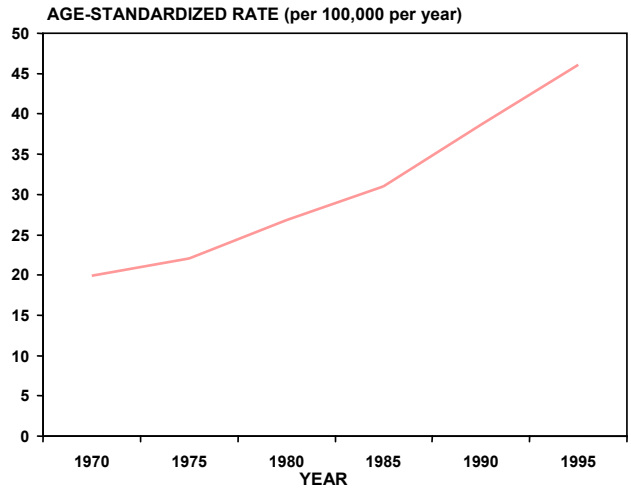
Internationally, rates of breast cancer in Singapore remain about one-third those experienced by women in the United States, and half of those in Europe. They are higher than rates in most other parts of Asia.

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	3574	22.8	46.1	-
Chinese	2984	21.9	47.1	1.0
Malays	354	26.8	41.2	0.9 (0.8-1.0)
Indians	169	29.9	36.8	0.8 (0.7-0.9)

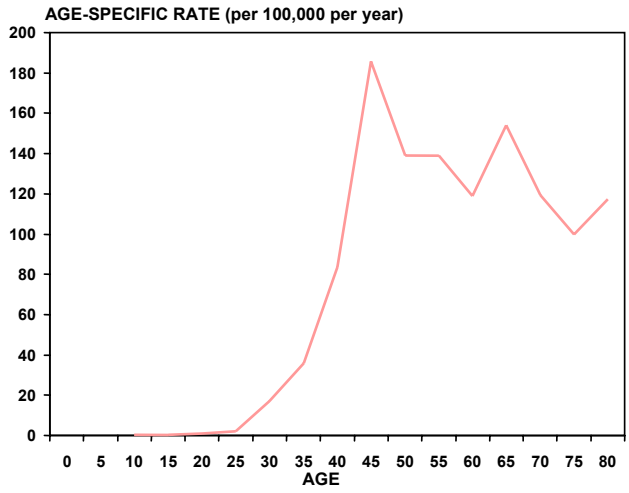
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97		
Subsite		Females
1749	NOS	10,677
Total		10,677

HISTOLOGY 1993-97	Number	%
Infiltrating duct carcinoma	2,799	79.2
Lobular carcinoma	155	4.4
Carcinoma	131	3.7
Mucinous adenocarcinoma	92	2.6
Medullary carcinoma	41	1.2
Phyllodes tumor, NOS	40	1.1
Adenocarcinoma	37	1.0
Papillary carcinoma	36	1.0
Phyllodes tumor, malig.	28	0.8
Intraductal carcinoma	27	0.8
Infiltr.duct & lobular ca.	27	0.8
Cribriform carcinoma	25	0.7
Comedocarcinoma	25	0.7
Tubular adenocarcinoma	20	0.6
Pagets disease, mammary	17	0.5
Cancer, NOS	14	0.4
Squamous cell carcinoma	5	0.1
Large cell carcinoma	2	0.1
Intracystic carcinoma	2	0.1
Fib. histiocytoma malig.	2	0.1
Others, specified	9	0.3
Total	3,534	100

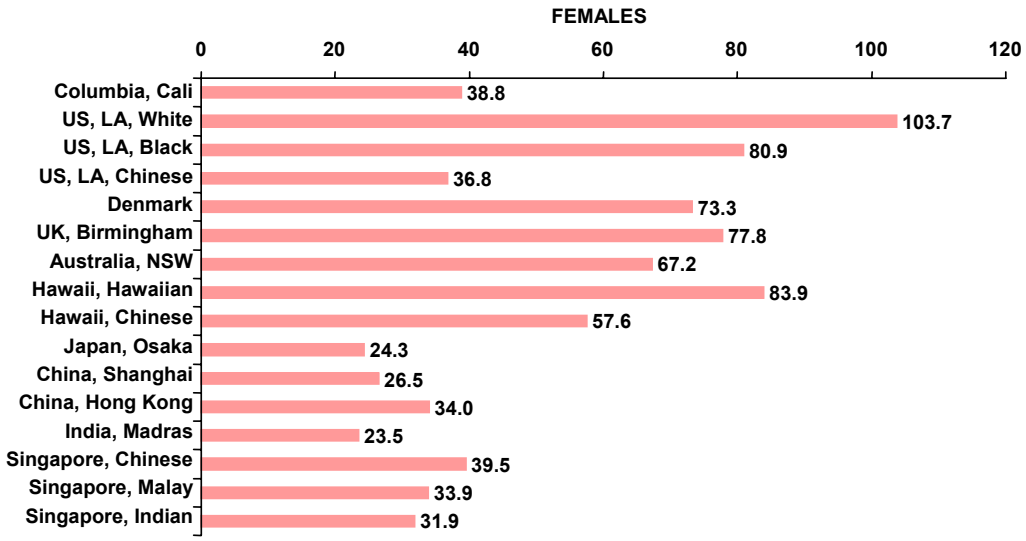


FEMALE BREAST: AGE-STANDARDIZED INCIDENCE, 1968-97



FEMALE BREAST: AGE-SPECIFIC INCIDENCE, 1993-97

FEMALE BREAST: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.19 Cervix (ICD9: 180 / ICDO: C53)

The incidence rate for cancer of cervix has continued to decline marginally, consistent with the pattern over the last thirty years. It maintains its ranking as the fourth most common cancer among women, and constitutes 7.2% of all female cancers diagnosed in 1993-97. Malay women have a substantially lower risk, after adjustment for age, that is only about 60% that of Chinese. Among Indian women, it is the second most commonly occurring cancer. The risk among Indian women was similar to Chinese for the period 1968-1992, but in 1993-97 was lower than for Chinese. It should be noted that rates among Indian women are less stable due to the smaller number of cases in this group.

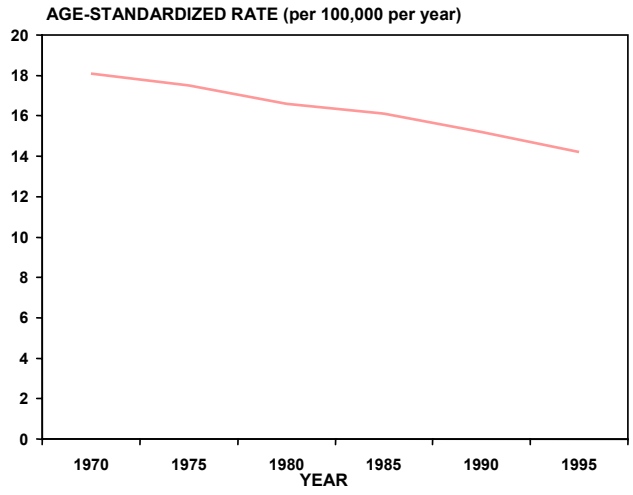
The rates in Singapore continue to be higher than most of Europe and the USA, and lower than those in other developing countries. Trends in Europe have shown a steep decline since the introduction of population screening using the Papanicolaou smear. Recent declines in the incidence of this cancer have also been documented in other parts of Asia, e.g. Hong Kong and Japan.

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	1126	7.2	14.2	-
Chinese	996	7.3	15.4	1.0
Malays	88	6.7	10.5	0.6 (0.5-0.8)
Indians	35	6.2	7.5	0.5 (0.4-0.7)

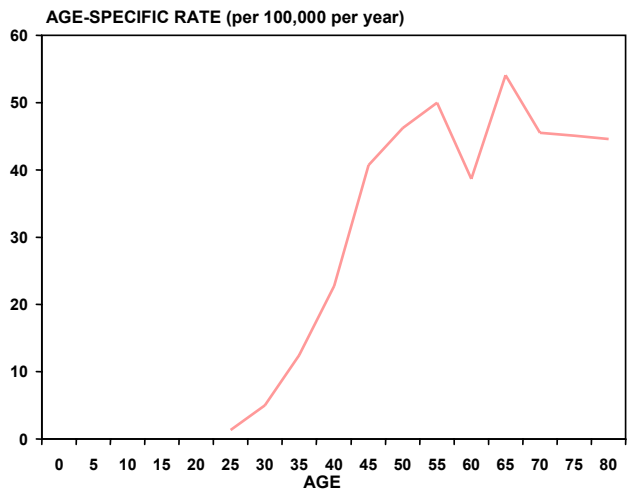
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97		
Subsite		Females
1809	NOS	5,050
Total		5,050

HISTOLOGY 1993-97	Number	%
Squamous cell carcinoma	515	46.3
Sq. cell ca., large cell, nk	192	17.3
Adenocarcinoma	160	14.4
Sq.cell ca. keratinizing	138	12.4
Carcinoma	24	2.2
Adenosquamous ca.	24	2.2
Sq. cell ca., microinvasive	22	2.0
Small cell carcinoma	7	0.6
Papillary adenocarcinoma	7	0.6
Papillary sq. cell ca.	4	0.4
Large cell carcinoma	3	0.3
Neuroendocrine ca.	3	0.3
Leiomyosarcoma	3	0.3
Cancer, NOS	2	0.2
Sq. cell ca., small cell, nk	2	0.2
Mucinous adenoca.	2	0.2
Others, specified	5	0.5
Total	1,113	100

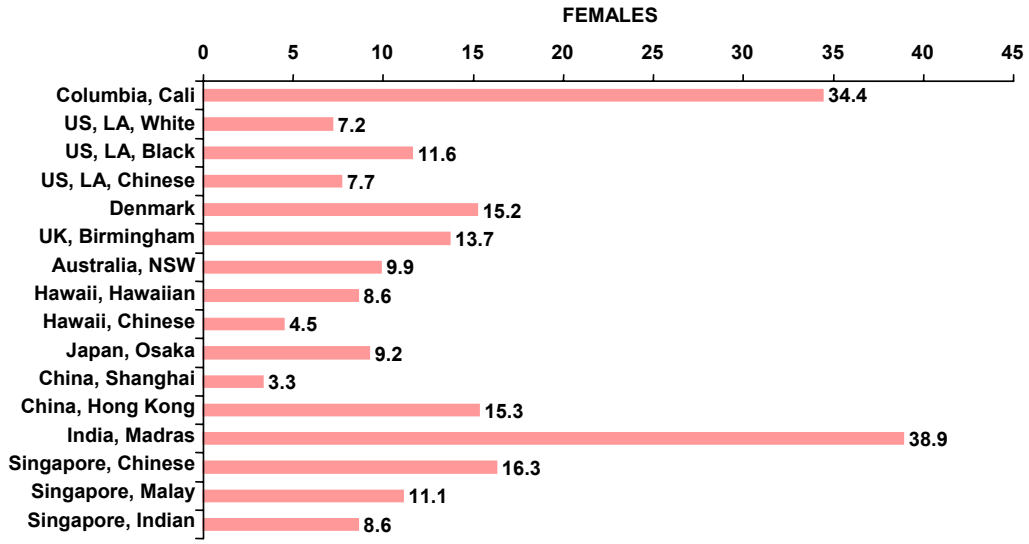


CERVIX: AGE-STANDARDIZED INCIDENCE, 1968-97



CERVIX: AGE-SPECIFIC INCIDENCE, 1993-97

CERVIX: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.20 Uterus (ICD9: 182 / ICDO: C54)

The geographical variation of uterine cancer is broadly similar to that of breast and ovary. Within Asia, Chinese in Singapore and in Hong Kong have among the highest rates. In Singapore, the disease has shown an increase over time, from 4.1 per 100,000 in 1973-77 to 8.2 per 100,000 in 1993-97. In relation to age, the incidence tends to increase sharply in the 40-49 age group.

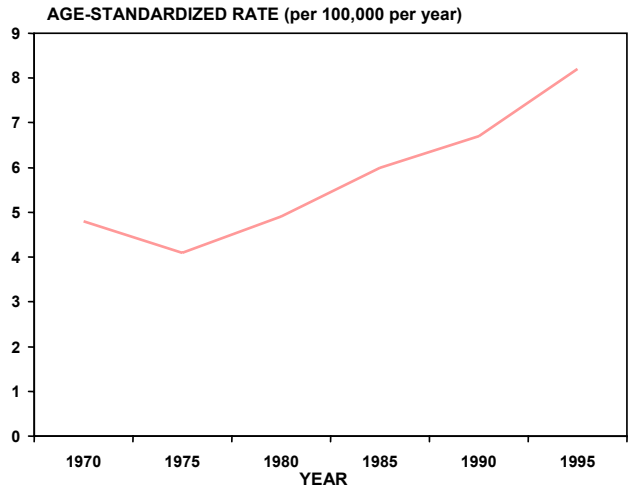
There were no apparent differences in the incidence of uterine cancer among ethnic groups in the latest 5-year period although previously we observed a slightly lower risk among Malay and Indian women compared with Chinese.

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	606	3.9	8.2	-
Chinese	499	3.7	8.3	1.0
Malays	67	5.1	7.9	1.0 (0.8-1.3)
Indians	30	5.3	6.2	0.9 (0.6-1.3)

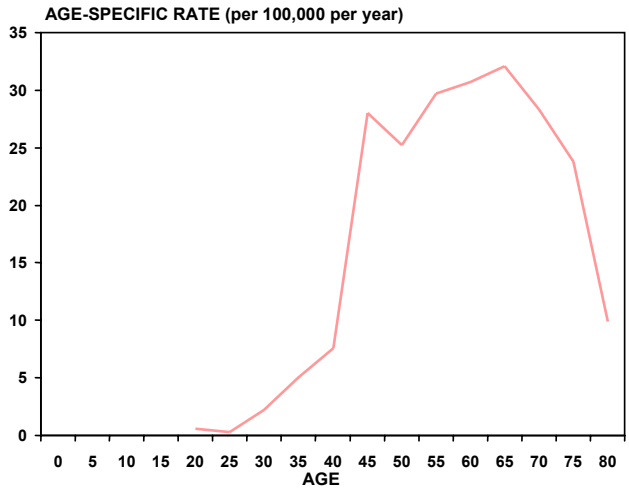
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97		
Subsite		Females
1820	Corpus	1,880
Total		1,880

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	293	49.3
Endometrioid carcinoma	132	22.2
Leiomyosarcoma	29	4.9
Serous adenocarcinoma	23	3.9
Mullerian mixed tumor	20	3.4
Endom. stromal sarcoma	17	2.9
Papillary adenocarcinoma	15	2.5
Adenosquamous ca.	14	2.4
Carcinoma	11	1.9
Smooth muscle tumor	10	1.7
Clear cell adenocarcinoma	8	1.3
Adenosarcoma	5	0.8
Carcinoma, undiff.	4	0.7
Papillary carcinoma	2	0.3
Squamous cell carcinoma	2	0.3
Others, specified	9	1.8
Total	594	100

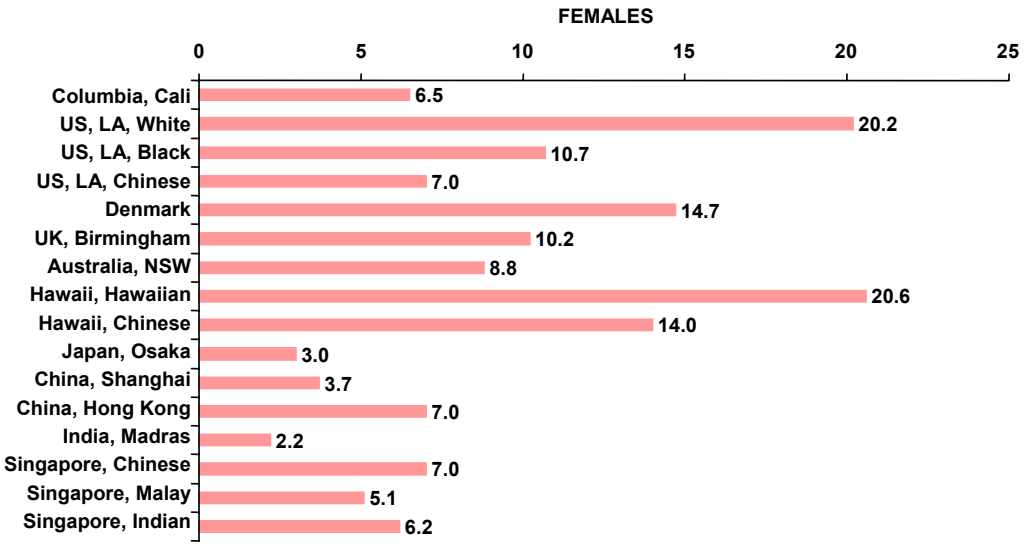


UTERUS: AGE-STANDARDIZED INCIDENCE, 1968-97



UTERUS: AGE-SPECIFIC INCIDENCE, 1993-97

UTERUS: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.21 Ovary (ICD9: 183 / ICDO: C56-C57)

Rates for cancer of the ovary in Singapore fall between those of Western Europe and the rest of Asia. But while these are stable or falling in many developed countries, the incidence of this cancer in Singapore and in other parts of Asia, has shown a steady increase over time. The incidence rate for the period 1993-97 was almost twice that in 1968-72 (6.0 per 100,000 for all residents).

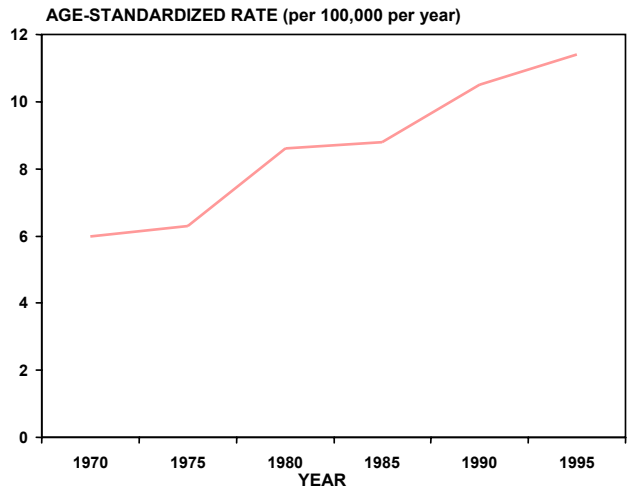
Cancer of the ovary ranks sixth among Singapore females, accounting for 5.6% of all cancers diagnosed in 1993-97. However, its relative importance is greater in Malays, for whom it remains the third most frequently diagnosed malignancy. Compared with Chinese, the risk among Malays has been, on average, 10% higher over the last 30 years. It is worth noting that this is one of the few cancers for which Malays appear to have a higher risk than Chinese.

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	880	5.6	11.4	-
Chinese	707	5.2	11.3	1.0
Malays	110	8.3	12.7	1.1 (0.9-1.3)
Indians	49	8.7	10.3	0.9 (0.7-1.2)

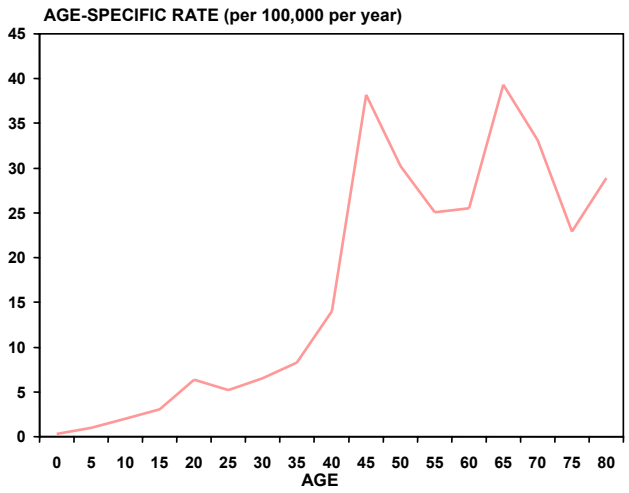
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97		
Subsite		Females
1830	Ovary	2,924
1832	Fallopian tube	40
1833	Broad ligament	6
1838	Other	3
1839	NOS	2
Total		2,975

HISTOLOGY 1993-97	Number	%
Serous cystadenoca.	157	18.4
Mucinous tumor, borderline malignancy	114	13.4
Endometrioid carcinoma	109	12.8
Clear cell adenocarcinoma	92	10.8
Mucinous cystadenoca.	88	10.3
Adenocarcinoma	66	7.8
Ser. cystadenoma, border.	58	6.8
Teratoma, malignant	29	3.4
Ser.surface pap. carcinoma	23	2.7
Granulosa cell tumor	19	2.2
Germinoma	17	2.0
Carcinoma, undiff.	10	1.2
Papillary adenocarcinoma	10	1.2
Squamous cell carcinoma	8	0.9
Carcinoma	6	0.7
Yolk sac tumor	6	0.7
Mullerian mixed tumor	5	0.6
Teratoma, NOS	4	0.5
Mixed germ cell tumor	4	0.5
Others, specified	26	2.7
Total	851	100

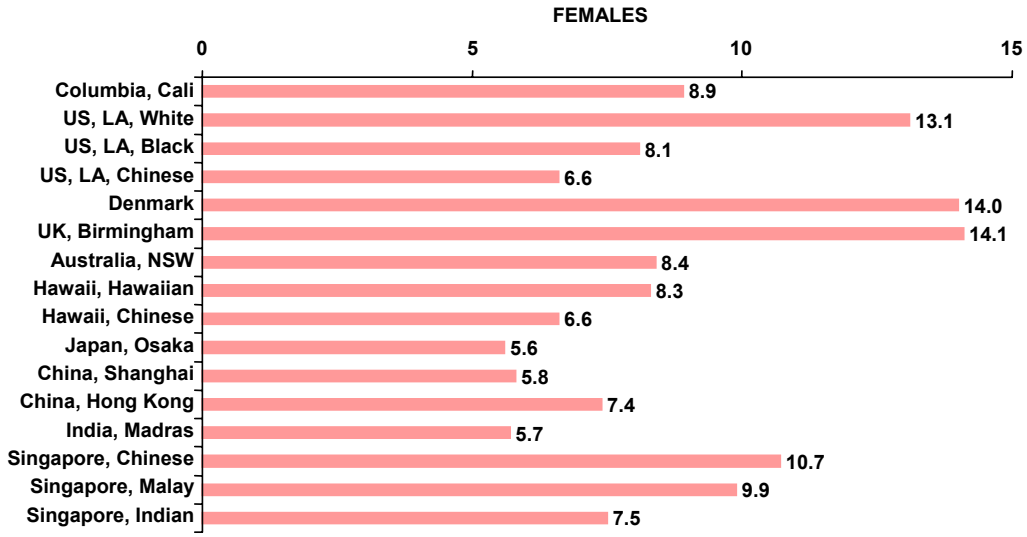


OVARY: AGE-STANDARDIZED INCIDENCE, 1968-97



OVARY: AGE-SPECIFIC INCIDENCE, 1993-97

OVARY: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.22 Prostate (ICD9: 185 / ICDO: C61)

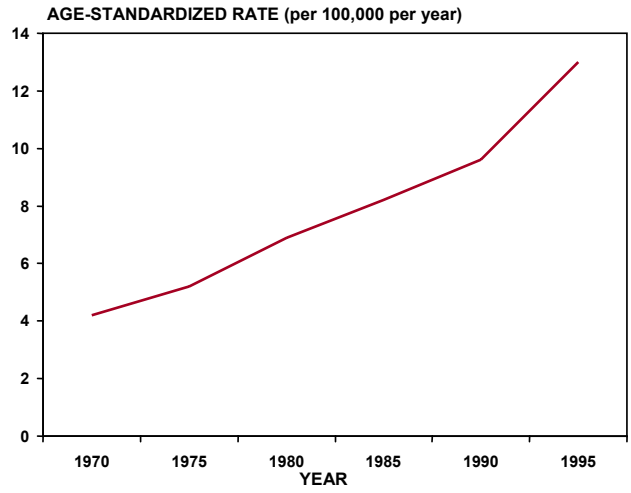
Globally, incidence rates of prostate cancer vary more than forty-fold, with the highest rates occurring in the United States. It remains the sixth most frequent cancer among Singapore males, but the incidence has been increasing steadily over the last 30 years, as in many populations worldwide. The rate of increase was 4.6% between 1968 and 1992, and in the last 5 years has increased even more sharply. All ethnic groups demonstrate this increase. The age-adjusted risk of this cancer in 1993-97 was three times that observed in 1968-72 (4.2 per 100,000). The wider use of screening for the detection of subclinical lesions may have contributed to part of this increase.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	903	5.6	13.0	-
Chinese	718	5.1	13.8	1.0
Malays	91	7.2	12.2	1.0 (0.8-1.2)
Indians	65	9.8	8.3	0.7 (0.6-1.0)

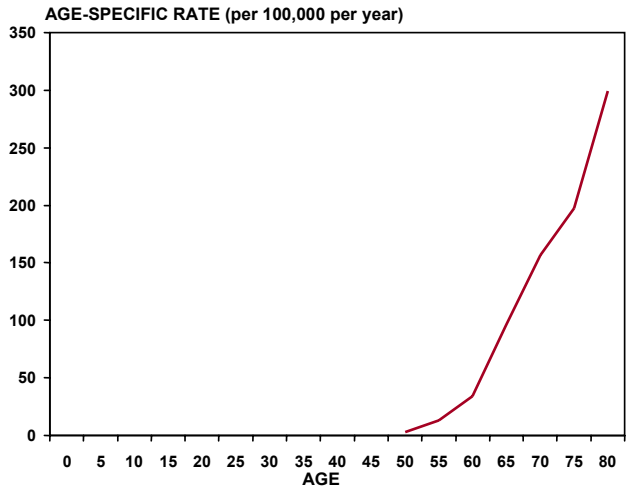
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97		
Subsite		Males
1859	NOS	2,267
Total		2,267

HISTOLOGY 1993-97	Number	%
Adenocarcinoma	812	94.1
Carcinoma	34	3.9
Transitional cell ca.	5	0.6
Cancer, NOS	3	0.3
Acinar cell carcinoma	2	0.2
Carcinoma, undiff.	1	0.1
Neuroendocrine ca.	1	0.1
Papillary duct carcinoma	1	0.1
Adenosquamous ca.	1	0.1
Sarcoma	1	0.1
Smooth muscle tumor	1	0.1
Embryo.rhabdomyosa.	1	0.1
Total	863	100

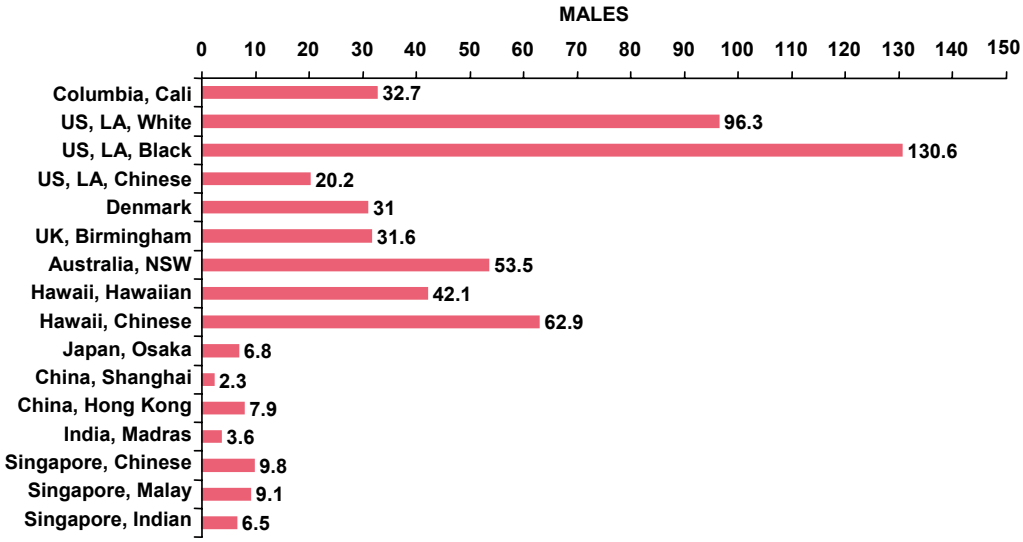


PROSTATE: AGE-STANDARDIZED INCIDENCE, 1968-97



PROSTATE: AGE-SPECIFIC INCIDENCE, 1993-97

PROSTATE: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.23 Bladder (ICD9: 188 / ICDO: C67)

Incidence rates for this cancer are generally highest among males in developed countries. Singapore's rates are comparable with those in the rest of Asia, and lower than Hong Kong's.

In Singapore, cancer of the bladder ranks ninth (with leukaemia) among males and is relatively less frequent among females. Rates have been fairly stable throughout the period 1968-1997. Majority of cases notified were transitional cell carcinomas. In males, Malays and Indians have a lower risk compared with Chinese, while ethnic comparisons are difficult for females because of the small number of cases.

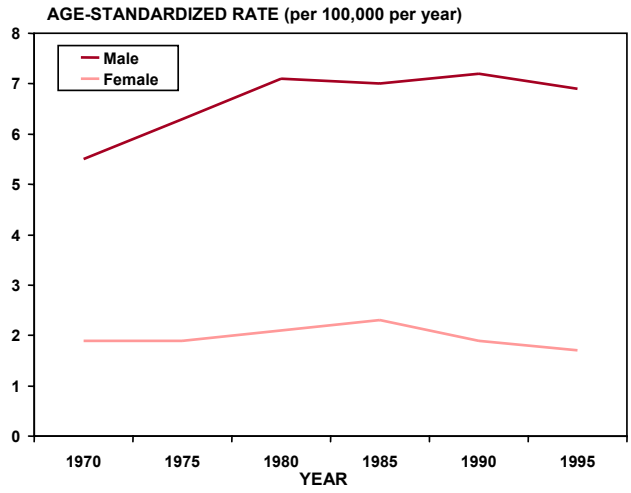
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	479	3.0	6.9	-
Chinese	393	2.8	7.6	1.0
Malays	45	3.6	5.7	0.8 (0.6-1.1)
Indians	33	5.0	4.8	0.7 (0.5-0.9)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	143	0.9	1.7	-
Chinese	127	0.9	1.8	1.0
Malays	11	0.8	1.3	0.8 (0.5-1.6)
Indians	4	0.7	1.4	0.6 (0.2-1.8)

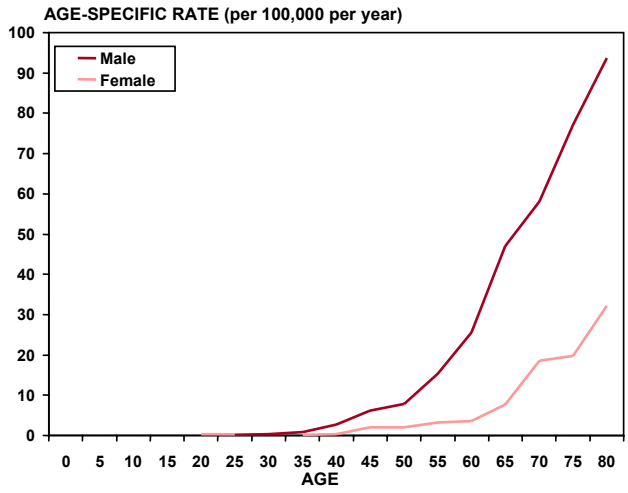
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1889	NOS	1,818	600
Total		1,818	600

HISTOLOGY 1993-97	Number	%
Transitional cell ca.	292	48.5
Papillary trans. cell ca.	264	43.9
Adenocarcinoma	11	1.8
Carcinoma	10	1.7
Squamous cell carcinoma	6	1.0
Cancer, NOS	4	0.7
Clear cell adenocarcinoma	4	0.7
Spindle cell carcinoma	2	0.3
Trans. cell papill., inverted	2	0.3
Mucinous adenoca.	2	0.3
Paraganglioma	2	0.3
Sarcomatoid carcinoma	1	0.2
Small cell carcinoma	1	0.2
Papillary adenocarcinoma	1	0.2
Total	602	100

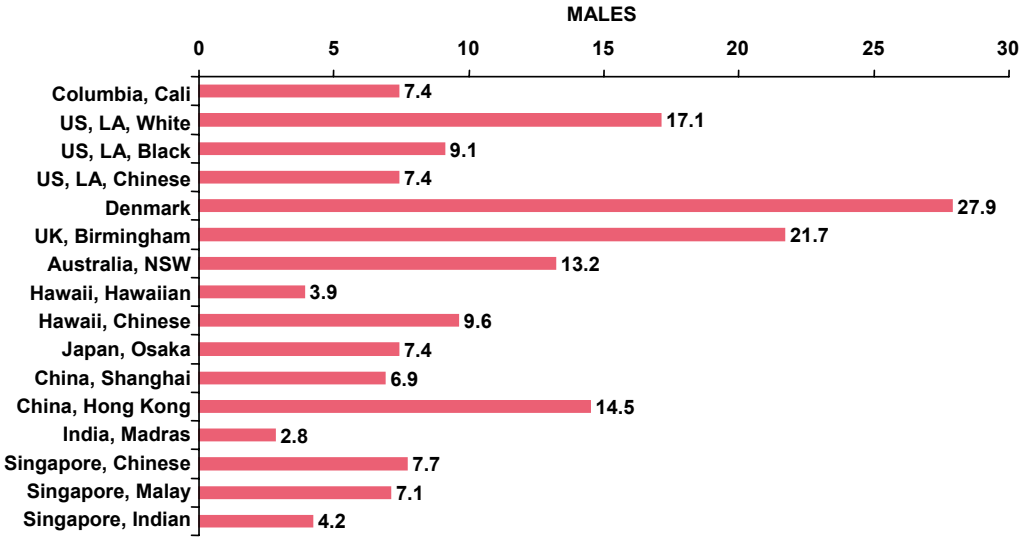


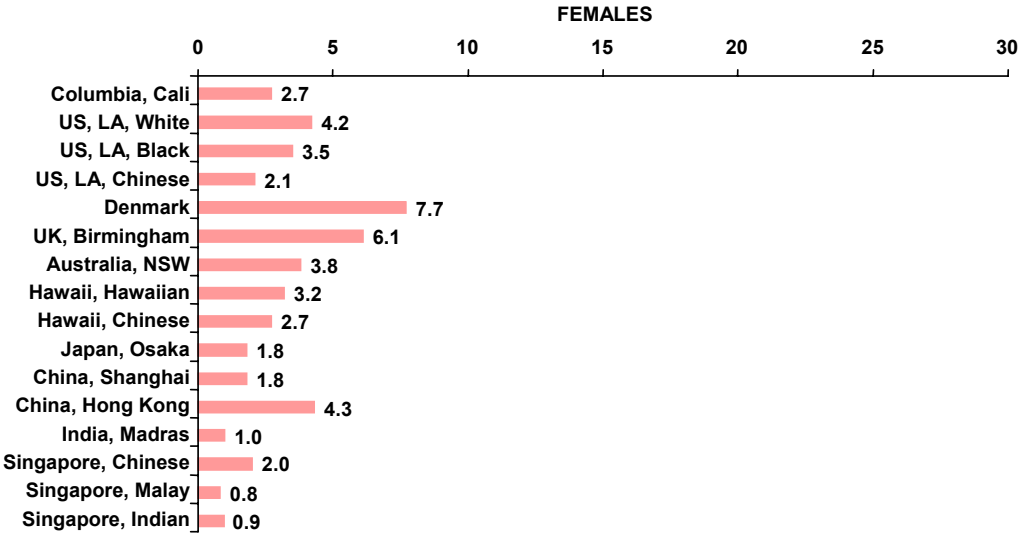
BLADDER: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



BLADDER: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

BLADDER: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.24 Kidney and other urinary organs (ICD9: 189 / ICDO: C64,C65,C66,C68)

The majority (82%) of cancers registered under this site occurred in the kidney parenchyma, and a further 9% in the renal pelvis.

The incidence of this cancer among males has shown a consistent but gradual increase, with a somewhat steeper rise over the last five years. The rates for all male residents in 1993-97 was more than twice that observed in 1968-72 (2.4 per 100,000). Incidence among females has remained fairly stable. Among ethnic groups, Malay and Indian males have lower risks than Chinese.

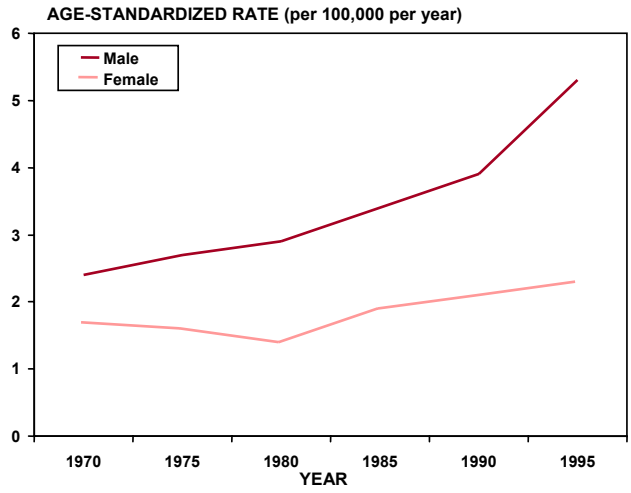
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	360	2.2	5.3	-
Chinese	316	2.3	6.2	1.0
Malays	25	2.0	3.3	0.5 (0.4-0.8)
Indians	18	2.7	3.3	0.5 (0.3-0.7)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	175	1.1	2.3	-
Chinese	141	1.0	2.2	1.0
Malays	25	1.9	2.9	1.4 (0.9-2.2)
Indians	7	1.2	1.9	0.8 (0.4-1.7)

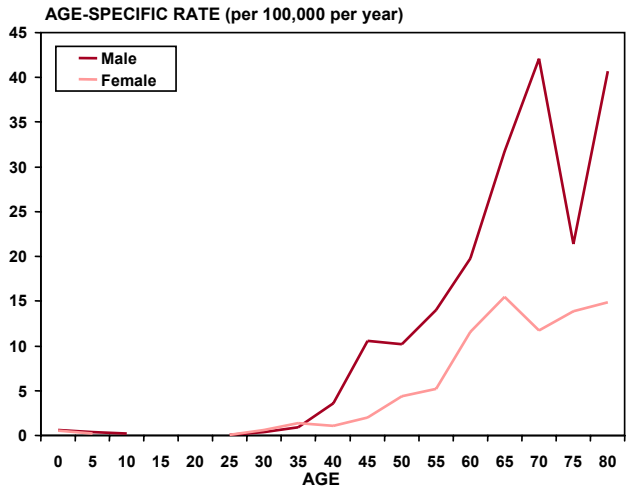
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1890	Kidney	866	470
1891	Renal pelvis	95	53
1892	Ureter	58	34
1893	Urethra	6	24
1898	Other	2	1
1899	NOS	9	6
Total		1,036	588

HISTOLOGY 1993-97	Number	%
Renal cell carcinoma	291	64.1
Transitional cell carcinoma	64	14.1
Papillary trans. cell ca.	38	8.4
Clear cell adenocarcinoma	18	4.0
Squamous cell carcinoma	10	2.2
Wilms tumor	8	1.8
Adenocarcinoma	7	1.5
Papillary adenocarcinoma	5	1.1
Cancer, NOS	4	0.9
Clear cell sarcoma	2	0.4
Tumor, NOS	1	0.2
Carcinoma	1	0.2
Large cell carcinoma	1	0.2
Sq. cell ca., small cell, nk	1	0.2
Oxyphilic adenocarcinoma	1	0.2
Spindle cell sarcoma	1	0.2
Neuroblastoma	1	0.2
Total	454	100

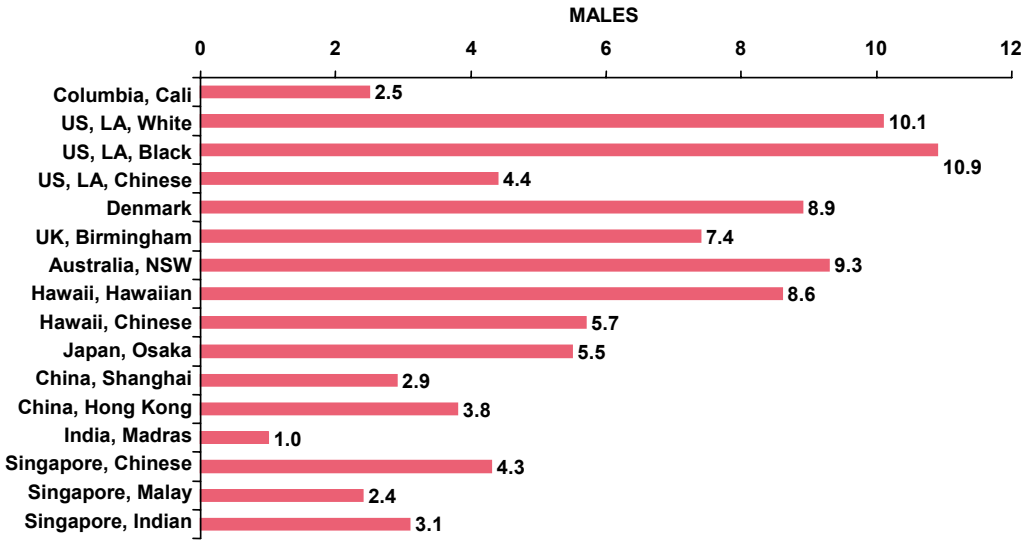


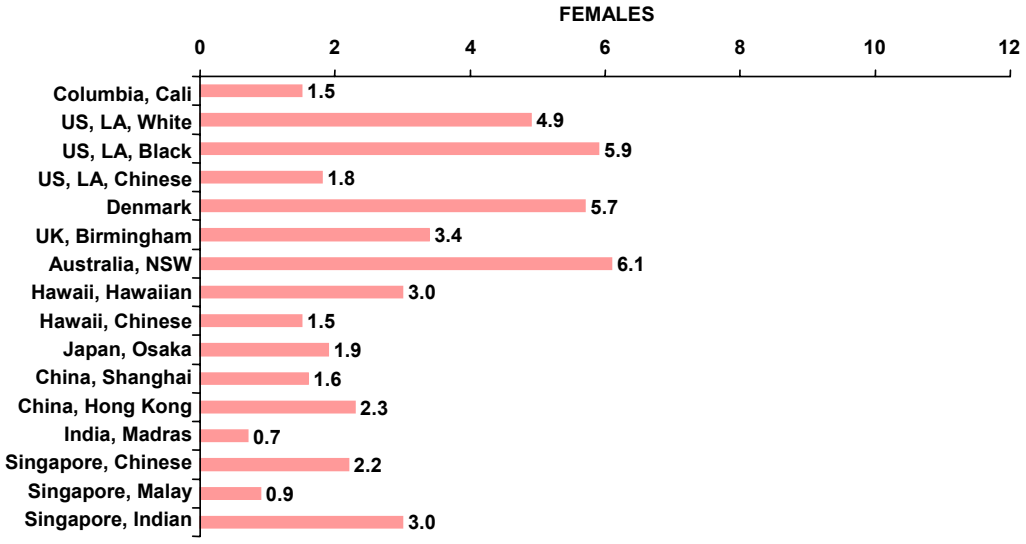
KIDNEY: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



KIDNEY: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

KIDNEY & OTHER URINARY ORGANS: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.25 Brain and nervous system (ICD9: 191-2 / ICDO: C70-C72)

This is an uncommon cancer in Singapore, and incidence rates for all three major ethnic groups are lower than most other parts of the world. The previously observed rise in rates has continued. The incidence rates for males and females in 1993-97 were 2.6 and 2.1 per 100,000 compared with 1.5 and 1.0 per 100,000 in 1968-72, respectively. More than half of the cases (57.0%) had astrocytoma or glioblastoma multiforme as the histological diagnosis. Comparison between ethnic groups is limited by the small number of cases.

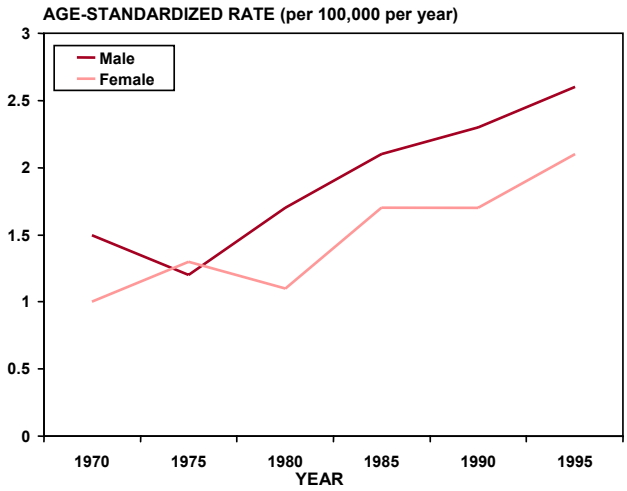
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	179	1.1	2.6	-
Chinese	138	1.0	2.6	1.0
Malays	25	2.0	2.7	1.1 (0.7-1.6)
Indians	14	2.1	2.8	0.9 (0.5-1.6)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	144	0.9	2.1	-
Chinese	114	0.8	2.0	1.0
Malays	24	1.8	2.6	1.3 (0.8-2.0)
Indians	6	1.1	1.3	0.6 (0.3-1.4)

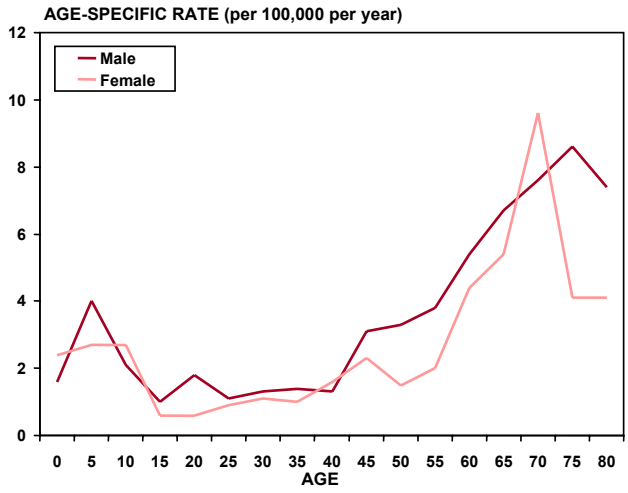
[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1910	Cerebrum	31	26
1911	Frontal lobe	42	21
1912	Temporal lobe	33	20
1913	Parietal lobe	37	25
1914	Occipital lobe	7	4
1915	Ventricle	28	24
1916	Cerebellum	83	58
1917	Brain stem	20	22
1918	Other	10	6
1919	Brain, NOS	345	262
1920	Cranial nerves	1	6
1921	Meninges	14	28
1922	Spinal cord	17	9
1923	Spinal meninges	1	1
1929	Nerv. syst., NOS	9	12
Total		678	524

HISTOLOGY 1993-97	Number	%
Astrocytoma	61	23.2
Glioblastoma multiforme	59	22.4
Astrocytoma, anaplastic	30	11.4
Medulloblastoma	22	8.4
Oligodendroglioma	12	4.6
Pilocytic astrocytoma	11	4.2
Glioma, malignant	9	3.4
Ependymoma	9	3.4
Meningioma, malignant	7	2.7
Germinoma	6	2.3
Prim.neuroecto. tumor	6	2.3
Mixed glioma	4	1.5
Gemistocytic astrocyt.	4	1.5
Fibrillary astrocytoma	4	1.5
Hemangioblastoma	3	1.1
Others, specified	16	6.4
Total	263	100

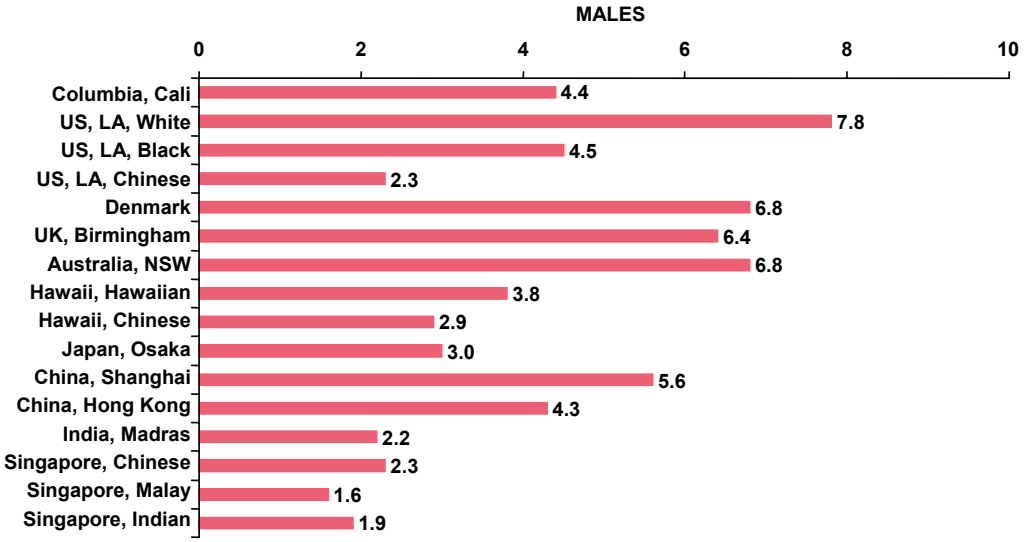


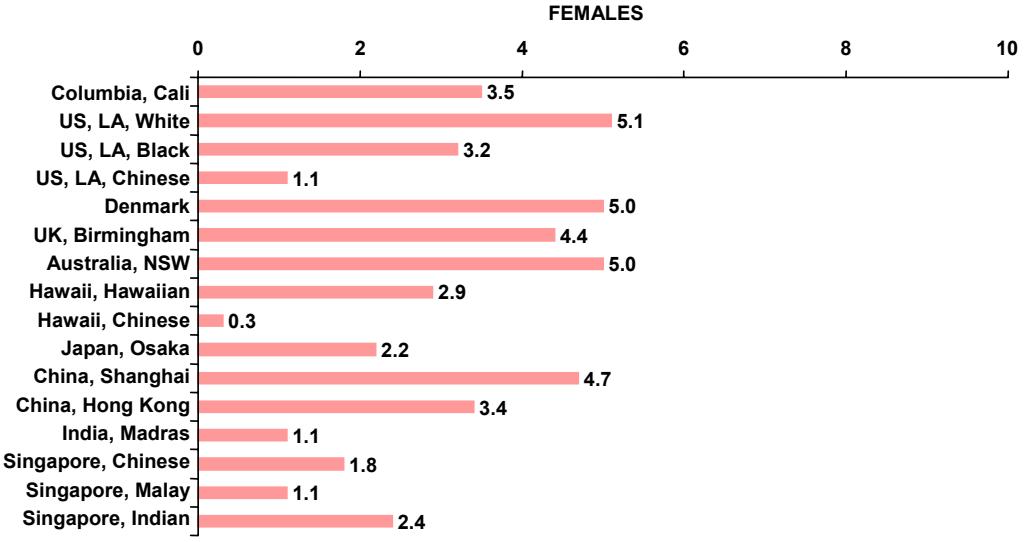
BRAIN: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



BRAIN: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

BRAIN: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.26 Thyroid (ICD9: 193 / ICDO: C73)

The incidence rate of this cancer in 1993-97 was 3.4 times higher among females compared with males. Papillary and follicular carcinomas accounted for more than 89% of cases. Rates appear to be fairly stable since 1983 with little change in both males and females. Singapore Chinese exhibit rates similar to those in Hong Kong and higher than those in Shanghai. In contrast to many other cancers, the age-specific incidence begins to rise at a younger age.

Among ethnic groups, we continued to observe the slightly lower risk previously reported for Indian females relative to Chinese.

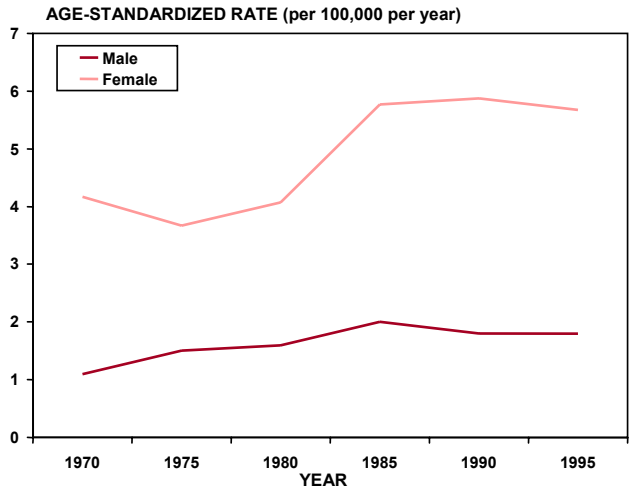
INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	142	0.9	1.8	-
Chinese	116	0.8	1.9	1.0
Malays	17	1.4	2.1	0.9 (0.6-1.6)
Indians	8	1.2	1.5	0.6 (0.3-1.2)

INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	484	3.1	5.7	-
Chinese	399	2.9	5.8	1.0
Malays	53	4.0	5.7	0.9 (0.6-1.2)
Indians	22	3.9	3.4	0.7 (0.4-1.1)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

SUBSITES 1968-97			
Subsite		Males	Females
1939	NOS	545	1,830
Total		545	1,830

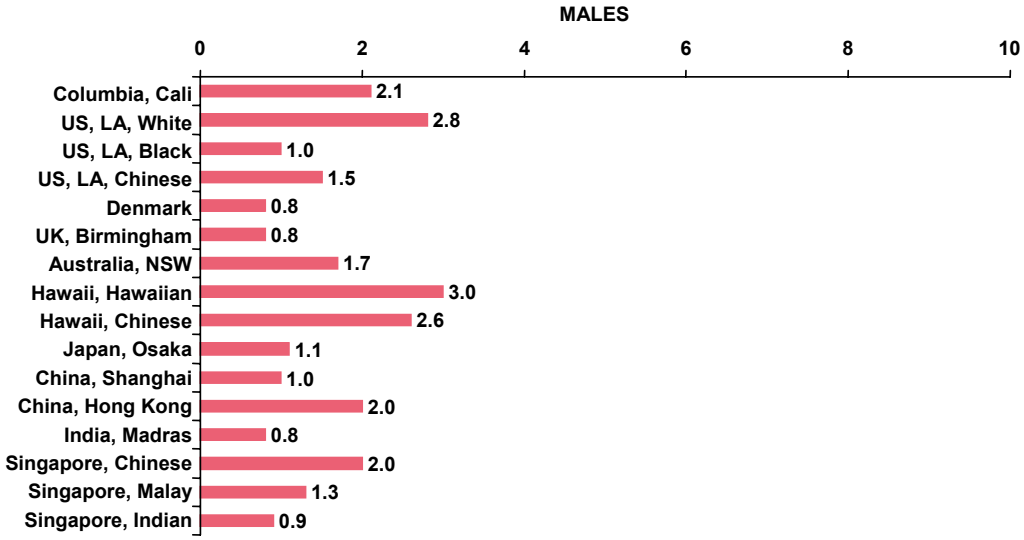
HISTOLOGY 1993-97	Number	%
Papillary adenocarcinoma	404	66.1
Follicular adenocarcinoma	143	23.4
Papillary ca., folli. variant	18	2.9
Carcinoma, undiff.	15	2.5
Medullary carcinoma	13	2.1
Oxyphilic adenocarcinoma	11	1.8
Carcinoma	3	0.5
Tumor cells, malignant	1	0.2
Squamous cell carcinoma	1	0.2
Adenocarcinoma	1	0.2
Clear cell adenocarcinoma	1	0.2
Total	611	100

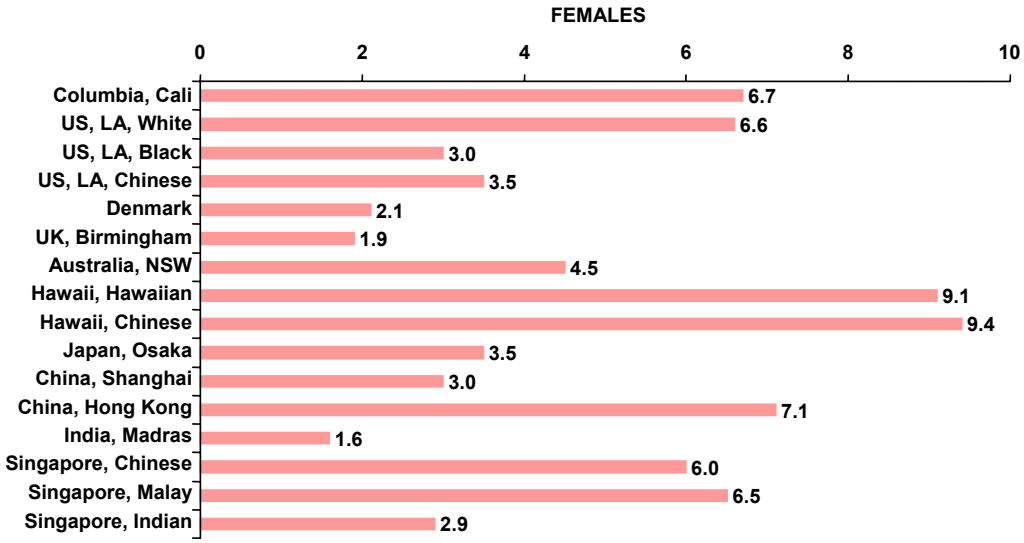


THYROID: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97

THYROID: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

THYROID: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.27 Non-Hodgkin lymphoma (ICD9: 200,202 / ICDO: C77 & others)

Singapore's rates of Non-Hodgkin lymphoma are intermediate between those of Asia (except Hong Kong) and the West. The incidence of this disease has shown an overall increase over the last 30 years, consistent with a similar trend in many Western countries. Among males, the rate in 1993-97 was more than twice that in 1968-72 (3.2 per 100,000), while in females, the difference was less marked.

This cancer maintains its position as the 8th most common cancer among males locally. There were no differences in risks between Chinese and Malays in the period 1993-97, although in previous publications an excess risk among Malay females was noted[20]. The small numbers among Indians makes comparisons with other ethnic groups difficult.

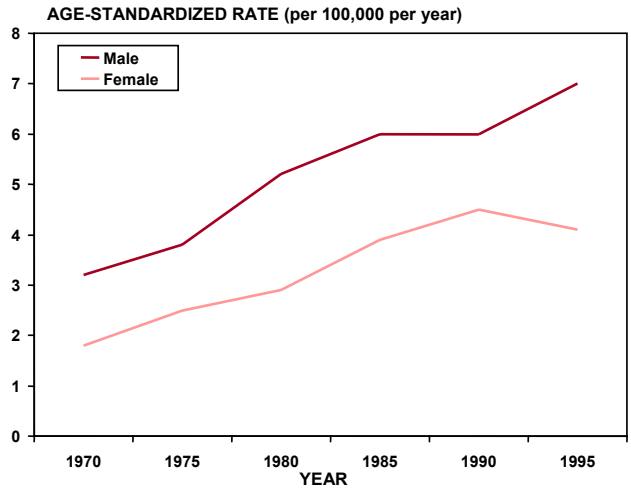
The new ICDO coding system allows extranodal lymphomas diagnosed from 1993 to be categorized by site. Among the 851 lymphomas notified in 1993-1997, 243 (47.2%) were extra-nodal in origin, and the largest proportion arose in the stomach, oropharynx, small intestine and skin.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	515	3.2	7.0	-
Chinese	408	2.9	7.2	1.0
Malays	74	5.9	8.4	1.2 (0.9-1.5)
Indians	18	2.7	3.0	0.4 (0.2-0.6)

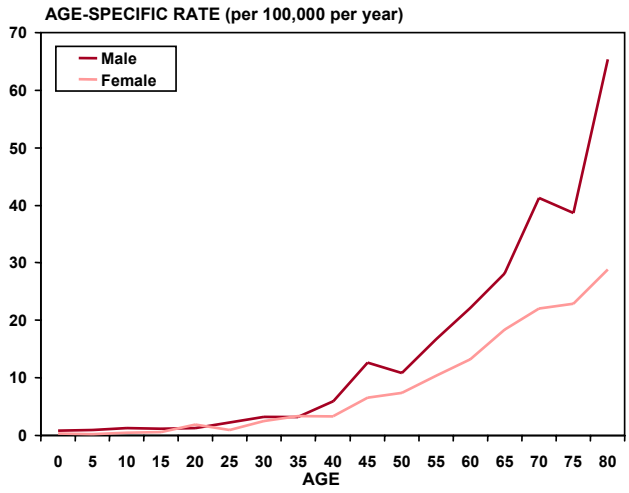
INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	336	2.1	4.1	-
Chinese	285	2.1	4.3	1.0
Malays	38	2.9	4.5	1.0 (0.7-1.4)
Indians	11	1.9	2.3	0.6 (0.3-1.0)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

Please see pages 120-121 for distribution of cases by site and histology.

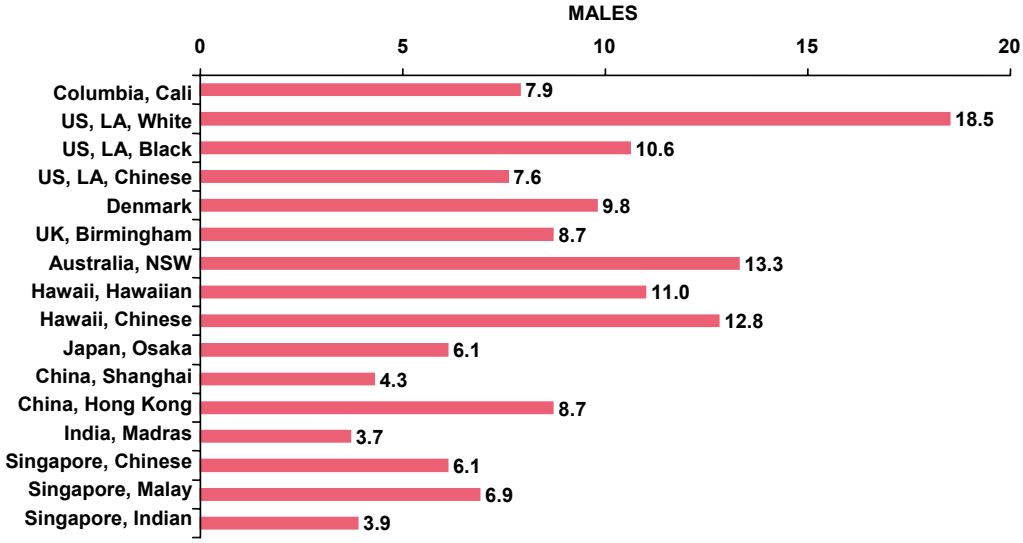


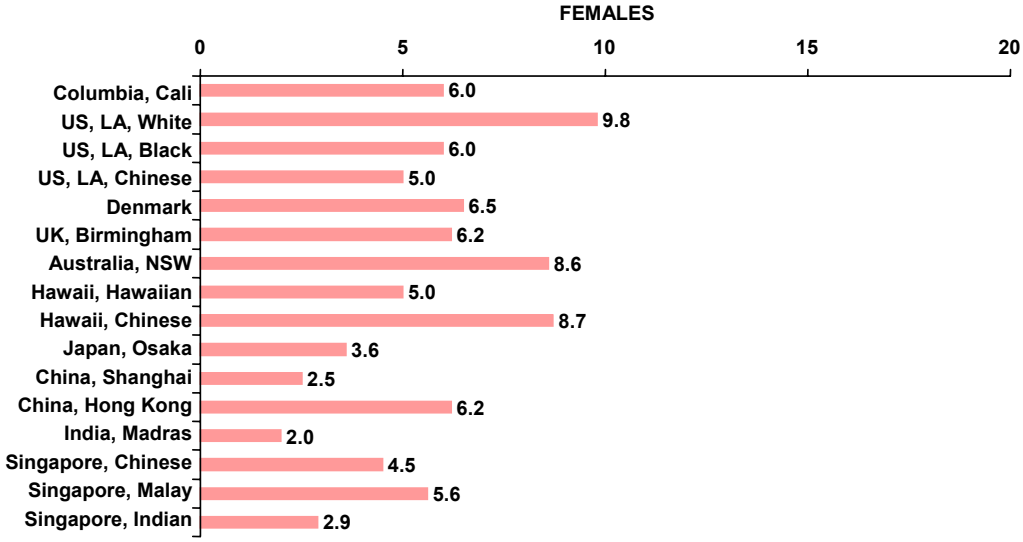
NON-HODGKIN LYMPHOMA: AGE-STANDARDIZED INCIDENCE BY SEX, 1968-97



NON-HODGKIN LYMPHOMA: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

NON-HODGKIN LYMPHOMA: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.27 Non-Hodgkin lymphoma (ICD9: 200,202 / ICDO: C77 & others)

Primary Site	Male		Female	
1993-97	No.	%	No.	%.
Tongue	2	0.4	3	0.9
Mouth	5	1.0	2	0.6
Salivary gland	1	0.2	3	0.9
Oropharynx	20	3.9	22	6.5
Nasopharynx	9	1.7	11	3.3
Hypopharynx	0	0.0	1	0.3
Oesophagus	1	0.2	0	0.0
Stomach	51	9.9	44	13.1
Small Intestine	14	2.7	13	3.9
Colon	14	2.7	6	1.8
Anus/rectum	1	0.2	0	0.0
Liver	3	0.6	1	0.3
Gallbladder	1	0.2	1	0.3
Pancreas	1	0.2	0	0.0
GI tract	1	0.2	0	0.0
Nasal cavity	14	2.7	3	0.9
Larynx	0	0.0	1	0.3
Lung	8	1.6	10	3.0
Heart, pleura, mediastinum	3	0.6	2	0.6
Bone	5	1.0	2	0.6
Bone marrow[1]	4	0.8	1	0.3
Skin	35	6.8	12	3.6
Retro/peritonm	2	0.4	0	0.0
Conn. tissue	1	0.2	3	0.9
Breast	0	0.0	9	2.7
Corpus uteri	0	0.0	1	0.3
Ovary	0	0.0	2	0.6
Testis	7	1.4	0	0.0
Kidney	1	0.2	0	0.0
Bladder	1	0.2	0	0.0
Eye	13	2.5	7	2.1
Brain, CNS	21	4.1	8	2.4
Thyroid	1	0.2	11	3.3
Others	3	0.6	2	0.6
Lymph nodes	272	52.8	155	46.1
Total	515	100.0	336	100.0

[1]Hairy cell leukaemias are included as non-Hodgkin lymphomas under ICD-9.

12.27 Non-Hodgkin lymphoma (ICD9: 200,202 / ICDO: C77 & others)

Histology 1993-97	Number	%
ML, large diffuse	295	34.7
ML, NOS	165	19.4
ML, immunoblastic	56	6.6
ML, small lymphocytic	37	4.3
ML, centroblastic, diffuse	34	4.0
Peripheral T-cell lymphoma	32	3.8
Burkitts lymphoma	27	3.2
Mycosis fungoides	22	2.6
ML, large cell, follicular	20	2.4
ML mixed small/large cleave	17	2.0
ML centrobl-centrocy, foll.	15	1.8
ML, small cleaved/follicular	15	1.8
PeripT-cell lympho, pleo.	15	1.8
ML, lymphoblastic	13	1.5
ML, follicular	13	1.5
ML, diffuse	12	1.4
ML,mixed small/large diffuse	11	1.3
ML, centroblastic-centrocytic	6	0.7
Cutaneous lymphoma	6	0.7
Angiocentr. T-cell lymphoma	6	0.7
ML, small cell, noncleaved	5	0.6
Hairy cell leukaemia	5	0.6
Malignant histiocytosis	4	0.5
ML,lymphocytic intermediate	3	0.3
ML, large cell, noncleaved	3	0.3
ML, centroblastic, follicular	3	0.3
Monocytoid B-cell lymphoma	3	0.3
Others, specified	8	0.9
Total	851	100

12.28 Hodgkin disease (ICD9: 201 / ICDO: C77)

The incidence of Hodgkin disease has declined in most populations worldwide, and this trend is also observed among males in Singapore. Rates among females have remained relatively stable over the thirty-year period. Generally, countries in Asia experience lower rates of this disease than those in the West.

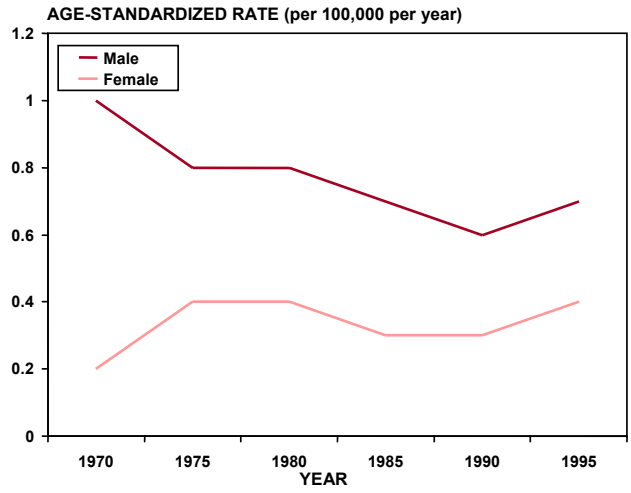
The overall risks among Malay and Indian males appear higher than for Chinese, but definite conclusions cannot be made because of the small number of cases.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	52	0.3	0.7	-
Chinese	30	0.2	0.6	1.0
Malays	11	0.9	1.1	2.1 (1.1-4.3)
Indians	11	1.7	1.5	3.4 (1.7-6.7)

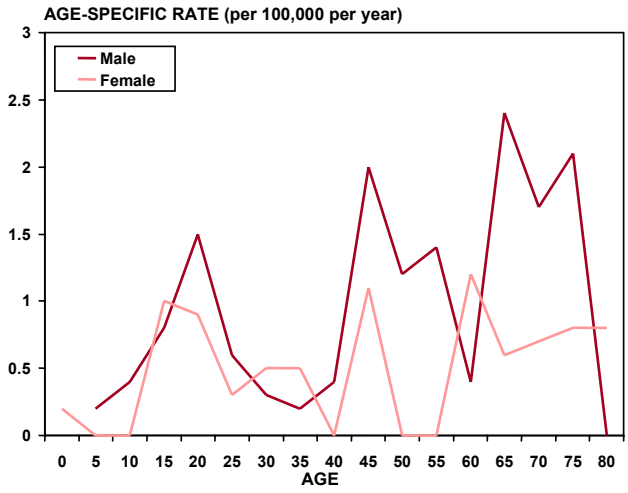
INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	32	0.2	0.4	-
Chinese	22	0.2	0.4	1.0
Malays	6	0.5	0.7	1.6 (0.7-3.9)
Indians	4	0.7	0.6	2.1 (0.7-5.9)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

Histology 1993-97	Number	%
HD, nodular sclerosis, NOS	45	53.6
HD, mixed cellularity	18	21.4
HD, NOS	13	15.5
HD, lymphocytic predominance	2	2.4
HD, nodular sclerosis, mixed cellularity	2	2.4
HD, lymphocytic predominance, diffuse	1	1.2
HD, lymphocytic predominance, nodular	1	1.2
HD, nodular sclerosis, cellular phase	1	1.2
HD, nodular sclerosis, lympho. depletion	1	1.2
Total	84	100

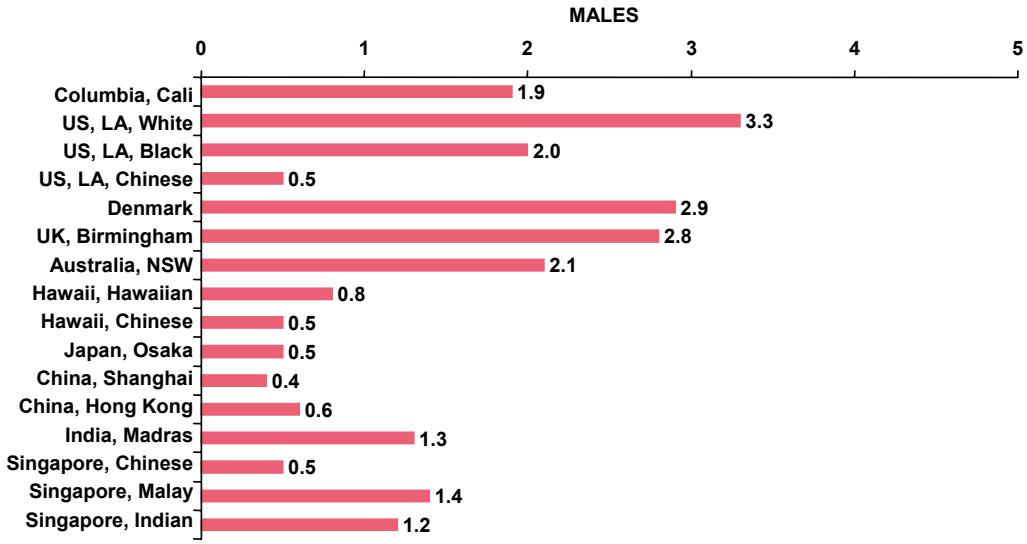


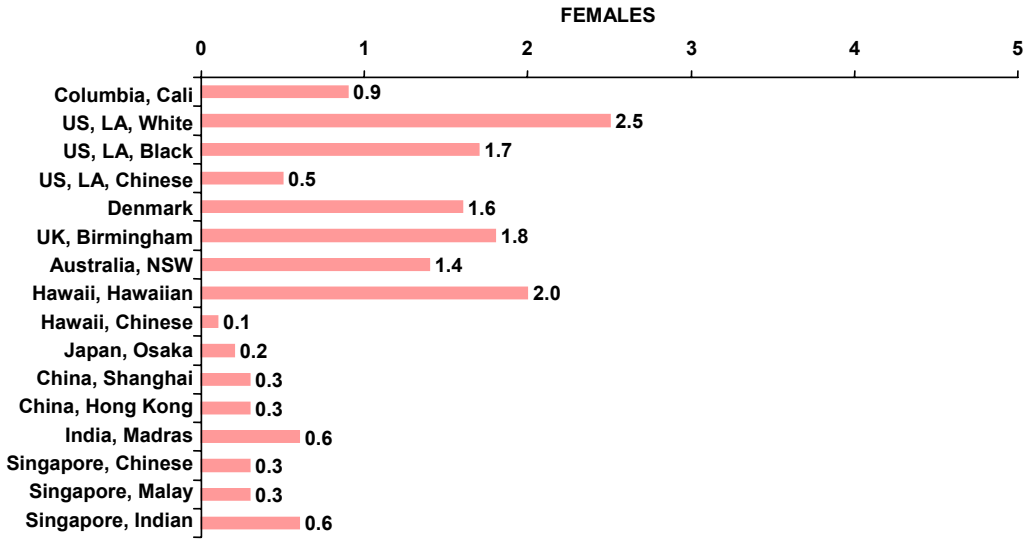
HODGKIN DISEASE: AGE- STANDARDIZED INCIDENCE BY SEX, 1968-97



HODGKIN DISEASE: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

HODGKIN DISEASE: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.29 Multiple myeloma (ICD9: 203 / ICDO: C42)

Due to the small number of cases, trends in multiple myeloma tend to be unstable, although there appears to be an overall increase over time in both males and females. Incidence remains lower than in the West, and comparable with the rest of Asia.

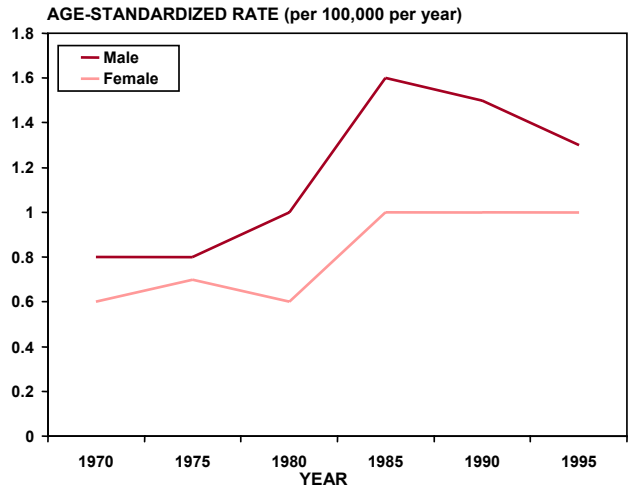
While again limited by small numbers, the risks for Malay males and Indian females were higher than for Chinese in 1993-97.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	87	0.5	1.3	-
Chinese	56	0.4	1.1	1.0
Malays	20	1.6	2.5	2.4 (1.5-4.1)
Indians	8	1.2	1.4	1.1 (0.5-2.4)

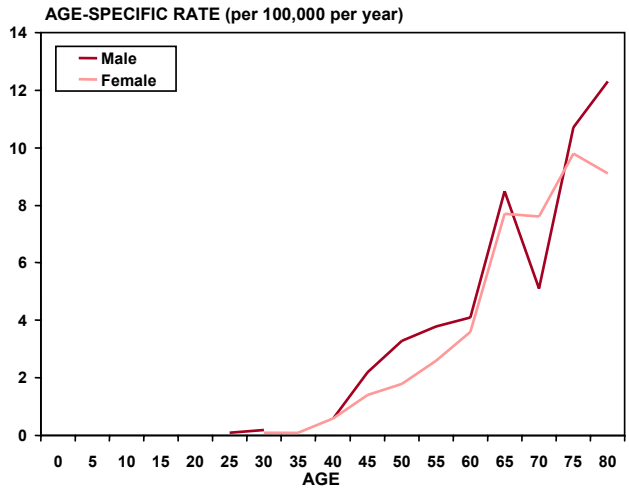
INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	81	0.5	1.0	-
Chinese	62	0.5	0.9	1.0
Malays	11	0.8	1.4	1.6 (0.8-3.0)
Indians	8	1.4	1.7	2.4 (1.1-5.0)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

Histology 1993-97	Number	%
Multiple myeloma	160	95.2
Plasmacytoma	7	4.2
Immunoproliferative disease	1	0.6
Total	168	100

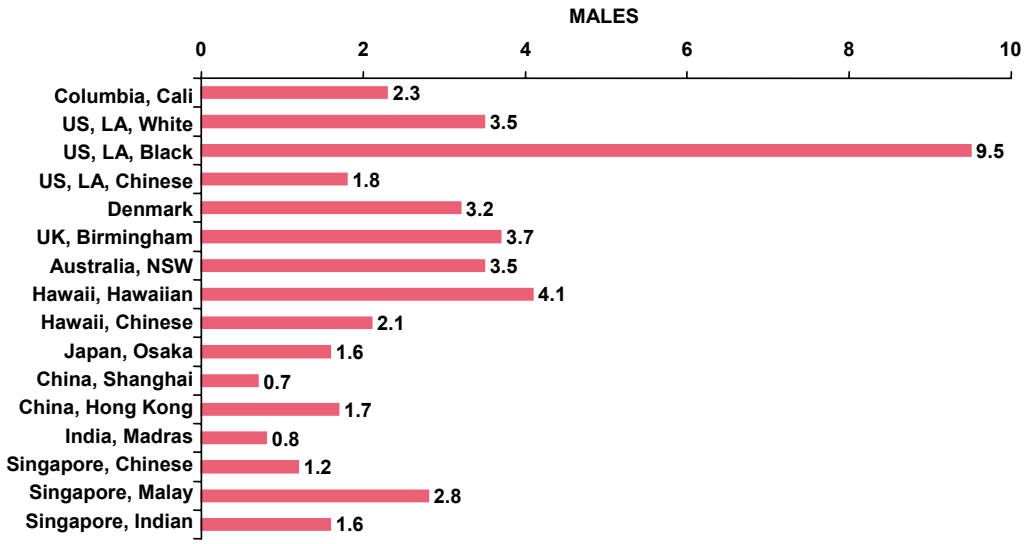


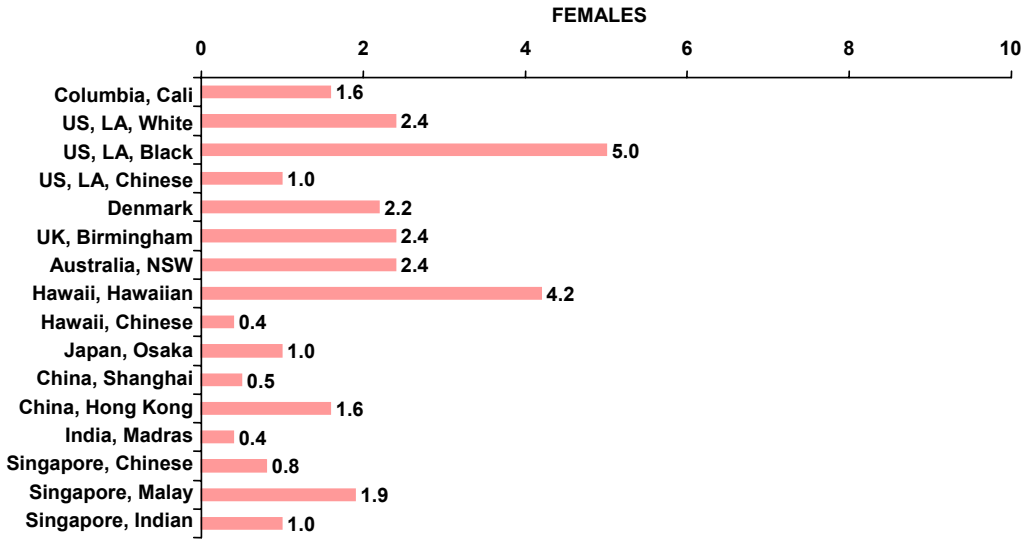
MULTIPLE MYELOMA: AGE- STANDARDIZED INCIDENCE BY SEX, 1968-97



MULTIPLE MYELOMA: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

MULTIPLE MYELOMA: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





12.30 Lymphatic leukaemia (ICD9: 204 / ICDO: C42)

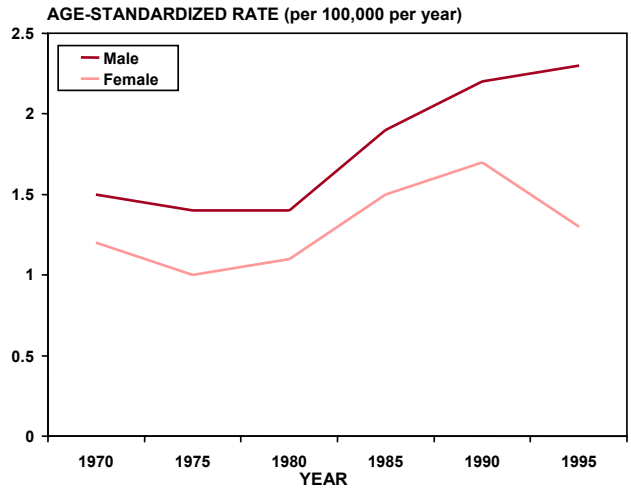
The previously observed increase in the incidence of lymphatic leukaemias has continued in 1993-97 among males. The incidence rate for all male residents was 1.5 times that in 1968-72. The age-specific curve is bimodal, reflecting acute lymphocytic leukaemias diagnosed in childhood. Rates among males remain about 1.5 times those of females, in keeping with the global pattern. There are no notable differences in overall risks between ethnic groups.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	139	0.9	2.3	-
Chinese	105	0.7	2.3	1.0
Malays	20	1.6	2.1	1.0 (0.6-1.5)
Indians	12	1.8	2.3	1.1 (0.6-2.0)

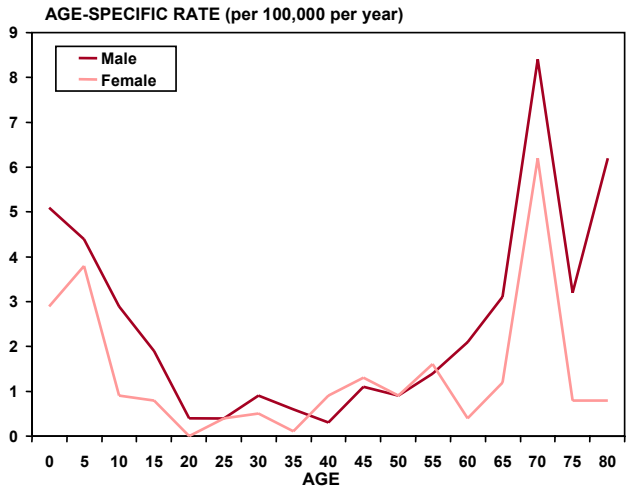
INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	80	0.5	1.3	-
Chinese	65	0.5	1.4	1.0
Malays	13	1.0	1.4	1.0 (0.6-1.9)
Indians	1	0.2	0.2	0.2 (0.0-1.1)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

Histology 1993-97	Number	%
Acute lymphoblastic leuk.	185	84.5
Chron. lymphocytic leuk.	28	12.8
Adult T-cell leukaemia	4	1.8
Lymphoid leukaemia	2	0.9
Total	219	100

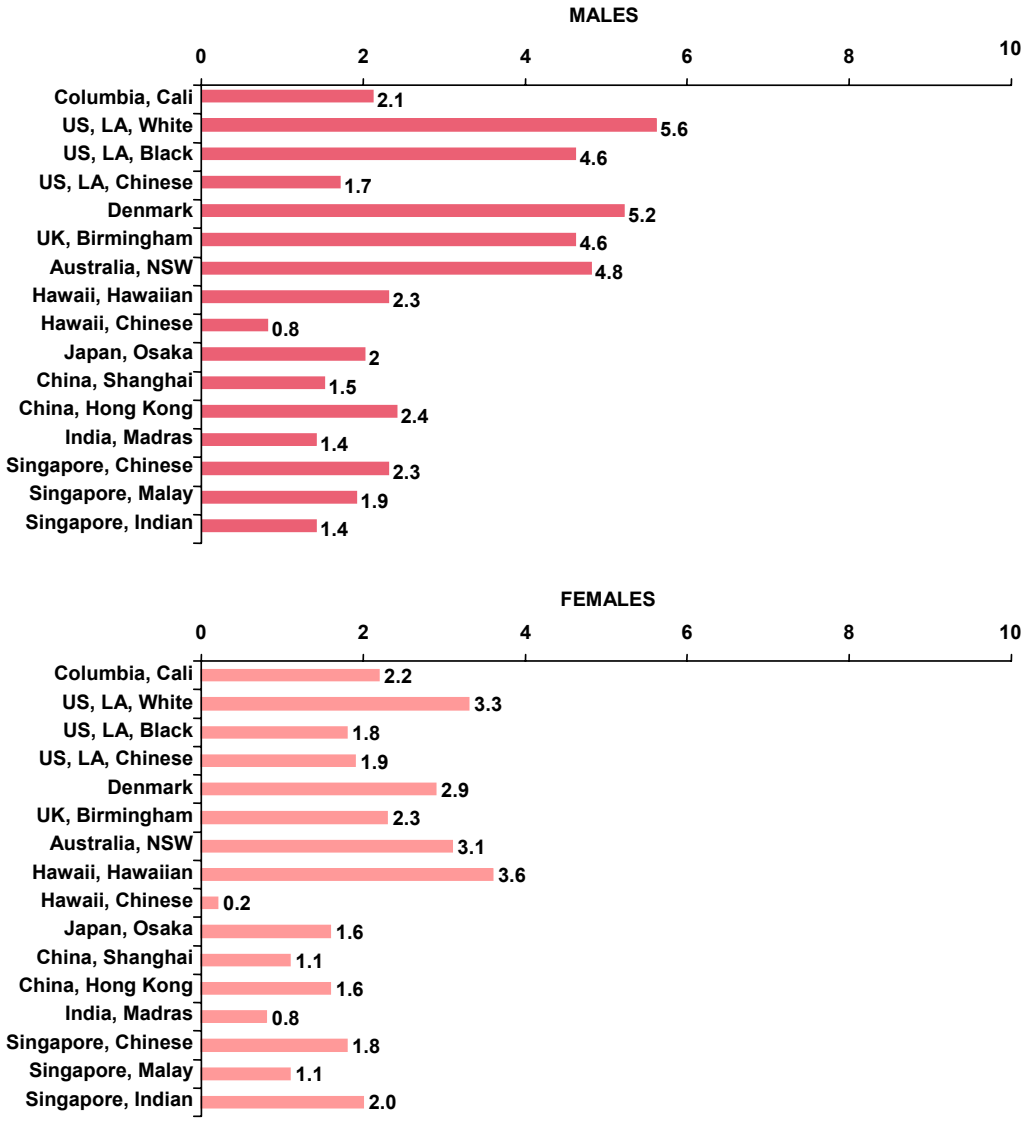


LYMPHATIC LEUKAEMIA: AGE- STANDARDIZED INCIDENCE BY SEX, 1968-97



LYMPHATIC LEUKAEMIA: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

LYMPHATIC LEUKAEMIA: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]



12.31 Myeloid leukaemia (ICD9: 205 / ICDO: C42)

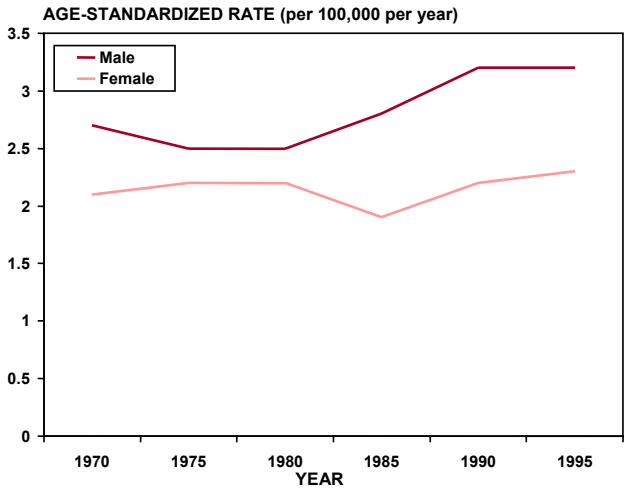
The incidence rates of this cancer have been fairly stable throughout the last thirty years, and there are no significant ethnic group differences. Rates are low in the young, and begin to increase after the age of 50.

INCIDENCE DATA (1993-1997)	Males			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	238	1.5	3.2	-
Chinese	186	1.3	3.3	1.0
Malays	36	2.9	4.1	1.2 (0.9-1.8)
Indians	14	2.1	2.3	0.6 (0.4-1.1)

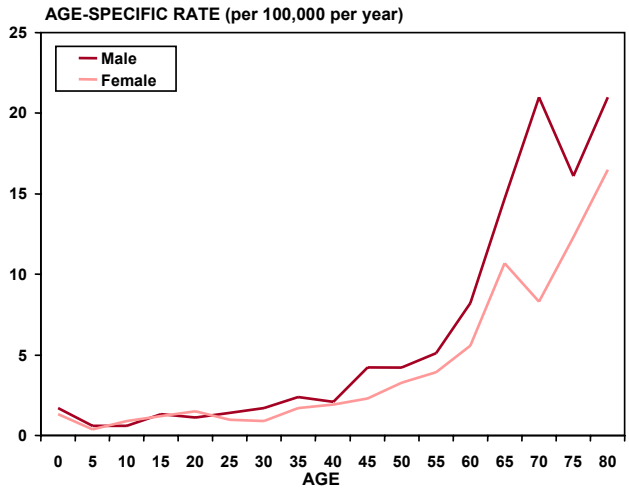
INCIDENCE DATA (1993-1997)	Females			
	No.	%[a]	ASR[b]	RR (95% CI)[c]
All residents	181	1.1	2.3	-
Chinese	147	1.1	2.4	1.0
Malays	21	1.6	2.4	1.0 (0.6-1.6)
Indians	9	1.6	1.8	0.8 (0.4-1.6)

[a] percentage of all cancers in this sex-ethnic group
[b] age-standardized (to 'World' population) rate per 100,000/year
[c] age-adjusted relative risk and 95% confidence interval for Malays and Indians (Chinese as reference group)

Histology 1993-97	Number	%
Acute myeloid leukaemia	288	68.7
Chronic myeloid leukaemia	109	26.0
Myeloid leukaemia, NOS	6	1.4
Acute promyelocytic leuk.	6	1.4
Myeloid sarcoma	5	1.2
Chro.myelomonocytic leuk.	3	0.7
Aleukemic myeloid leuk.	2	0.5
Total	419	100

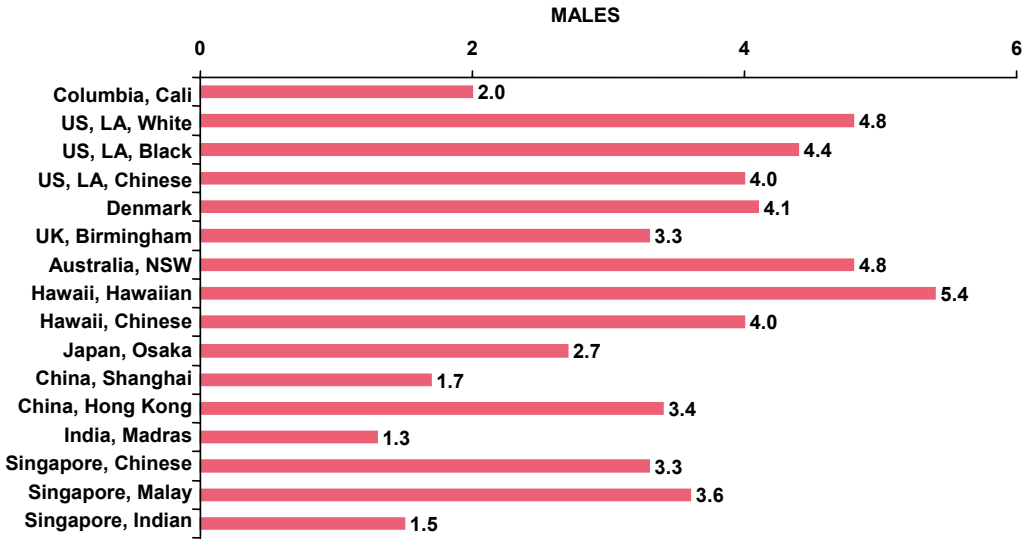


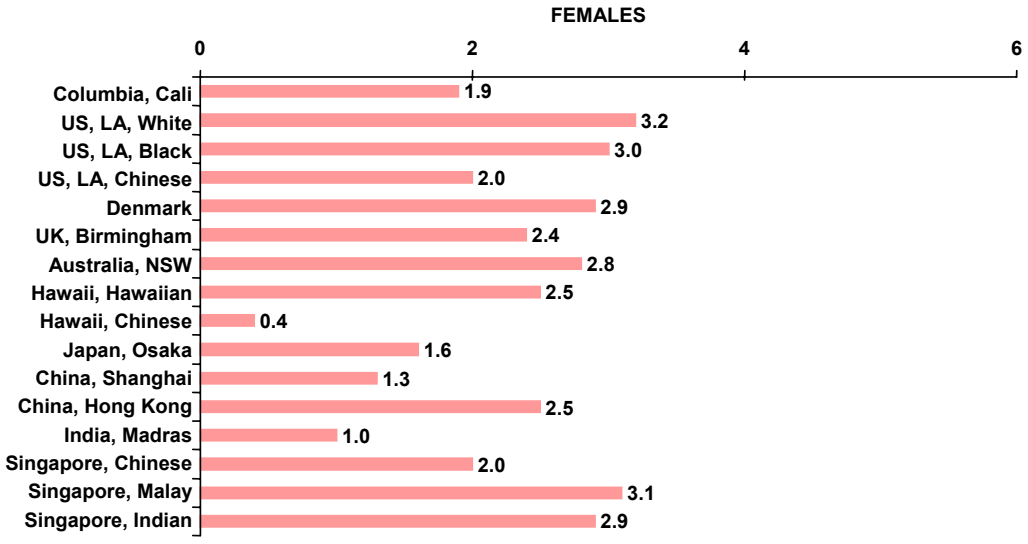
MYELOID LEUKAEMIA: AGE- STANDARDIZED INCIDENCE BY SEX, 1968-97



MYELOID LEUKAEMIA: AGE-SPECIFIC INCIDENCE BY SEX, 1993-97

MYELOID LEUKAEMIA: INTERNATIONAL COMPARISONS – AGE-STANDARDIZED RATES (per 100 000 per year) 1988-1992[14]





13 CANCER NOTIFICATIONS AMONG NON-RESIDENTS

Since this is the first report on cancer notifications among non-residents, the entire 30 year period from 1968-1997 will be presented. There were 29,633 non-resident cancer notifications from 1968-1997, comprising 19.2% of all notifications. The proportion of non-resident notifications ranged from a low of 11.4% for the period 1968-72 to a high of 21.9% in 1993-97.

The sources of notifications and basis of diagnosis for all non-residents are given in Table 13.1. Although doctors have been requested to notify all cancer cases irrespective of residential status, the proportions of spontaneous notifications by medical practitioners of cancers among non-residents are significantly less for every calendar-year period.

Among the non-resident notifications, the proportion with microscopic confirmation was very high, ranging from 82.4% to 94.9%. This was higher in every calendar year period compared to the residents (72.3% to 88.9%). Hence, although it is not possible to evaluate the coverage among non-residents, the quality of the available information is high.

Among males, cancers of the lung, nasopharynx, colo-rectum and skin are among the top five commonest sites. In the females, cancers of the breast, cervix, colo-rectum and lung are among the top cancers for the last 20 years. There were 1,904 notifications for cervical carcinoma-in-situ among non-residents, forming 26% of all cervical carcinoma-in-situ notifications.

Malaysians and Indonesians form the majority of non-resident cancer notifications; on the average, they form more than 50% of all non-resident notifications.

TABLE 13.1: ALL NON-RESIDENT CASES BY SOURCE, TYPE OF NOTIFICATION AND BASIS OF DIAGNOSIS, 1968-1997.

	1968-1972		1973-1977		1978-1982		1983-1987		1988-1992		1993-1997	
SOURCES OF CASES AND TYPES OF NOTIFICATIONS												
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Cases notified by medical pratitioners	1,237	79.4	1,632	73.0	3,419	77.5	4,690	77.7	4,641	71.8	6,841	76.6
- spontaneously	600	38.5	696	31.1	1,161	26.3	1,160	19.2	1,146	17.7	1,750	19.6
- on request	637	40.9	936	41.9	2,258	51.2	3,530	58.5	3,495	54.1	5,091	57.0
Cases registered by staff on the basis of:	322	20.6	604	27.0	995	22.5	1,348	22.3	1,819	28.2	2,085	23.4
- pathology reports	239	15.3	500	22.4	725	16.4	1,013	16.8	1,424	22.0	1,740	19.5
- hospital records	3	0.2	10	0.4	154	3.5	192	3.2	237	3.7	239	2.7
- death certificates	80	5.1	94	4.2	116	2.6	143	2.4	158	2.5	106	1.2
MOST VALID BASIS OF DIAGNOSIS												
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Microscopic confirmation	1,275	82.4	1,936	86.6	3,917	88.7	5,609	92.9	5,979	92.6	8,469	94.9
- necropsy	55	3.6	42	1.9	25	0.6	18	0.3	1	0.0	2	0.0
- biopsy of primary tumour	1,069	69.1	1,617	72.3	3,347	75.8	4,942	81.9	5,371	83.1	7,545	84.5
- biopsy of secondary tumour	102	6.6	182	8.1	352	8.0	432	7.2	399	6.2	577	6.5
- cytology or haematology	49	3.2	95	4.3	193	4.2	217	3.6	208	3.2	345	3.9
Other means of diagnosis	284	18.2	300	13.4	497	11.3	429	7.1	481	7.5	457	5.1
- surgical exploration or endoscopy	27	1.7	38	1.7	45	1.0	34	0.6	19	0.3	6	0.1
- x-ray examinations	85	5.5	63	2.8	134	3.0	132	2.2	77	1.2	102	1.1
- clinical or other examinations	172	11.0	199	8.9	318	7.3	263	4.4	385	6.0	349	3.9

Table 13.2 TEN MOST FREQUENT CANCER NOTIFICATIONS AMONG NON-RESIDENTS, MALES, 1968-1997.

	1968-1972			1973-1977			1978-1982		
	Site	No.	%	Site	No.	%	Site	No.	%
1	Lung	125	13.7	Lung	174	14.1	Lung	439	17.9
2	Nasopharynx	111	12.1	Nasopharynx	169	13.7	Nasopharynx	295	12.0
3	Skin[@]	106	11.6	Skin[@]	159	12.9	Colo-rectum	272	11.1
4	Stomach	93	10.2	Colo-rectum	123	9.9	Stomach	243	9.9
5	Colo-rectum	83	9.1	Stomach	123	9.9	Skin[@]	193	7.9
6	Liver	65	7.1	Liver	88	7.1	Liver	164	6.7
7	Oesophagus	49	5.4	Leukaemias	50	4.0	Leukaemias	87	3.5
8	Larynx	30	3.3	Larynx	40	3.2	Lymphomas	84	3.4
9	Lymphomas	23	2.5	Oesophagus	37	3.0	Bladder	70	2.9
10	Bladder	22	2.4	Lymphomas	33	2.7	Oesophagus	67	2.7
	Others	207		Others	241		Others	539	
	All	914	13.0*	All	1,237	14.4*	All	2,453	24.2*

	1983-1987			1988-1992			1993-1997		
	Site	No.	%	Site	No.	%	Site	No.	%
1	Lung	606	18.8	Lung	566	17.7	Lung	743	17.0
2	Colo-rectum	401	12.5	Colo-rectum	437	13.7	Colo-rectum	551	12.6
3	Nasopharynx	330	10.3	Stomach	298	9.3	Skin[@]	419	9.6
4	Stomach	285	8.9	Nasopharynx	294	9.2	Stomach	299	6.8
5	Skin[@]	244	7.6	Skin[@]	284	8.9	Liver	290	6.6
6	Liver	174	5.4	Lymphomas	149	4.7	Nasopharynx	289	6.6
7	Lymphomas	132	4.1	Liver	130	4.1	Prostate	283	6.5
8	Bladder	103	3.2	Prostate	119	3.7	Lymphomas	192	4.4
9	Prostate	95	3.0	Bladder	96	3.0	Leukaemias	162	3.7
10	Leukaemias	94	2.9	Leukaemias	94	2.9	Bladder	131	3.0
	Others	751		Others	734		Others	1,023	
	All	3,215	27.6*	All	3,201	23.6*	All	4,382	27.1*

[@]including melanoma
*Percentage of all notifications (residents and non-residents)

Table 13.3 TEN MOST FREQUENT CANCER NOTIFICATIONS AMONG NON-RESIDENTS, FEMALES, 1968-1997.

	1968-1972			1973-1977			1978-1982		
	Site	No.	%	Site	No.	%	Site	No.	%
1	Cervix	112	17.4	Breast	179	17.9	Cervix	316	16.1
2	Breast	92	14.3	Cervix	150	15.0	Breast	302	15.4
3	Colo-rectum	53	8.2	Colo-rectum	100	10.0	Colo-rectum	214	10.9
4	Skin@	49	7.6	Skin@	68	6.8	Lung	146	7.4
5	Nasopharynx	42	6.5	Stomach	65	6.5	Stomach	128	6.5
6	Stomach	37	5.7	Nasopharynx	61	6.1	Nasopharynx	98	5.0
7	Thyroid	35	5.4	Lung	52	5.2	Skin@	90	4.6
8	Lung	32	5.0	Ovary	38	3.8	Ovary	85	4.3
9	Corpus uteri	25	3.9	Corpus uteri	37	3.7	Thyroid	67	3.4
10	Oesophagus	23	3.6	Thyroid	33	3.3	Leukaemias	52	2.7
	Others	145		Others	216		Others	463	
	All	645	12.6*	All	999	16.1*	All	1,961	24.5*

	1983-1987			1988-1992			1993-1997		
	Site	No.	%	Site	No.	%	Site	No.	%
1	Breast	531	18.8	Breast	689	21.1	Breast	1,132	24.9
2	Cervix	454	16.1	Cervix	489	15.0	Cervix	591	13.0
3	Colo-rectum	260	9.2	Colo-rectum	327	10.0	Colo-rectum	438	9.6
4	Lung	191	6.8	Lung	224	6.9	Lung	287	6.3
5	Stomach	154	5.5	Ovary	172	5.3	Ovary	257	5.6
6	Skin@	136	4.8	Stomach	165	5.1	Skin@	237	5.2
7	Nasopharynx	126	4.5	Skin@	152	4.7	Corpus uteri	187	4.1
8	Ovary	109	3.9	Corpus uteri	115	3.5	Stomach	173	3.8
9	Thyroid	94	3.3	Nasopharynx	105	3.2	Thyroid	150	3.3
10	Corpus uteri	80	2.8	Thyroid	95	2.9	Lymphomas	146	3.2
	Others	688		Others	726		Others	956	
	All	2,823	28.2*	All	3,259	25.6*	All	4,554	29.0*

@including melanoma
*Percentage of all notifications (residents and non-residents)

Table 13.4 Number of cases of cervical carcinoma-in-situ reported in female non-residents by age groups, 1968-1997.

Age (years)	'68-'72	'73-'77	'78-'82	'83-'87	'88-'92	'93-'97	Total
0-4	0	0	0	0	0	0	0
5-9	0	0	0	0	0	0	0
10-14	0	0	0	0	0	0	0
15-19	0	0	0	0	0	1	1
20-24	1	6	3	3	17	13	43
25-29	11	29	14	36	35	52	177
30-34	34	41	45	67	100	106	393
35-39	13	44	55	86	120	118	436
40-44	15	29	45	78	82	100	349
45-49	5	17	40	40	50	61	213
50-54	5	8	18	19	32	20	102
55-59	0	2	8	9	10	20	49
60-64	0	4	4	5	10	17	40
65-69	0	0	4	6	8	7	25
70-74	0	1	2	3	1	4	11
75-79	0	0	0	1	4	3	8
>=80	1	1	0	0	3	1	6
Unkn.	0	6	1	3	24	17	51
Total	85	188	239	356	496	540	1,904

REFERENCES

1. Shanmugaratnam K., Lee H.P., Day N.E. Cancer Incidence in Singapore 1968-1977. IARC Scientific Publications No. 47, 1983.

2. Lee H.P., Day N.E., Shanmugaratnam K. Trends in Cancer Incidence in Singapore 1968-1982. IARC Scientific Publications No. 91, 1988.

3. Lee H.P., Chia K.S., Shanmugaratnam K. Cancer Incidence in Singapore 1983-1987. Singapore Cancer Registry, Report No. 3, 1992.

4. Chia K.S., Lee H.P., Seow A., Shanmugaratnam K. Trends in Cancer Incidence in Singapore 1968-1992. Singapore Cancer Registry, Report No. 4, 1996.

5. Doll R., Muir C., Waterhouse J.(eds). Cancer Incidence in Five Continents Volume II. Geneva: UICC (Union Internationale Contre le Cancer), 1970.

6. Khoo C.K. Census of Population 1980, Singapore. Release No. 1 and 2. Department of Statistics, Singapore, 1981.

7. Lau K.E. Singapore Census of Population 1990. Statistical Release 1: Demographic Characteristics. Department of Statistics, Singapore 1992.

8. Yearbook of Statistics, Singapore 1997. Department of Statistics, Singapore.

9. Percy C, Van Holten V, Muir C. International Classification of Diseases for Oncology, Second Edition, Geneva: WHO, 1990.

10. WHO. Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death. Volumes I and II, 9th Revision (1975) Geneva: WHO, 1977.

11. Percy C.L., Berg J.W., Thomas L.B.(eds). Manual of Tumour Nomenclature and Coding (MOTNAC), 1968 edition. American Cancer Society Inc., 1968.

12. Department of Statistics, unpublished data.

13. Registrar-General of Births and Deaths. Reports on the Registration of Births, Deaths and Marriages. Singapore: Government Printing Office, 1968 to 1997.

14. Parkin DM., Whelan SL., Ferlay J., Raymond L., Young J.(eds). Cancer Incidence in Five Continents Volume VII. IARC Scientific Publications No. 143, Lyon, 1997.

15. Huang J., Seow A., Shi C.Y., Lee H.P. Colorectal carcinoma among ethnic Chinese in Singapore. Trends in incidence rate by anatomic subsite from 1968 to 1992. Cancer 1999; 85:2519-25.

16. Seow A., Duffy S.W., Ng T.P., McGee M.A., Lee H.P. Lung cancer among Chinese females in Singapore 1968-1992: time trends, dialect group differences and implications for aetiology. Int. J Epidemiol 1998; 27:167-72.

17. Seow A., Lee J., Sng I., Fong C.M., Lee H.P. Non-Hodgkins' lymphoma in an Asian population: 1968-1992 time trends and ethnic differences in Singapore. Cancer 1996; 77:1899-904.

APPENDICES

APPENDIX A1

EXTRAPOLATION TECHNIQUE USED TO CONSTRUCT POPULATION DENOMINATORS FOR THE CALCULATION OF INCIDENCE RATES.

The incidence rates in this publication refer to Singapore citizens and permanent residents. Denominators for the period 1993 to 1997 were derived by interpolation using the 1980 and 1990 censuses. Denominators for the various sex and ethnic groups were obtained as follows:

a. The starting points are the 1980 and 1990 censuses tables by sex and 5-year age group for the various ethnic groups. Estimates were made of the population in single year of age by linear interpolation from the 5-year age-group figures. For example, for a single year of age A between 53 and 57 inclusive:

$$\text{Pop (age A)} = \frac{(57-A) \times P_1 + (A-52) \times P_2}{(57-52)}$$

where P_1 = 1/5(population in age-group 50-54)
and P_2 = 1/5(population in age-group 55-59)

The mid-points of the two intervals are taken as 52 and 57 rather than 52.5 and 57.5 since age is only given in terms of year.
For those below 3 years of age the single year population was estimated using the formula:

$$\text{Pop (age A)} = \frac{(3+A) \times P_1}{(7-2)}$$

where P_1 = 1/5(population in age-group 0-4)

b. The estimated populations by single year of age were corrected to ensure that within each 5-year age-group the sum of the five single year population equaled the original 5-year age-group population.

For example:

$$P'(i) = \frac{P(i) \times \text{population in age-group 50-54}}{P(50)+P(51)+P(52)+P(53)+P(54)}$$

c. The annual rate of change of the single year population over the ten year period is assumed to be constant. If this annual rate of change is denoted by *r*, then

$$P(60)_{1990} = P(50)_{1980} \times (1+r)^{10}$$

where $P(60)_{1990}$ = corrected 1990 60-year old population
and $P(50)_{1980}$ = corrected 1980 50-year old population.
Hence the 1993 53-year old population is given by the formula:

$$P(53)_{1993} = P(50)_{1980} \times \{P(60)_{1990}/P(50)_{1980}\}^{0.3}$$

This rate of change is applied for forward extrapolation from 1993 to 1997.

APPENDIX A2
RESIDENT POPULATION FROM 1980 AND 1990 CENSUSES

AGE GROUP	ALL RESIDENTS				CHINESE RESIDENTS			
	Males		Females		Males		Females	
	1980	1990	1980	1990	1980	1990	1980	1990
0-4	96,694	115,687	89,146	107,716	75,750	81,607	69,607	75,386
5-9	112,015	106,379	104,615	98,599	87,647	78,017	81,694	71,960
10-14	116,841	102,371	111,305	95,521	88,184	80,720	83,297	75,285
15-19	139,250	114,459	131,286	106,953	104,106	89,729	97,634	83,949
20-24	139,868	118,404	132,310	113,877	108,437	89,115	102,358	85,736
25-29	118,027	143,632	114,768	140,049	94,537	108,111	91,242	105,542
30-34	97,817	149,355	96,433	143,677	79,979	116,690	78,534	112,798
35-39	62,317	128,726	62,379	123,999	51,484	104,345	51,196	99,967
40-44	62,133	103,262	61,956	100,713	50,135	85,038	49,349	82,646
45-49	52,117	64,257	50,845	63,299	39,747	53,242	40,065	52,514
50-54	46,536	59,134	43,638	58,378	32,798	47,751	34,713	47,255
55-59	35,806	49,698	33,641	50,103	24,394	38,181	27,378	39,698
60-64	29,162	40,938	29,287	41,872	21,415	29,177	25,015	33,782
65-69	23,377	29,264	25,045	30,465	19,001	20,374	22,240	25,127
70-74	15,207	20,452	17,546	24,508	12,689	15,321	15,831	21,289
75-79	7,750	13,861	10,570	18,408	6,539	11,448	9,703	16,632
80+	4,094	10,180	8,344	16,919	3,417	8,700	7,701	15,663
Total	1,159,011	1,370,059	1,123,114	1,335,056	900,259	1,057,566	887,557	1,045,229

APPENDIX A2
RESIDENT POPULATION FROM 1980 AND 1990 CENSUSES

AGE GROUP	MALAY RESIDENTS				INDIAN RESIDENTS			
	Males		Females		Males		Females	
	1980	1990	1980	1990	1980	1990	1980	1990
0-4	15,029	23,150	13,907	22,103	4,940	9,025	4,730	8,435
5-9	17,398	19,315	16,355	18,123	6,046	7,780	5,717	7,282
10-14	20,032	14,349	19,742	13,277	7,704	6,390	7,359	6,087
15-19	24,638	16,457	23,620	15,304	9,388	7,357	8,939	6,883
20-24	21,256	19,605	20,517	18,761	9,120	8,822	8,331	8,342
25-29	15,633	23,756	15,890	22,497	6,894	10,596	6,553	10,463
30-34	11,400	20,721	11,622	19,410	5,445	10,660	5,229	9,877
35-39	6,328	14,981	7,184	14,805	3,888	8,279	3,366	7,993
40-44	7,407	10,411	8,115	10,614	3,947	6,755	3,738	6,409
45-49	6,504	5,694	7,212	6,416	5,201	4,715	2,954	3,787
50-54	6,991	6,414	6,003	6,587	6,120	4,343	2,356	3,854
55-59	5,844	5,777	4,243	6,742	5,008	5,122	1,564	3,026
60-64	3,995	5,648	2,962	5,274	3,362	5,570	949	2,252
65-69	2,291	4,341	1,902	3,470	1,834	4,093	612	1,419
70-74	1,412	2,554	1,220	2,129	931	2,299	311	768
75-79	724	1,198	548	1,150	390	1,047	162	397
80+	391	824	403	799	217	531	99	249
Total	167,273	195,195	161,445	187,461	80,435	103,384	62,969	87,523

APPENDIX B1
ALL CASES BY SOURCE, TYPE OF NOTIFICATION AND BASIS OF DIAGNOSIS, 1993-1997.

SOURCES OF CASES AND TYPES OF NOTIFICATIONS	No.	%
Cases notified by medical practitioners	23,339	73.3
- spontaneously	9,551	30.0
- on request	13,789	43.3
Cases registered by staff on the basis of:	8,490	26.7
- pathology reports	6,574	20.7
- hospital records	1,587	5.0
- death certificates	329	1.0

MOST VALID BASIS OF DIAGNOSIS	No.	%
Microscopic confirmation	28,314	88.9
- necropsy	5	0.0
- biopsy of primary tumour	25,750	80.9
- biopsy of secondary tumour	1,251	3.9
- cytology or haematology	1,308	4.1
Other means of diagnosis	3,515	11.1
- surgical exploration or endoscopy	54	0.2
- x-ray examinations	1,170	3.7
- clinical or other examinations	2,291	7.2

APPENDIX B2
MOST VALID BASIS OF DIAGNOSIS FOR SELECTED SITES IN MALES, 1993-1997.

SITE	Necrop.	Biop.1°	Biop. 2°	Cytol.	Explor.	X-ray	Clinical	TOTAL
Tongue	0	92	1	1	0	0	0	94
Salivary gland	0	52	3	2	0	0	1	58
Mouth	0	107	0	0	0	0	2	109
Oropharynx	0	52	2	0	0	0	0	54
Nasopharynx	0	1,092	12	3	0	1	13	1,121
Hypopharynx	0	93	5	2	0	0	1	101
Oesophagus	0	366	0	1	0	1	21	389
Stomach	1	1,336	23	4	6	10	55	1,435
Colon	0	1,314	33	6	2	15	60	1,430
Rectum	0	1,106	9	2	3	2	18	1,140
Liver	1	329	19	19	5	361	562	1,296
Gall bladder, etc.	0	90	10	7	0	20	18	145
Pancreas	0	74	49	8	5	56	118	310
Nose, sinuses, etc.	0	62	0	0	0	1	0	63
Larynx	0	340	1	1	1	0	11	354
Bronchus, trachea	0	1,909	301	451	5	196	296	3,158
Bone	0	46	2	0	0	0	1	49
Connective tiss.	0	94	6	1	0	0	5	106
Melanoma of skin	0	26	4	0	0	0	0	30
Skin, others	0	652	4	1	0	0	1	658
Prostate	0	851	10	1	0	3	38	903
Testis	0	87	0	1	0	3	1	92
Penis	0	64	1	0	0	0	0	65
Bladder	0	459	0	5	1	3	11	479
Other urinary	0	279	21	4	0	25	31	360
Eye	0	10	0	0	0	0	0	10
Brain nervous sys.	0	148	3	1	1	10	16	179
Thyroid	0	132	5	2	0	1	2	142
Non-Hodgkin	0	509	1	5	0	0	0	515
Hodgkin disease	0	52	0	0	0	0	0	52
Leukaemia	1	356	0	133	0	0	2	492
Other and unsp.	0	218	9	22	0	1	12	262
ALL	3	12,495	725	718	30	759	1,420	16,150

APPENDIX B3
MOST VALID BASIS OF DIAGNOSIS FOR SELECTED SITES IN FEMALES, 1993-1997.

SITE	Necrop.	Biop. 1°	Biop. 2°	Cytol.	Explor.	X-ray	Clinical	TOTAL
Tongue	0	53	0	0	0	0	0	53
Salivary gland	0	48	0	1	0	0	0	49
Mouth	0	50	0	0	0	0	1	51
Oropharynx	0	13	0	1	0	1	0	15
Nasopharynx	0	389	3	0	0	0	3	395
Hypopharynx	0	7	0	0	0	0	0	7
Oesophagus	1	102	0	1	0	3	10	117
Stomach	0	838	25	4	2	11	47	927
Colon	0	1,300	21	6	4	21	74	1,426
Rectum	0	869	4	0	4	2	24	903
Liver	0	79	3	7	4	109	176	378
Gall bladder, etc.	0	119	9	7	3	11	26	175
Pancreas	0	56	41	7	3	60	77	244
Nose, sinuses, etc.	0	25	0	0	0	0	0	25
Larynx	0	31	0	1	0	0	0	32
Bronchus, trachea	0	761	142	262	2	114	162	1,443
Bone	0	29	1	0	0	0	2	32
Connective tissues	0	72	6	1	0	1	4	84
Melanoma of skin	0	38	1	0	0	0	0	39
Skin, others	0	648	2	0	0	0	5	655
Female breast	0	3,445	46	44	0	1	38	3,574
Cervix uteri	0	1,095	5	13	0	0	13	1,126
Chorioepithelioma	0	10	0	0	0	0	0	10
Corpus uteri	1	588	3	2	0	0	12	606
Ovary, etc.	0	807	26	18	0	8	21	880
Other fem. genital	0	77	1	0	0	0	0	78
Bladder	0	132	2	4	2	0	3	143
Other urinary	0	141	5	4	0	13	12	175
Eye	0	6	0	0	0	0	0	6
Brain nervous sys.	0	110	0	2	0	4	28	144
Thyroid	0	454	13	6	0	2	9	484
Non-Hodgkin	0	332	0	4	0	0	0	336
Hodgkin disease	0	32	0	0	0	0	0	32
Lymphatic	0	250	0	110	0	0	2	362
Other and unsp.	0	249	167	85	0	50	122	673
ALL	2	13,255	526	590	24	411	871	15,679

SINGAPORE: ALL RESIDENTS 1993-1997, MALES									NUMBER OF CASES BY AGE GROUP (YEARS)											Appendix C1
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	140
Tongue	94	-	-	-	-	-	1	1	-	3	10	9	8	11	17	9	10	10	5	141
Salivary gland	58	-	-	-	-	-	2	1	3	5	9	9	4	4	3	7	4	2	5	142
Mouth	109	-	-	-	-	-	1	-	2	2	4	4	11	9	19	12	17	13	15	143-5
Oropharynx	54	-	-	-	-	-	-	-	1	1	2	3	8	6	14	9	8	-	2	146
Nasopharynx	1,121	1	-	-	1	3	5	20	62	152	173	199	137	133	100	63	33	23	16	147
Hypopharynx	101	-	-	-	-	-	-	-	-	-	2	8	12	8	16	18	13	12	12	148
Oesophagus	389	-	-	-	-	-	-	-	-	1	7	18	22	47	46	68	68	49	63	150
Stomach	1,435	1	-	-	1	1	3	4	11	20	34	51	80	148	187	247	216	188	243	151
Small intestines	50	-	-	-	-	-	1	-	2	3	2	3	3	8	4	10	6	3	5	152
Colon	1,430	-	-	-	-	1	3	5	18	24	62	88	82	139	203	233	217	176	179	153
Rectum	1,140	-	-	-	-	-	1	5	10	28	58	72	92	155	147	159	177	99	137	154
Liver	1,296	1	4	2	2	1	4	5	13	32	69	86	92	151	177	219	168	137	133	155
Gall bladder, etc	145	-	-	-	-	-	-	-	2	3	4	11	15	10	14	27	26	12	21	156
Pancreas	310	-	1	-	-	-	-	2	2	3	9	27	24	22	48	50	48	43	31	157
Nose, sinuses, etc	63	-	-	-	-	-	-	-	1	4	3	6	3	9	13	8	6	4	6	160
Larynx	354	-	-	-	-	-	1	-	-	2	6	13	24	46	54	62	59	44	43	161
Bronchus, trachea	3,158	-	-	-	1	-	-	5	8	39	75	93	164	291	439	634	555	417	437	162
Pleura	22	-	-	-	-	-	-	-	1	-	2	2	2	2	4	5	2	2	-	163
Thymus, heart	43	-	-	1	1	4	7	1	3	4	2	5	1	2	8	2	1	-	1	164
Bone	49	-	-	1	3	4	7	3	6	4	6	3	4	3	-	3	2	-	-	170
Connective tissues	106	-	2	2	1	5	7	4	8	9	11	8	5	12	12	5	9	3	3	171
Melanoma of skin	30	-	-	-	-	-	-	1	3	1	2	3	1	1	1	6	2	3	6	172
Skin, others	658	1	1	-	1	1	2	5	10	19	33	45	47	63	69	81	82	68	130	173
Male breast	17	-	-	-	-	-	-	-	-	1	5	2	2	1	-	2	1	2	1	175
Prostate	903	-	-	-	-	-	-	-	-	1	3	-	9	38	82	157	186	184	243	185
Testis	92	-	11	-	-	3	5	9	16	13	13	6	4	3	5	2	2	-	-	186
Penis	65	-	-	-	-	-	-	-	1	-	3	4	5	7	10	15	7	5	8	187
Bladder	479	-	-	-	-	-	-	1	3	8	18	22	26	45	62	77	69	72	76	188
Kidney & Oth. Urinary	360	-	4	2	1	-	-	1	4	8	24	38	34	41	48	52	50	20	33	189
Eye	10	-	6	-	-	-	-	-	-	-	1	-	-	2	-	-	1	-	-	190
Brain,nervous system	179	-	10	21	10	5	10	9	12	13	9	11	11	11	13	11	9	8	6	191-2
Thyroid	142	-	-	-	1	2	5	5	14	12	19	12	11	17	12	12	6	7	7	193
Other endocrine	42	-	8	4	5	3	1	1	1	2	4	1	2	2	1	2	2	2	1	194
Non-Hodgkin's lymphoma	515	-	5	5	6	6	7	18	30	30	40	45	36	49	54	46	49	36	53	200,2
Hodgkin's disease	52	-	-	1	2	4	8	5	3	2	3	7	4	4	1	4	2	2	-	201
Multiple myeloma	87	-	-	-	-	-	-	1	2	-	4	8	11	11	10	14	6	10	10	203
Lymphatic leukaemia	139	-	32	23	14	10	2	3	8	6	2	4	3	4	5	5	10	3	5	204
Myeloid leukaemia	238	-	11	3	3	7	6	11	16	22	14	15	14	15	20	24	25	15	17	205
Monocytic leukaemia	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	206
Other leukaemia	2	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	207
Leukaemia, unspecified	111	-	-	-	1	2	5	3	4	3	7	5	6	8	14	19	15	9	9	208
Others and unspecified	499	-	5	-	-	3	3	4	9	11	19	18	37	43	60	83	68	60	76	OTH
ALL	16,150	4	101	66	54	65	97	133	289	491	773	964	1,056	1,581	1,992	2,462	2,238	1,746	2,038	ALL

SINGAPORE: ALL RESIDENTS 1993-1997, FEMALES	NUMBER OF CASES BY AGE GROUP (YEARS)																		Appendix C2
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	140
Tongue	53	-	-	-	-	-	-	-	5	7	3	4	3	4	5	4	2	7	9	141
Salivary gland	49	-	-	-	1	1	2	1	5	5	3	5	7	6	3	1	5	2	2	142
Mouth	51	-	-	-	-	1	-	-	-	4	1	2	1	9	8	5	8	6	6	143-5
Oropharynx	15	-	-	-	-	-	-	-	-	3	1	-	1	1	3	2	2	1	1	146
Nasopharynx	395	1	-	-	-	1	2	11	27	62	63	57	47	45	25	20	11	15	8	147
Hypopharynx	7	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	4	1	148
Oesophagus	117	-	-	-	-	-	-	-	-	-	-	-	8	9	7	13	25	25	30	150
Stomach	927	-	-	-	-	1	3	8	10	30	33	52	49	72	83	119	138	137	192	151
Small intestines	49	-	-	-	-	1	-	-	-	5	3	4	6	2	2	10	6	4	6	152
Colon	1,426	1	-	-	-	1	2	8	14	41	48	82	84	137	148	201	213	185	261	153
Rectum	903	-	-	-	-	-	3	1	14	22	38	48	61	84	118	140	110	127	137	154
Liver	378	-	1	-	1	1	1	4	4	10	7	13	12	21	46	60	61	57	79	155
Gall bladder, etc	175	-	-	-	-	-	-	2	1	4	6	12	11	13	24	28	21	23	30	156
Pancreas	244	2	-	-	-	1	-	1	1	2	6	4	15	24	28	40	38	39	43	157
Nose, sinuses, etc	25	-	-	-	-	-	-	1	-	3	3	2	3	3	3	2	2	2	1	160
Larynx	32	-	-	-	-	-	-	-	-	-	2	1	1	3	3	9	7	3	3	161
Bronchus, trachea	1,443	-	-	-	1	-	3	4	9	22	43	70	72	132	120	221	225	217	304	162
Pleura	8	-	-	-	-	-	-	-	-	1	1	-	1	1	1	-	-	1	2	163
Thymus, heart	25	-	-	-	1	-	-	1	3	3	4	4	2	2	4	-	1	-	-	164
Bone	32	-	-	2	3	3	2	4	1	5	1	1	2	3	1	1	-	1	2	170
Connective tissues	84	-	2	2	-	5	3	3	10	5	9	6	3	6	5	8	3	5	9	171
Melanoma of skin	39	-	-	-	-	1	1	2	2	5	1	1	2	2	3	7	2	6	4	172
Skin, others	655	-	-	1	1	5	2	7	11	20	22	33	32	45	55	62	71	90	198	173
Female breast	3,574	-	-	-	1	1	6	17	149	314	539	657	470	426	298	259	173	122	142	174
Cervix uteri	1,126	-	-	-	-	-	-	10	44	109	147	144	156	153	97	91	66	55	54	180
Chorionepithelioma	10	-	-	-	-	-	-	1	5	-	3	1	-	-	-	-	-	-	-	181
Corpus uteri	606	1	-	-	-	-	3	2	19	44	49	99	85	91	77	54	41	29	12	182
Ovary, etc	880	-	2	5	9	15	34	40	57	73	90	135	102	77	64	66	48	28	35	183
Other fem. genital	78	-	-	-	-	-	-	-	1	1	4	6	5	10	6	8	15	11	11	184
Bladder	143	-	-	-	-	-	2	2	-	1	2	7	7	10	9	13	27	24	39	188
Kidney & Oth. Urinary	175	-	3	1	-	1	-	1	5	12	7	7	15	16	29	26	17	17	18	189
Eye	6	-	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	144	-	14	13	12	3	3	7	10	9	10	8	5	6	11	9	14	5	5	191-2
Thyroid	484	1	-	1	4	10	20	36	65	52	70	49	35	35	23	27	23	17	16	193
Other endocrine	29	-	7	1	3	-	1	-	2	1	2	4	2	1	1	-	1	2	1	194
Non-Hodgkin's lymphoma	336	-	2	1	2	3	10	7	22	29	21	23	25	32	33	31	32	28	35	200,2
Hodgkin's disease	32	-	1	-	-	5	5	2	4	4	-	4	-	-	3	1	1	1	1	201
Multiple myeloma	81	-	-	-	-	-	-	-	1	1	4	5	6	8	9	13	11	12	11	203
Lymphatic leukaemia	80	-	17	18	4	4	-	3	4	1	6	1	3	5	1	2	9	1	1	204
Myeloid leukaemia	181	-	8	2	4	6	8	8	8	15	12	8	11	12	14	18	12	15	20	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	207
Leukaemia, unspecified	99	-	5	1	-	1	2	3	2	6	8	3	3	1	8	11	12	14	19	208
Others and unspecified	480	-	7	1	4	1	1	3	3	21	25	26	24	34	53	62	61	63	91	OTH
ALL	15,679	6	73	51	51	72	119	200	518	953	1,298	1,588	1,377	1,541	1,431	1,645	1,514	1,402	1,840	ALL

SINGAPORE: CHINESE, ALL RESIDENTS 1993-1997, MALES	NUMBER OF CASES BY AGE GROUP (YEARS)																		Appendix C3
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	140
Tongue	70	-	-	-	-	-	1	1	-	1	9	8	6	9	13	7	5	7	3	141
Salivary gland	50	-	-	-	-	-	2	1	2	4	8	9	4	4	2	6	3	2	3	142
Mouth	83	-	-	-	-	-	1	-	1	2	2	3	9	7	16	10	11	8	13	143-5
Oropharynx	42	-	-	-	-	-	-	-	1	1	2	3	7	4	11	5	6	-	2	146
Nasopharynx	1,044	1	-	-	1	3	4	17	57	145	162	189	130	126	91	57	28	19	14	147
Hypopharynx	91	-	-	-	-	-	-	-	-	-	2	7	10	8	15	18	11	10	10	148
Oesophagus	357	-	-	-	-	-	-	-	-	-	7	18	20	46	41	61	62	43	59	150
Stomach	1,317	1	-	-	-	1	3	2	9	18	31	46	70	143	171	224	198	168	232	151
Small intestines	41	-	-	-	-	-	1	-	2	3	2	2	2	6	3	8	6	3	3	152
Colon	1,297	-	-	-	-	1	1	5	13	20	53	83	71	122	184	212	196	162	174	153
Rectum	1,015	-	-	-	-	-	1	5	8	24	51	66	85	138	137	139	150	87	124	154
Liver	1,114	1	3	2	2	1	2	3	11	27	62	76	79	133	159	178	140	121	114	155
Gall bladder, etc	120	-	-	-	-	-	-	-	2	2	4	10	11	7	14	19	20	12	19	156
Pancreas	268	-	1	-	-	-	-	-	1	2	8	25	18	18	42	43	44	40	26	157
Nose, sinuses, etc	57	-	-	-	-	-	-	-	1	4	3	6	3	8	13	8	4	3	4	160
Larynx	293	-	-	-	-	-	-	-	-	1	3	11	21	39	47	54	44	35	38	161
Bronchus, trachea	2,812	-	-	-	1	-	-	4	5	36	60	80	145	257	397	566	481	368	412	162
Pleura	19	-	-	-	-	-	-	-	1	-	-	2	2	2	4	5	2	1	-	163
Thymus, heart	34	-	-	1	1	2	7	1	3	4	1	4	1	2	5	1	-	-	1	164
Bone	39	-	-	-	1	3	6	2	6	4	4	1	4	3	-	3	2	-	-	170
Connective tissues	84	-	1	1	-	4	7	3	7	8	7	7	4	12	10	3	7	-	3	171
Melanoma of skin	27	-	-	-	-	-	-	1	3	1	2	3	1	1	1	4	2	2	6	172
Skin, others	573	1	1	-	1	1	1	4	8	15	24	40	42	60	56	70	74	61	114	173
Male breast	14	-	-	-	-	-	-	-	-	-	4	2	2	1	-	2	1	1	1	175
Prostate	718	-	-	-	-	-	-	-	-	1	3	-	7	26	63	120	151	145	202	185
Testis	70	-	6	-	-	1	4	7	12	11	11	4	4	2	4	2	2	-	-	186
Penis	57	-	-	-	-	-	-	-	1	-	3	4	5	6	8	13	6	4	7	187
Bladder	393	-	-	-	-	-	-	1	2	6	12	18	24	40	49	62	56	58	65	188
Kidney & Oth. Urinary	316	-	3	1	1	-	-	-	4	7	20	32	28	40	43	46	44	18	29	189
Eye	7	-	4	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	190
Brain,nervous system	138	-	7	12	7	5	8	7	10	12	8	8	8	9	11	7	8	7	4	191-2
Thyroid	116	-	-	-	1	1	4	5	11	12	15	11	8	13	11	10	4	5	5	193
Other endocrine	36	-	8	2	4	1	1	1	1	2	3	1	2	2	1	2	2	2	1	194
Non-Hodgkin's lymphoma	408	-	4	3	3	4	4	12	24	25	31	39	26	40	43	35	39	28	48	200,2
Hodgkin's disease	30	-	-	1	2	3	5	2	1	1	-	7	2	2	-	2	-	2	-	201
Multiple myeloma	56	-	-	-	-	-	-	-	-	-	1	5	6	7	8	10	4	5	10	203
Lymphatic leukaemia	105	-	26	14	8	7	2	2	7	4	2	4	3	2	5	4	7	3	5	204
Myeloid leukaemia	186	-	7	3	1	6	5	9	13	18	13	13	12	12	14	19	18	9	14	205
Monocytic leukaemia	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	206
Other leukaemia	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	207
Leukaemia, unspecified	82	-	-	1	-	2	4	2	3	3	4	3	5	7	10	13	10	8	7	208
Others and unspecified	429	-	3	-	-	1	3	4	9	7	18	15	30	35	51	73	57	50	73	OTH
ALL	14,013	4	75	41	34	47	77	101	239	431	656	865	917	1,400	1,753	2,121	1,907	1,500	1,845	ALL

SINGAPORE: CHINESE, ALL RESIDENTS 1993-1997, FEMALES	NUMBER OF CASES BY AGE GROUP (YEARS)																		Appendix C4
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	140
Tongue	43	-	-	-	-	-	-	-	3	6	2	4	-	4	4	2	2	7	9	141
Salivary gland	43	-	-	-	1	1	2	1	5	5	3	3	6	4	3	1	5	1	2	142
Mouth	30	-	-	-	-	-	-	-	-	4	1	-	-	3	7	1	4	5	5	143-5
Oropharynx	10	-	-	-	-	-	-	-	-	2	1	-	-	-	3	1	2	-	1	146
Nasopharynx	375	1	-	-	-	1	2	11	25	58	62	55	43	44	22	18	10	15	8	147
Hypopharynx	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	148
Oesophagus	104	-	-	-	-	-	-	-	-	-	-	-	6	7	5	11	23	24	28	150
Stomach	862	-	-	-	-	1	3	6	8	25	30	47	43	68	80	108	125	133	185	151
Small intestines	45	-	-	-	-	1	-	-	-	5	3	4	6	2	1	9	5	3	6	152
Colon	1,300	1	-	-	-	1	1	6	12	31	45	67	76	119	133	177	192	183	256	153
Rectum	820	-	-	-	-	-	3	1	13	19	33	38	55	75	104	128	102	117	132	154
Liver	342	-	1	-	-	1	-	3	3	10	4	11	11	18	40	54	54	54	78	155
Gall bladder, etc	144	-	-	-	-	-	-	1	-	3	5	8	9	11	19	20	19	19	30	156
Pancreas	214	2	-	-	-	1	-	1	1	1	6	2	10	22	25	35	31	37	40	157
Nose, sinuses, etc	23	-	-	-	-	-	-	-	-	3	2	2	3	3	3	2	2	2	1	160
Larynx	28	-	-	-	-	-	-	-	-	-	2	1	1	3	2	7	6	3	3	161
Bronchus, trachea	1,335	-	-	-	-	-	2	3	7	16	36	61	67	116	112	209	206	207	293	162
Pleura	7	-	-	-	-	-	-	-	-	1	1	-	1	1	-	-	-	1	2	163
Thymus, heart	22	-	-	-	-	-	-	1	3	3	3	3	2	2	4	-	1	-	-	164
Bone	27	-	-	2	3	3	1	2	1	4	1	1	1	3	1	1	-	1	2	170
Connective tissues	70	-	2	1	-	5	3	2	7	4	8	5	2	6	3	7	2	5	8	171
Melanoma of skin	29	-	-	-	-	1	-	2	1	5	1	-	2	1	3	4	-	6	3	172
Skin, others	587	-	-	1	-	2	2	5	11	14	16	28	28	37	48	59	62	83	191	173
Female breast	2,984	-	-	-	-	1	4	10	107	255	445	558	412	362	231	220	143	108	128	174
Cervix uteri	996	-	-	-	-	-	-	10	37	91	136	128	140	129	86	78	58	51	52	180
Chorionepithelioma	8	-	-	-	-	-	-	-	5	-	2	1	-	-	-	-	-	-	-	181
Corpus uteri	499	1	-	-	-	-	3	2	10	33	43	86	74	79	58	42	32	25	11	182
Ovary, etc	707	-	-	4	7	15	28	33	42	55	74	108	81	62	51	48	39	27	33	183
Other fem. genital	71	-	-	-	-	-	-	-	1	1	4	5	5	8	5	8	14	9	11	184
Bladder	127	-	-	-	-	-	2	2	-	1	2	6	7	7	8	11	23	21	37	188
Kidney & Oth. Urinary	141	-	1	1	-	1	-	1	2	10	6	5	12	14	21	21	14	15	17	189
Eye	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	114	-	9	5	7	1	3	5	8	7	10	8	4	6	9	8	14	5	5	191-2
Thyroid	399	1	-	1	3	9	16	27	50	42	58	37	30	35	19	25	21	10	15	193
Other endocrine	25	-	6	1	2	-	1	-	2	1	2	3	2	1	1	-	1	1	1	194
Non-Hodgkin's lymphoma	285	-	2	1	2	2	7	5	20	25	18	17	23	29	24	26	27	23	34	200,2
Hodgkin's disease	22	-	-	-	-	3	4	1	2	3	-	3	-	-	2	1	1	1	1	201
Multiple myeloma	62	-	-	-	-	-	-	-	-	1	3	4	5	5	4	10	9	11	10	203
Lymphatic leukaemia	65	-	11	13	3	4	-	3	4	1	5	1	3	5	-	2	8	1	1	204
Myeloid leukaemia	147	-	6	2	4	5	6	7	8	12	4	7	8	10	11	14	12	13	18	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	207
Leukaemia, unspecified	75	-	4	1	-	1	2	2	2	3	6	1	1	-	5	9	10	11	17	208
Others and unspecified	402	-	5	1	2	1	1	2	2	14	17	23	22	25	44	48	52	58	85	OTH
ALL	13,597	6	47	35	34	61	96	155	402	774	1,100	1,341	1,201	1,326	1,201	1,426	1,331	1,300	1,761	ALL

SINGAPORE: MALAY, ALL RESIDENTS 1993-1997, MALES			NUMBER OF CASES BY AGE GROUP (YEARS)																	Appendix C5
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	7	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-	3	-	1	141
Salivary gland	5	-	-	-	-	-	-	-	1	1	1	-	-	-	-	1	1	-	-	142
Mouth	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	143-5
Oropharynx	4	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	-	-	146
Nasopharynx	61	-	-	-	-	-	1	3	4	7	9	9	4	6	7	3	5	2	1	147
Hypopharynx	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	148
Oesophagus	9	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	3	3	1	150
Stomach	53	-	-	-	1	-	-	1	-	2	-	2	5	1	7	10	12	9	3	151
Small intestines	2	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	152
Colon	80	-	-	-	-	-	2	-	5	4	6	3	4	8	12	14	11	9	2	153
Rectum	82	-	-	-	-	-	-	-	2	2	3	6	4	14	4	16	17	6	8	154
Liver	123	-	-	-	-	-	2	1	2	4	6	7	12	14	11	31	16	5	12	155
Gall bladder, etc	13	-	-	-	-	-	-	-	-	-	-	-	4	2	-	3	2	-	2	156
Pancreas	23	-	-	-	-	-	-	2	1	-	1	2	3	3	2	3	1	1	4	157
Nose, sinuses, etc	3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	160
Larynx	21	-	-	-	-	-	-	-	-	1	1	-	-	4	3	3	3	3	3	161
Bronchus, trachea	241	-	-	-	-	-	-	1	2	2	10	9	13	29	29	39	57	34	16	162
Pleura	2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	163
Thymus, heart	7	-	-	-	-	2	-	-	-	-	1	1	-	-	2	-	1	-	-	164
Bone	7	-	-	1	1	1	1	1	-	-	1	1	-	-	-	-	-	-	-	170
Connective tissues	15	-	1	-	1	1	-	1	-	-	1	1	1	-	1	2	2	3	-	171
Melanoma of skin	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	172
Skin, others	36	-	-	-	-	-	-	1	1	4	5	1	1	1	4	5	4	3	6	173
Male breast	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	175
Prostate	91	-	-	-	-	-	-	-	-	-	-	-	2	7	6	18	16	13	29	185
Testis	15	-	5	-	-	-	-	1	3	2	1	1	-	1	1	-	-	-	-	186
Penis	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	187
Bladder	45	-	-	-	-	-	-	-	-	2	2	1	2	3	8	4	8	9	6	188
Kidney & Oth. Urinary	25	-	-	1	-	-	-	1	-	1	2	4	1	-	3	4	3	2	3	189
Eye	3	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	190
Brain,nervous system	25	-	2	6	2	-	1	2	1	1	1	2	1	-	2	2	1	1	-	191-2
Thyroid	17	-	-	-	-	1	-	-	2	-	1	-	1	4	1	2	2	1	2	193
Other endocrine	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	74	-	1	2	2	1	3	3	5	5	6	4	5	9	9	6	7	5	1	200,2
Hodgkin's disease	11	-	-	-	-	-	1	2	-	1	2	-	2	1	1	-	1	-	-	201
Multiple myeloma	20	-	-	-	-	-	-	-	2	-	2	1	4	3	1	3	2	2	-	203
Lymphatic leukaemia	20	-	5	6	5	1	-	-	1	1	-	-	-	1	-	-	-	-	-	204
Myeloid leukaemia	36	-	3	-	-	1	-	-	2	3	1	2	1	3	6	3	5	6	-	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	20	-	-	-	1	-	1	1	1	-	3	1	-	1	3	5	2	1	-	208
Others and unspecified	49	-	2	-	-	2	-	-	-	4	1	2	5	5	7	7	5	6	3	OTH
ALL	1,256	-	21	16	14	11	12	21	35	48	69	61	78	124	132	187	193	127	107	ALL

SINGAPORE: MALAY, ALL RESIDENTS 1993-1997, FEMALES	NUMBER OF CASES BY AGE GROUP (YEARS)																		Appendix C6
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	6	-	-	-	-	-	-	-	2	1	1	-	1	-	-	1	-	-	-	141
Salivary gland	2	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	142
Mouth	3	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	143-5
Oropharynx	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1	-	146
Nasopharynx	18	-	-	-	-	-	-	-	2	3	1	2	3	1	3	2	1	-	-	147
Hypopharynx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148
Oesophagus	6	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	1	2	150
Stomach	33	-	-	-	-	-	-	1	1	3	2	1	4	3	3	4	7	1	3	151
Small intestines	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	152
Colon	74	-	-	-	-	-	1	1	1	5	2	8	7	11	11	13	12	1	1	153
Rectum	57	-	-	-	-	-	-	-	1	3	3	7	5	5	11	7	6	6	3	154
Liver	26	-	-	-	-	-	1	-	1	-	2	2	1	3	4	5	5	1	1	155
Gall bladder, etc	20	-	-	-	-	-	-	1	-	1	1	3	1	2	2	4	2	3	-	156
Pancreas	18	-	-	-	-	-	-	-	-	1	-	1	3	2	1	3	4	2	1	157
Nose, sinuses, etc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160
Larynx	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	161
Bronchus, trachea	86	-	-	-	1	-	1	1	2	6	7	6	4	13	5	11	16	6	7	162
Pleura	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	163
Thymus, heart	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	164
Bone	5	-	-	-	-	-	1	2	-	1	-	-	1	-	-	-	-	-	-	170
Connective tissues	9	-	-	1	-	-	-	1	2	1	-	1	-	-	1	-	1	-	1	171
Melanoma of skin	8	-	-	-	-	-	1	-	-	-	-	-	-	1	-	3	2	-	1	172
Skin, others	35	-	-	-	1	2	-	2	-	2	3	1	2	5	4	2	4	4	3	173
Female breast	354	-	-	-	1	-	1	6	29	42	63	63	34	36	33	23	10	8	5	174
Cervix uteri	88	-	-	-	-	-	-	-	6	11	7	15	12	15	7	7	4	3	1	180
Chorionepithelioma	2	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	181
Corpus uteri	67	-	-	-	-	-	-	-	6	6	6	8	5	5	14	7	6	3	1	182
Ovary, etc	110	-	1	1	2	-	4	5	8	11	14	16	11	10	9	10	6	1	1	183
Other fem. genital	4	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	-	184
Bladder	11	-	-	-	-	-	-	-	-	-	-	-	-	3	1	2	2	2	1	188
Kidney & Oth. Urinary	25	-	2	-	-	-	-	-	2	2	1	2	2	2	5	3	2	1	1	189
Eye	3	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	24	-	4	8	4	2	-	-	2	2	-	-	-	-	2	-	-	-	-	191-2
Thyroid	53	-	-	-	1	1	3	3	10	5	5	8	2	-	4	1	2	7	1	193
Other endocrine	3	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	194
Non-Hodgkin's lymphoma	38	-	-	-	-	1	3	2	-	3	2	5	1	3	6	5	3	4	-	200,2
Hodgkin's disease	6	-	-	-	-	2	1	1	1	-	-	1	-	-	-	-	-	-	-	201
Multiple myeloma	11	-	-	-	-	-	-	-	1	-	-	1	-	-	4	2	1	1	1	203
Lymphatic leukaemia	13	-	4	5	1	-	-	-	-	-	1	-	-	-	1	-	1	-	-	204
Myeloid leukaemia	21	-	2	-	-	1	1	1	-	2	3	1	1	-	2	4	-	2	1	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	19	-	1	-	-	-	-	1	-	2	1	2	2	1	3	2	2	1	1	208
Others and unspecified	57	-	1	-	1	-	-	1	1	6	6	2	1	7	8	10	5	3	5	OTH
ALL	1,322	-	18	16	12	10	18	30	78	120	132	160	105	130	147	134	106	64	42	ALL

SINGAPORE: INDIAN, ALL RESIDENTS 1993-1997, MALES								NUMBER OF CASES BY AGE GROUP (YEARS)											Appendix C7
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	17	-	-	-	-	-	-	-	-	1	1	1	-	2	4	2	2	3	1	141
Salivary gland	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	142
Mouth	24	-	-	-	-	-	-	-	-	-	2	1	2	2	3	2	5	5	2	143-5
Oropharynx	7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	1	-	-	146
Nasopharynx	8	-	-	-	-	-	-	-	1	-	1	-	2	-	2	1	-	-	1	147
Hypopharynx	7	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	1	2	1	148
Oesophagus	20	-	-	-	-	-	-	-	-	1	-	-	2	-	4	5	3	2	3	150
Stomach	57	-	-	-	-	-	-	1	2	-	2	3	4	3	8	10	6	11	7	151
Small intestines	6	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	-	2	152
Colon	32	-	-	-	-	-	-	-	-	-	3	-	3	5	4	6	7	3	1	153
Rectum	31	-	-	-	-	-	-	-	-	2	3	-	2	2	5	3	6	5	3	154
Liver	49	-	1	-	-	-	-	1	-	1	1	3	1	4	6	8	8	9	6	155
Gall bladder, etc	9	-	-	-	-	-	-	-	-	1	-	1	-	-	-	4	3	-	-	156
Pancreas	16	-	-	-	-	-	-	-	-	1	-	-	2	1	4	3	3	2	-	157
Nose, sinuses, etc	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	160
Larynx	33	-	-	-	-	-	1	-	-	-	2	1	3	2	4	5	9	4	2	161
Bronchus, trachea	69	-	-	-	-	-	-	-	-	1	4	3	4	4	7	19	12	11	4	162
Pleura	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	163
Thymus, heart	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164
Bone	3	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	170
Connective tissues	5	-	-	-	-	-	-	-	-	1	3	-	-	-	1	-	-	-	-	171
Melanoma of skin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172
Skin, others	21	-	-	-	-	-	-	-	1	-	1	1	2	-	4	2	3	2	5	173
Male breast	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	175
Prostate	65	-	-	-	-	-	-	-	-	-	-	-	-	3	9	15	14	15	9	185
Testis	6	-	-	-	-	2	1	1	1	-	-	1	-	-	-	-	-	-	-	186
Penis	5	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	1	-	-	187
Bladder	33	-	-	-	-	-	-	-	1	-	4	3	-	2	5	9	4	-	5	188
Kidney & Oth. Urinary	18	-	1	-	-	-	-	-	-	-	2	2	5	1	2	2	3	-	-	189
Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	14	-	1	3	-	-	1	-	1	-	-	1	2	2	-	1	-	-	2	191-2
Thyroid	8	-	-	-	-	-	1	-	1	-	2	1	2	-	-	-	-	1	-	193
Other endocrine	4	-	-	2	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	18	-	-	-	1	1	-	3	1	-	3	1	2	-	2	2	-	1	1	200,2
Hodgkin's disease	11	-	-	-	-	1	2	1	2	-	1	-	-	1	-	2	1	-	-	201
Multiple myeloma	8	-	-	-	-	-	-	-	-	-	1	2	1	1	1	-	-	2	-	203
Lymphatic leukaemia	12	-	1	3	1	2	-	1	-	1	-	-	-	-	-	1	2	-	-	204
Myeloid leukaemia	14	-	1	-	1	-	1	2	1	1	-	-	1	-	-	2	2	-	2	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	6	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	3	-	1	208
Others and unspecified	17	-	-	-	-	-	-	-	-	-	-	1	-	3	1	2	6	4	-	OTH
ALL	662	-	5	8	4	7	7	10	12	12	39	28	43	42	82	112	107	84	60	ALL

SINGAPORE: INDIAN, ALL RESIDENTS 1993-1997, FEMALES	NUMBER OF CASES BY AGE GROUP (YEARS)																			Appendix C8
SITE	All	Unkn.	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	4	-	-	-	-	-	-	-	-	-	-	-	2	-	1	1	-	-	-	141
Salivary gland	3	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	142
Mouth	18	-	-	-	-	-	-	-	-	-	-	1	1	6	1	3	4	1	1	143-5
Oropharynx	2	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	146
Nasopharynx	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	147
Hypopharynx	3	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1	-	148
Oesophagus	7	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	2	-	-	150
Stomach	24	-	-	-	-	-	-	1	1	2	1	4	1	1	-	6	3	2	2	151
Small intestines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152
Colon	34	-	-	-	-	-	-	1	-	3	-	6	-	4	3	8	5	-	4	153
Rectum	22	-	-	-	-	-	-	-	-	-	2	3	1	4	3	4	2	2	1	154
Liver	7	-	-	-	-	-	-	1	-	-	1	-	-	-	2	1	1	1	-	155
Gall bladder, etc	11	-	-	-	-	-	-	-	1	-	-	1	1	-	3	4	-	1	-	156
Pancreas	10	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2	2	-	2	157
Nose, sinuses, etc	2	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	160
Larynx	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	161
Bronchus, trachea	17	-	-	-	-	-	-	-	-	-	-	2	1	2	3	1	2	3	3	162
Pleura	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	163
Thymus, heart	2	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	164
Bone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170
Connective tissues	5	-	-	-	-	-	-	-	1	-	1	-	1	-	1	1	-	-	-	171
Melanoma of skin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172
Skin, others	14	-	-	-	-	1	-	-	-	1	2	2	-	1	2	1	1	1	2	173
Female breast	169	-	-	-	-	-	1	-	10	14	24	28	14	22	21	11	15	6	3	174
Cervix uteri	35	-	-	-	-	-	-	-	-	6	3	1	2	9	4	5	3	1	1	180
Chorionepithelioma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	181
Corpus uteri	30	-	-	-	-	-	-	-	3	4	-	2	4	6	3	5	2	1	-	182
Ovary, etc	49	-	1	-	-	-	1	2	4	5	1	10	10	3	4	5	3	-	-	183
Other fem. genital	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	184
Bladder	4	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	1	188
Kidney & Oth. Urinary	7	-	-	-	-	-	-	-	-	-	-	-	1	-	2	2	1	1	-	189
Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	6	-	1	-	1	-	-	2	-	-	-	-	1	-	-	1	-	-	-	191-2
Thyroid	22	-	-	-	-	-	1	5	1	5	4	2	3	-	-	1	-	-	-	193
Other endocrine	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	11	-	-	-	-	-	-	-	2	1	1	1	1	-	2	-	2	1	-	200,2
Hodgkin's disease	4	-	1	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	201
Multiple myeloma	8	-	-	-	-	-	-	-	-	-	1	-	1	3	1	1	1	-	-	203
Lymphatic leukaemia	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	204
Myeloid leukaemia	9	-	-	-	-	-	-	-	-	1	3	-	2	1	1	-	-	-	1	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	208
Others and unspecified	16	-	-	-	1	-	-	-	-	1	2	1	1	1	1	4	3	1	-	OTH
ALL	566	-	4	-	4	1	3	13	24	46	49	67	52	66	64	70	55	26	22	ALL

SINGAPORE: ALL RESIDENTS 1993-1997, MALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D1
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	140
Tongue	1.2	1.3	-	-	-	-	0.2	0.1	-	0.3	1.5	2.5	2.4	3.8	7.0	5.5	8.4	10.7	6.2	141
Salivary gland	0.8	0.8	-	-	-	-	0.4	0.1	0.3	0.5	1.3	2.5	1.2	1.4	1.2	4.3	3.4	2.1	6.2	142
Mouth	1.4	1.6	-	-	-	-	0.2	-	0.2	0.2	0.6	1.1	3.3	3.1	7.8	7.3	14.3	13.9	18.5	143-5
Oropharynx	0.7	0.8	-	-	-	-	-	-	0.1	0.1	0.3	0.8	2.4	2.0	5.8	5.5	6.7	-	2.5	146
Nasopharynx	14.6	14.3	-	-	0.2	0.6	0.9	2.5	6.7	16.3	25.9	55.7	41.1	45.4	41.2	38.5	27.8	24.7	19.7	147
Hypopharynx	1.3	1.5	-	-	-	-	-	-	-	-	0.3	2.2	3.6	2.7	6.6	11.0	10.9	12.9	14.8	148
Oesophagus	5.1	5.8	-	-	-	-	-	-	-	0.1	1.0	5.0	6.6	16.0	18.9	41.5	57.3	52.5	77.7	150
Stomach	18.6	21.0	-	-	0.2	0.2	0.5	0.5	1.2	2.1	5.1	14.3	24.0	50.5	77.0	150.8	181.9	201.5	299.6	151
Small intestines	0.6	0.7	-	-	-	-	0.2	-	0.2	0.3	0.3	0.8	0.9	2.7	1.6	6.1	5.1	3.2	6.2	152
Colon	18.6	20.9	-	-	-	0.2	0.5	0.6	1.9	2.6	9.3	24.6	24.6	47.4	83.6	142.2	182.7	188.6	220.7	153
Rectum	14.8	16.6	0.2	-	-	-	0.2	0.6	1.1	3.0	8.7	20.1	27.6	52.9	60.5	97.1	149.0	106.1	168.9	154
Liver	16.8	18.9	0.6	0.4	0.4	0.2	0.7	0.6	1.4	3.4	10.3	24.1	27.6	51.5	72.9	133.7	141.4	146.8	164.0	155
Gall bladder, etc	1.9	2.2	-	-	-	-	-	-	0.2	0.3	0.6	3.1	4.5	3.4	5.8	16.5	21.9	12.9	25.9	156
Pancreas	4.0	4.6	0.2	-	-	-	-	0.3	0.2	0.3	1.3	7.6	7.2	7.5	19.8	30.5	40.4	46.1	38.2	157
Nose, sinuses, etc	0.8	0.9	-	-	-	-	-	-	0.1	0.4	0.4	1.7	0.9	3.1	5.4	4.9	5.1	4.3	7.4	160
Larynx	4.6	5.3	-	-	-	-	0.2	-	-	0.2	0.9	3.6	7.2	15.7	22.2	37.8	49.7	47.2	53.0	161
Bronchus, trachea	41.0	47.1	-	-	0.2	-	-	0.6	0.9	4.2	11.2	26.0	49.2	99.3	180.8	387.0	467.3	447.0	538.8	162
Pleura	0.3	0.3	-	-	-	-	-	-	0.1	-	0.3	0.6	0.6	0.7	1.6	3.1	1.7	2.1	-	163
Thymus, heart	0.6	0.6	-	0.2	0.2	0.8	1.3	0.1	0.3	0.4	0.3	1.4	0.3	0.7	3.3	1.2	0.8	-	1.2	164
Bone	0.6	0.6	-	0.2	0.6	0.8	1.3	0.4	0.6	0.4	0.9	0.8	1.2	1.0	-	1.8	1.7	-	-	170
Connective tissues	1.4	1.4	0.3	0.4	0.2	1.0	1.3	0.5	0.9	1.0	1.6	2.2	1.5	4.1	4.9	3.1	7.6	3.2	3.7	171
Melanoma of skin	0.4	0.4	-	-	-	-	-	0.1	0.3	0.1	0.3	0.8	0.3	0.3	0.4	3.7	1.7	3.2	7.4	172
Skin, others	8.5	9.2	0.2	-	0.2	0.2	0.4	0.6	1.1	2.0	4.9	12.6	14.1	21.5	28.4	49.4	69.0	72.9	160.3	173
Male breast	0.2	0.2	-	-	-	-	-	-	-	0.1	0.7	0.6	0.6	0.3	-	1.2	0.8	2.1	1.2	175
Prostate	11.7	13.0	-	-	-	-	-	-	-	0.1	0.4	-	2.7	13.0	33.8	95.8	156.6	197.2	299.6	185
Testis	1.2	1.1	1.7	-	-	0.6	0.9	1.1	1.7	1.4	1.9	1.7	1.2	1.0	2.1	1.2	1.7	-	-	186
Penis	0.8	1.0	-	-	-	-	-	-	0.1	-	0.4	1.1	1.5	2.4	4.1	9.2	5.9	5.4	9.9	187
Bladder	6.2	6.9	-	-	-	-	-	0.1	0.3	0.9	2.7	6.2	7.8	15.4	25.5	47.0	58.1	77.2	93.7	188
Kidney & Oth. Urinary	4.7	5.3	0.6	0.4	0.2	-	-	0.1	0.4	0.9	3.6	10.6	10.2	14.0	19.8	31.7	42.1	21.4	40.7	189
Eye	0.1	0.2	0.9	-	-	-	-	-	-	-	0.1	-	-	0.7	-	-	0.8	-	-	190
Brain,nervous system	2.3	2.6	1.6	4.0	2.1	1.0	1.8	1.1	1.3	1.4	1.3	3.1	3.3	3.8	5.4	6.7	7.6	8.6	7.4	191-2
Thyroid	1.8	1.8	-	-	0.2	0.4	0.9	0.6	1.5	1.3	2.8	3.4	3.3	5.8	4.9	7.3	5.1	7.5	8.6	193
Other endocrine	0.5	0.7	1.3	0.8	1.0	0.6	0.2	0.1	0.1	0.2	0.6	0.3	0.6	0.7	0.4	1.2	1.7	2.1	1.2	194
Non-Hodgkin's lymphoma	6.7	7.0	0.8	1.0	1.3	1.2	1.3	2.3	3.2	3.2	6.0	12.6	10.8	16.7	22.2	28.1	41.3	38.6	65.4	200,2
Hodgkin's disease	0.7	0.7	-	0.2	0.4	0.8	1.5	0.6	0.3	0.2	0.4	2.0	1.2	1.4	0.4	2.4	1.7	2.1	-	201
Multiple myeloma	1.1	1.3	-	-	-	-	-	0.1	0.2	-	0.6	2.2	3.3	3.8	4.1	8.5	5.1	10.7	12.3	203
Lymphatic leukaemia	1.8	2.3	5.1	4.4	2.9	1.9	0.4	0.4	0.9	0.6	0.3	1.1	0.9	1.4	2.1	3.1	8.4	3.2	6.2	204
Myeloid leukaemia	3.1	3.2	1.7	0.6	0.6	1.3	1.1	1.4	1.7	2.4	2.1	4.2	4.2	5.1	8.2	14.7	21.0	16.1	21.0	205
Monocytic leukaemia	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-	206
Other leukaemia	0.0	0.0	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	207
Leukaemia, unspecified	1.4	1.6	-	0.2	0.2	0.4	0.9	0.4	0.4	0.3	1.0	1.4	1.8	2.7	5.8	11.6	12.6	9.6	11.1	208
Others and unspecified	6.5	7.2	0.8	-	-	0.6	0.5	0.5	1.0	1.2	2.8	5.0	11.1	14.7	24.7	50.7	57.3	64.3	93.7	OTH
ALL	209.7	233.1	15.9	12.7	11.3	12.5	17.8	16.7	31.2	52.8	115.6	269.8	316.6	539.4	820.4	1502.9	1884.3	1871.2	2512.9	ALL

SINGAPORE: ALL RESIDENTS 1993-1997, FEMALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D2
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	140
Tongue	0.7	0.6	-	-	-	-	-	-	0.6	0.8	0.5	1.1	0.9	1.3	2.0	2.4	1.4	5.7	7.4	141
Salivary gland	0.7	0.6	-	-	0.2	0.2	0.4	0.1	0.6	0.6	0.5	1.4	2.1	2.0	1.2	0.6	3.4	1.6	1.7	142
Mouth	0.7	0.7	-	-	-	0.2	-	-	-	0.5	0.2	0.6	0.3	2.9	3.2	3.0	5.5	4.9	5.0	143-5
Oropharynx	0.2	0.2	-	-	-	-	-	-	-	0.3	0.2	-	0.3	0.3	1.2	1.2	1.4	0.8	0.8	146
Nasopharynx	5.3	4.7	-	-	-	0.2	0.4	1.4	3.1	7.1	9.8	16.1	13.9	14.7	10.0	11.9	7.6	12.3	6.6	147
Hypopharynx	0.1	0.1	-	-	-	-	-	-	-	0.1	0.2	-	-	-	-	-	-	3.3	0.8	148
Oesophagus	1.6	1.4	-	-	-	-	-	-	-	-	-	-	2.4	2.9	2.8	7.7	17.2	20.5	24.8	150
Stomach	12.3	11.3	-	-	-	0.2	0.6	1.0	1.1	3.4	5.1	14.7	14.5	23.5	33.1	70.8	95.1	112.3	158.5	151
Small intestines	0.7	0.6	-	-	-	0.2	-	-	-	0.6	0.5	1.1	1.8	0.7	0.8	5.9	4.1	3.3	5.0	152
Colon	19.0	17.9	-	-	-	0.2	0.4	1.0	1.6	4.7	7.4	23.2	24.9	44.7	59.0	119.6	146.8	151.6	215.5	153
Rectum	12.0	11.5	-	-	-	-	0.6	0.1	1.6	2.5	5.9	13.6	18.0	27.4	47.1	83.3	75.8	104.1	113.1	154
Liver	5.0	4.7	0.2	-	0.2	0.2	0.2	0.5	0.5	1.1	1.1	3.7	3.6	6.9	18.3	35.7	42.0	46.7	65.2	155
Gall bladder, etc	2.3	2.3	-	-	-	-	-	0.3	0.1	0.5	0.9	3.4	3.3	4.2	9.6	16.7	14.5	18.9	24.8	156
Pancreas	3.2	3.1	-	-	-	0.2	-	0.1	0.1	0.2	0.9	1.1	4.4	7.8	11.2	23.8	26.2	32.0	35.5	157
Nose, sinuses, etc	0.3	0.3	-	-	-	-	-	0.1	-	0.3	0.5	0.6	0.9	1.0	1.2	1.2	1.4	1.6	0.8	160
Larynx	0.4	0.4	-	-	-	-	-	-	-	-	0.3	0.3	0.3	1.0	1.2	5.4	4.8	2.5	2.5	161
Bronchus, trachea	19.2	17.9	-	-	0.2	-	0.6	0.5	1.0	2.5	6.7	19.8	21.3	43.1	47.9	131.5	155.1	177.8	251.0	162
Pleura	0.1	0.1	-	-	-	-	-	-	-	0.1	0.2	-	0.3	0.3	0.4	-	-	0.8	1.7	163
Thymus, heart	0.3	0.3	-	-	0.2	-	-	0.1	0.3	0.3	0.6	1.1	0.6	0.7	1.6	-	0.7	-	-	164
Bone	0.4	0.4	-	0.4	0.7	0.6	0.4	0.5	0.1	0.6	0.2	0.3	0.6	1.0	0.4	0.6	-	0.8	1.7	170
Connective tissues	1.1	1.0	0.3	0.4	-	1.0	0.6	0.4	1.3	0.6	1.4	1.4	0.9	2.0	2.0	4.8	2.1	4.1	7.4	171
Melanoma of skin	0.5	0.5	-	-	-	0.2	0.2	0.3	0.2	0.6	0.2	0.3	0.6	0.7	1.2	4.2	1.4	4.9	3.3	172
Skin, others	8.7	7.6	-	0.2	0.2	1.0	0.4	0.9	1.3	2.3	3.4	9.3	9.5	14.7	21.9	36.9	48.9	73.8	163.5	173
Female breast	47.6	46.1	-	-	0.2	0.2	1.1	2.2	16.9	35.7	83.6	185.8	139.1	139.1	118.9	154.1	119.2	100.0	117.3	174
Cervix uteri	15.0	14.2	-	-	-	-	-	1.3	5.0	12.4	22.8	40.7	46.2	50.0	38.7	54.1	45.5	45.1	44.6	180
Chorionepithelioma	0.1	0.1	-	-	-	-	-	0.1	0.6	-	0.5	0.3	-	-	-	-	-	-	-	181
Corpus uteri	8.1	8.2	-	-	-	-	0.6	0.3	2.2	5.0	7.6	28.0	25.2	29.7	30.7	32.1	28.3	23.8	9.9	182
Ovary, etc	11.7	11.4	0.3	1.0	2.0	3.1	6.4	5.2	6.5	8.3	14.0	38.2	30.2	25.1	25.5	39.3	33.1	22.9	28.9	183
Other fem. genital	1.0	1.0	-	-	-	-	-	-	0.1	0.1	0.6	1.7	1.5	3.3	2.4	4.8	10.3	9.0	9.1	184
Bladder	1.9	1.7	-	-	-	-	0.4	0.3	-	0.1	0.3	2.0	2.1	3.3	3.6	7.7	18.6	19.7	32.2	188
Kidney & Oth. Urinary	2.3	2.3	0.5	0.2	-	0.2	-	0.1	0.6	1.4	1.1	2.0	4.4	5.2	11.6	15.5	11.7	13.9	14.9	189
Eye	0.1	0.1	0.7	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	1.9	2.1	2.4	2.7	2.7	0.6	0.6	0.9	1.1	1.0	1.6	2.3	1.5	2.0	4.4	5.4	9.6	4.1	4.1	191-2
Thyroid	6.4	5.7	-	0.2	0.9	2.1	3.8	4.6	7.4	5.9	10.9	13.9	10.4	11.4	9.2	16.1	15.8	13.9	13.2	193
Other endocrine	0.4	0.4	1.2	0.2	0.7	-	0.2	-	0.2	0.1	0.3	1.1	0.6	0.3	0.4	-	0.7	1.6	0.8	194
Non-Hodgkin's lymphoma	4.5	4.1	0.3	0.2	0.5	0.6	1.9	0.9	2.5	3.3	3.3	6.5	7.4	10.4	13.2	18.4	22.1	22.9	28.9	200,2
Hodgkin's disease	0.4	0.4	0.2	-	-	1.0	0.9	0.3	0.5	0.5	-	1.1	-	-	1.2	0.6	0.7	0.8	0.8	201
Multiple myeloma	1.1	1.0	-	-	-	-	-	-	0.1	0.1	0.6	1.4	1.8	2.6	3.6	7.7	7.6	9.8	9.1	203
Lymphatic leukaemia	1.1	1.3	2.9	3.8	0.9	0.8	-	0.4	0.5	0.1	0.9	1.3	0.9	1.6	0.4	1.2	6.2	0.8	0.8	204
Myeloid leukaemia	2.4	2.3	1.3	0.4	0.9	1.2	1.5	1.0	0.9	1.7	1.9	2.3	3.3	3.9	5.6	10.7	8.3	12.3	16.5	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	0.8	-	207
Leukaemia, unspecified	1.3	1.2	0.8	0.2	-	0.2	0.4	0.4	0.2	0.7	1.2	0.8	0.9	0.3	3.2	6.5	8.3	11.5	15.7	208
Others and unspecified	6.4	6.0	1.2	0.2	0.9	0.2	0.2	0.4	0.3	2.4	3.9	7.4	7.1	11.1	21.1	36.9	42.0	51.6	75.1	OTH
ALL	208.8	198.1	12.3	10.6	11.5	14.9	22.5	25.8	58.9	108.4	201.4	449.1	407.4	503.2	570.8	978.5	1043.3	1149.1	1519.4	ALL

SINGAPORE: CHINESE, ALL RESIDENTS 1993-1997, MALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D3
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	140
Tongue	1.2	1.3	-	-	-	-	0.2	0.2	-	0.1	1.6	2.6	2.1	3.8	7.6	6.6	5.9	9.2	4.3	141
Salivary gland	0.8	0.9	-	-	-	-	0.5	0.2	0.3	0.5	1.4	2.9	1.4	1.7	1.2	5.7	3.6	2.6	4.3	142
Mouth	1.4	1.6	-	-	-	-	0.2	-	0.1	0.3	0.4	1.0	3.1	2.9	9.4	9.5	13.0	10.5	18.5	143-5
Oropharynx	0.7	0.9	-	-	-	-	-	-	0.1	0.1	0.4	1.0	2.4	1.7	6.4	4.7	7.1	-	2.8	146
Nasopharynx	17.6	16.7	-	-	0.3	0.7	1.0	2.9	8.1	19.4	29.1	61.2	45.1	52.6	53.3	54.0	33.2	24.9	19.9	147
Hypopharynx	1.5	1.9	-	-	-	-	-	-	-	-	0.4	2.3	3.5	3.3	8.8	17.1	13.0	13.1	14.2	148
Oesophagus	6.0	7.1	-	-	-	-	-	-	-	-	1.3	5.8	6.9	19.2	24.0	57.8	73.5	56.3	84.0	150
Stomach	22.2	25.7	-	-	-	0.2	0.7	0.3	1.3	2.4	5.6	14.9	24.3	59.7	100.2	212.2	234.8	220.1	330.5	151
Small intestines	0.7	0.8	-	-	-	-	0.2	-	0.3	0.4	0.4	0.6	0.7	2.5	1.8	7.6	7.1	3.9	4.3	152
Colon	21.9	25.4	-	-	-	0.2	0.2	0.9	1.8	2.7	9.5	26.9	24.6	51.0	107.8	200.8	232.5	212.2	247.8	153
Rectum	17.1	19.6	-	-	-	-	0.2	0.9	1.1	3.2	9.2	21.4	29.5	57.7	80.3	131.7	177.9	114.0	176.6	154
Liver	18.8	21.6	0.7	0.5	0.5	0.2	0.5	0.5	1.6	3.6	11.2	24.6	27.4	55.6	93.2	168.6	166.0	158.5	162.4	155
Gall bladder, etc	2.0	2.3	-	-	-	-	-	-	0.3	0.3	0.7	3.2	3.8	2.9	8.2	18.0	23.7	15.7	27.1	156
Pancreas	4.5	5.4	0.2	-	-	-	-	-	0.1	0.3	1.4	8.1	6.2	7.5	24.6	40.7	52.2	52.4	37.0	157
Nose, sinuses, etc	1.0	1.1	-	-	-	-	-	-	0.1	0.5	0.5	1.9	1.0	3.3	7.6	7.6	4.7	3.9	5.7	160
Larynx	4.9	5.9	-	-	-	-	-	-	-	0.1	0.5	3.6	7.3	16.3	27.5	51.2	52.2	45.8	54.1	161
Bronchus, trachea	47.4	56.9	-	-	0.3	-	-	0.7	0.7	4.8	10.8	25.9	50.3	107.4	232.7	536.2	570.5	482.1	586.9	162
Pleura	0.3	0.4	-	-	-	-	-	-	0.1	-	-	0.6	0.7	0.8	2.3	4.7	2.4	1.3	-	163
Thymus, heart	0.6	0.6	-	0.3	0.3	0.5	1.7	0.2	0.4	0.5	0.2	1.3	0.3	0.8	2.9	0.9	-	-	1.4	164
Bone	0.7	0.6	-	-	0.3	0.7	1.5	0.3	0.8	0.5	0.7	0.3	1.4	1.3	-	2.8	2.4	-	-	170
Connective tissues	1.4	1.5	0.2	0.3	-	1.0	1.7	0.5	1.0	1.1	1.3	2.3	1.4	5.0	5.9	2.8	8.3	-	4.3	171
Melanoma of skin	0.5	0.5	-	-	-	-	-	0.2	0.4	0.1	0.4	1.0	0.3	0.4	0.6	3.8	2.4	2.6	8.5	172
Skin, others	9.6	10.5	0.2	-	0.3	0.2	0.2	0.7	1.0	2.0	4.3	13.0	14.6	25.1	32.2	66.3	87.8	78.6	162.4	173
Male breast	0.2	0.2	-	-	-	-	-	-	-	-	0.7	0.6	0.7	0.4	-	1.9	1.2	1.3	1.4	175
Prostate	12.1	13.8	-	-	-	-	-	-	-	0.1	0.5	-	2.4	10.9	36.9	113.7	179.1	189.9	287.7	185
Testis	1.2	1.1	1.4	-	-	0.2	1.0	1.2	1.7	1.5	2.0	1.3	1.4	0.8	2.3	1.9	2.4	-	-	186
Penis	1.0	1.2	-	-	-	-	-	-	0.1	-	0.5	1.3	1.7	2.5	4.7	12.3	7.1	5.2	10.0	187
Bladder	6.6	7.6	-	-	-	-	-	0.2	0.3	0.8	2.2	5.8	8.3	16.7	28.7	58.7	66.4	76.0	92.6	188
Kidney & Oth. Urinary	5.3	6.2	0.7	0.3	0.3	-	-	-	0.6	0.9	3.6	10.4	9.7	16.7	25.2	43.6	52.2	23.6	41.3	189
Eye	0.1	0.2	0.9	-	-	-	-	-	-	-	0.2	-	-	0.4	-	-	1.2	-	-	190
Brain,nervous system	2.3	2.6	1.7	3.3	1.8	1.2	2.0	1.2	1.4	1.6	1.4	2.6	2.8	3.8	6.4	6.6	9.5	9.2	5.7	191-2
Thyroid	2.0	1.9	-	-	0.3	0.2	1.0	0.9	1.6	1.6	2.7	3.6	2.8	5.4	6.4	9.5	4.7	6.5	7.1	193
Other endocrine	0.6	0.7	1.9	0.5	1.0	0.2	0.2	0.2	0.1	0.3	0.5	0.3	0.7	0.8	0.6	1.9	2.4	2.6	1.4	194
Non-Hodgkin's lymphoma	6.9	7.2	0.9	0.8	0.8	1.0	1.0	2.1	3.4	3.3	5.6	12.6	9.0	16.7	25.2	33.2	46.3	36.7	68.4	200,2
Hodgkin's disease	0.5	0.6	-	0.3	0.5	0.7	1.2	0.3	0.1	0.1	-	2.3	0.7	0.8	-	1.9	-	2.6	-	201
Multiple myeloma	0.9	1.1	-	-	-	-	-	-	-	-	0.2	1.6	2.1	2.9	4.7	9.5	4.7	6.5	14.2	203
Lymphatic leukaemia	1.8	2.3	6.1	3.8	2.1	1.7	0.5	0.3	1.0	0.5	0.4	1.3	1.0	0.8	2.9	3.8	8.3	3.9	7.1	204
Myeloid leukaemia	3.1	3.3	1.7	0.8	0.3	1.4	1.2	1.6	1.8	2.4	2.3	4.2	4.2	5.0	8.2	18.0	21.3	11.8	19.9	205
Monocytic leukaemia	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	206
Other leukaemia	0.0	0.0	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	207
Leukaemia, unspecified	1.4	1.6	-	0.3	-	0.5	1.0	0.3	0.4	0.4	0.7	1.0	1.7	2.9	5.9	12.3	11.9	10.5	10.0	208
Others and unspecified	7.2	8.3	0.7	-	-	0.2	0.7	0.7	1.3	0.9	3.2	4.9	10.4	14.6	29.9	69.2	67.6	65.5	104.0	OTH
ALL	236.2	269.2	17.7	11.1	8.8	11.3	19.0	17.4	33.8	57.7	118.0	280.3	317.8	584.9	1027.4	2009.4	2261.6	1964.9	2628.1	ALL

SINGAPORE: CHINESE, ALL RESIDENTS 1993-1997, FEMALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D4
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	140
Tongue	0.7	0.5	-	-	-	-	-	-	0.4	0.9	0.4	1.3	-	1.7	2.0	1.5	1.6	6.4	8.0	141
Salivary gland	0.7	0.7	-	-	0.3	0.3	0.5	0.2	0.7	0.7	0.6	1.0	2.2	1.7	1.5	0.7	4.0	0.9	1.8	142
Mouth	0.5	0.4	-	-	-	-	-	-	-	0.6	0.2	-	-	1.3	3.6	0.7	3.2	4.6	4.5	143-5
Oropharynx	0.2	0.2	-	-	-	-	-	-	-	0.3	0.2	-	-	-	1.5	0.7	1.6	-	0.9	146
Nasopharynx	6.4	5.5	-	-	-	0.3	0.5	1.9	3.7	8.3	11.6	18.3	15.6	18.4	11.2	13.5	8.1	13.7	7.1	147
Hypopharynx	0.1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	0.9	148
Oesophagus	1.8	1.4	-	-	-	-	-	-	-	-	-	-	2.2	2.9	2.5	8.2	18.6	21.9	24.9	150
Stomach	14.7	12.6	-	-	-	0.3	0.8	1.1	1.2	3.6	5.6	15.6	15.6	28.4	40.7	80.8	101.1	121.6	164.7	151
Small intestines	0.8	0.7	-	-	-	0.3	-	-	-	0.7	0.6	1.3	2.2	0.8	0.5	6.7	4.0	2.7	5.3	152
Colon	22.2	19.5	-	-	-	0.3	0.3	1.1	1.8	4.4	8.4	22.3	27.5	49.7	67.7	132.5	155.2	167.3	228.0	153
Rectum	14.0	12.6	-	-	-	-	0.8	0.2	1.9	2.7	6.1	12.6	19.9	31.3	52.9	95.8	82.5	107.0	117.5	154
Liver	5.8	5.1	0.3	-	-	0.3	-	0.5	0.4	1.4	0.7	3.7	4.0	7.5	20.4	40.4	43.7	49.4	69.5	155
Gall bladder, etc	2.5	2.2	-	-	-	-	-	0.2	-	0.4	0.9	2.7	3.3	4.6	9.7	15.0	15.4	17.4	26.7	156
Pancreas	3.7	3.2	-	-	-	0.3	-	0.2	0.1	0.1	1.1	0.7	3.6	9.2	12.7	26.2	25.1	33.8	35.6	157
Nose, sinuses, etc	0.4	0.4	-	-	-	-	-	-	-	0.4	0.4	0.7	1.1	1.3	1.5	1.5	1.6	1.8	0.9	160
Larynx	0.5	0.5	-	-	-	-	-	-	-	-	0.4	0.3	0.4	1.3	1.0	5.2	4.9	2.7	2.7	161
Bronchus, trachea	22.8	19.9	-	-	-	-	0.5	0.5	1.0	2.3	6.7	20.3	24.3	48.5	57.0	156.4	166.5	189.2	260.9	162
Pleura	0.1	0.1	-	-	-	-	-	-	-	0.1	0.2	-	0.4	0.4	-	-	-	0.9	1.8	163
Thymus, heart	0.4	0.3	-	-	-	-	-	0.2	0.4	0.4	0.6	1.0	0.7	0.8	2.0	-	0.8	-	-	164
Bone	0.5	0.5	-	0.6	0.8	0.8	0.3	0.4	0.1	0.6	0.2	0.3	0.4	1.3	0.5	0.7	-	0.9	1.8	170
Connective tissues	1.2	1.1	0.5	0.3	-	1.3	0.8	0.4	1.0	0.6	1.5	1.7	0.7	2.5	1.5	5.2	1.6	4.6	7.1	171
Melanoma of skin	0.5	0.4	-	-	-	0.3	-	0.4	0.1	0.7	0.2	-	0.7	0.4	1.5	3.0	-	5.5	2.7	172
Skin, others	10.0	8.0	-	0.3	-	0.5	0.5	0.9	1.6	2.0	3.0	9.3	10.1	15.5	24.4	44.2	50.1	75.9	170.1	173
Female breast	51.0	47.1	-	-	-	0.3	1.0	1.8	15.8	36.3	82.9	185.3	149.3	151.2	117.5	164.7	115.6	98.7	114.0	174
Cervix uteri	17.0	15.4	-	-	-	-	-	1.8	5.5	13.0	25.3	42.5	50.7	53.9	43.8	58.4	46.9	46.6	46.3	180
Chorionepithelioma	0.1	0.1	-	-	-	-	-	-	0.7	-	0.4	0.3	-	-	-	-	-	-	-	181
Corpus uteri	8.5	8.3	-	-	-	-	0.8	0.4	1.5	4.7	8.0	28.6	26.8	33.0	29.5	31.4	25.9	22.9	9.8	182
Ovary, etc	12.1	11.3	-	1.2	2.0	3.9	7.1	5.8	6.2	7.8	13.8	35.9	29.4	25.9	25.9	35.9	31.5	24.7	29.4	183
Other fem. genital	1.2	1.1	-	-	-	-	-	-	0.1	0.1	0.7	1.7	1.8	3.3	2.5	6.0	11.3	8.2	9.8	184
Bladder	2.2	1.8	-	-	-	-	0.5	0.4	-	0.1	0.4	2.0	2.5	2.9	4.1	8.2	18.6	19.2	32.9	188
Kidney & Oth. Urinary	2.4	2.2	0.3	0.3	-	0.3	-	0.2	0.3	1.4	1.1	1.7	4.3	5.8	10.7	15.7	11.3	13.7	15.1	189
Eye	0.0	0.0	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	1.9	2.0	2.3	1.5	2.0	0.3	0.8	0.9	1.2	1.0	1.9	2.7	1.4	2.5	4.6	6.0	11.3	4.6	4.5	191-2
Thyroid	6.8	5.8	-	0.3	0.8	2.3	4.1	4.7	7.4	6.0	10.8	12.3	10.9	14.6	9.7	18.7	17.0	9.1	13.4	193
Other endocrine	0.4	0.5	1.5	0.3	0.6	-	0.3	-	0.3	0.1	0.4	1.0	0.7	0.4	0.5	-	0.8	0.9	0.9	194
Non-Hodgkin's lymphoma	4.9	4.3	0.5	0.3	0.6	0.5	1.8	0.9	2.9	3.6	3.4	5.6	8.3	12.1	12.2	19.5	21.8	21.0	30.3	200,2
Hodgkin's disease	0.4	0.4	-	-	-	0.8	1.0	0.2	0.3	0.4	-	1.0	-	-	1.0	0.7	0.8	0.9	0.9	201
Multiple myeloma	1.1	0.9	-	-	-	-	-	-	-	0.1	0.6	1.3	1.8	2.1	2.0	7.5	7.3	10.1	8.9	203
Lymphatic leukaemia	1.1	1.4	2.8	3.8	0.8	1.0	-	0.5	0.6	0.1	0.9	0.3	1.1	2.1	-	1.5	6.5	0.9	0.9	204
Myeloid leukaemia	2.5	2.4	1.5	0.6	1.1	1.3	1.5	1.2	1.2	1.7	0.7	2.3	2.9	4.2	5.6	10.5	9.7	11.9	16.0	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	0.9	-	207
Leukaemia, unspecified	1.3	1.1	1.0	0.3	-	0.3	0.5	0.4	0.3	0.4	1.1	0.3	0.4	-	2.5	6.7	8.1	10.1	15.1	208
Others and unspecified	6.9	6.0	1.3	0.3	0.6	0.3	0.3	0.4	0.3	2.0	3.2	7.6	8.0	10.4	22.4	35.9	42.0	53.0	75.7	OTH
ALL	232.5	207.5	12.0	10.4	9.5	15.7	24.4	27.2	59.3	110.2	204.9	445.4	435.2	554.0	611.0	1067.4	1076.0	1188.5	1568.2	ALL

SINGAPORE: MALAY, ALL RESIDENTS 1993-1997, MALES	INCIDENCE RATES BY AGE GROUP (YEARS)																			Appendix D5
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	0.6	0.9	-	-	-	-	-	-	-	0.9	-	-	6.5	-	-	-	17.4	-	16.6	141
Salivary gland	0.4	0.4	-	-	-	-	-	-	0.7	0.9	1.6	-	-	-	-	3.3	5.8	-	-	142
Mouth	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	-	143-5
Oropharynx	0.4	0.5	-	-	-	-	-	-	-	-	-	-	3.3	3.5	3.0	-	5.8	-	-	146
Nasopharynx	5.5	7.3	-	-	-	-	1.1	2.0	2.8	6.0	14.5	33.7	13.0	20.9	20.8	10.0	29.0	25.9	16.6	147
Hypopharynx	0.2	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	16.6	148
Oesophagus	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	3.5	-	3.3	17.4	38.8	16.6	150
Stomach	4.7	6.6	-	-	1.6	-	-	0.7	-	1.7	-	7.5	16.3	3.5	20.8	33.3	69.6	116.5	49.8	151
Small intestines	0.2	0.3	-	-	-	-	-	-	-	-	-	3.7	-	-	3.0	-	-	-	-	152
Colon	7.2	9.2	-	-	-	-	2.1	-	3.6	3.4	9.6	11.2	13.0	27.8	35.6	46.6	63.8	116.5	33.2	153
Rectum	7.3	10.6	-	-	-	-	-	-	1.4	1.7	4.8	22.4	13.0	48.7	11.9	53.3	98.6	77.6	132.9	154
Liver	11.0	15.5	-	-	-	-	2.1	0.7	1.4	3.4	9.6	26.2	39.1	48.7	32.6	103.2	92.8	64.7	199.3	155
Gall bladder, etc	1.2	1.8	-	-	-	-	-	-	-	-	-	-	13.0	7.0	-	10.0	11.6	-	33.2	156
Pancreas	2.1	3.1	-	-	-	-	-	1.4	0.7	-	1.6	7.5	9.8	10.4	5.9	10.0	5.8	12.9	66.4	157
Nose, sinuses, etc	0.3	0.5	-	-	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	33.2	160
Larynx	1.9	2.6	-	-	-	-	-	-	-	0.9	1.6	-	-	13.9	8.9	10.0	17.4	38.8	49.8	161
Bronchus, trachea	21.6	30.4	-	-	-	-	-	0.7	1.4	1.7	16.1	33.7	42.3	100.8	86.0	129.8	330.7	440.0	265.7	162
Pleura	0.2	0.2	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	12.9	-	163
Thymus, heart	0.6	0.9	-	-	-	3.0	-	-	-	-	1.6	3.7	-	-	5.9	-	5.8	-	-	164
Bone	0.6	0.8	-	1.0	1.6	1.5	1.1	0.7	-	-	1.6	3.7	-	-	-	-	-	-	-	170
Connective tissues	1.3	1.8	0.7	-	1.6	1.5	-	0.7	-	-	1.6	3.7	3.3	-	3.0	6.7	11.6	38.8	-	171
Melanoma of skin	0.3	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	12.9	-	172
Skin, others	3.1	4.0	-	-	-	-	-	0.7	0.7	3.4	8.0	3.7	3.3	3.5	11.9	16.6	23.2	38.8	99.7	173
Male breast	0.1	0.1	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	175
Prostate	8.2	12.2	-	-	-	-	-	-	-	-	-	-	6.5	24.3	17.8	59.9	92.8	168.2	481.6	185
Testis	1.3	1.3	3.5	-	-	-	-	0.7	2.1	1.7	1.6	3.7	-	3.5	3.0	-	-	-	-	186
Penis	0.2	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.9	16.6	187
Bladder	4.0	5.7	-	-	-	-	-	-	-	1.7	3.2	3.7	6.5	10.4	23.7	13.3	46.4	116.5	99.7	188
Kidney & Oth. Urinary	2.2	3.3	-	1.0	-	-	-	0.7	-	0.9	3.2	15.0	3.3	-	8.9	13.3	17.4	25.9	49.8	189
Eye	0.3	0.3	1.4	-	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	-	190
Brain,nervous system	2.2	2.7	1.4	5.9	3.3	-	1.1	1.4	0.7	0.9	1.6	7.5	3.3	-	5.9	6.7	5.8	12.9	-	191-2
Thyroid	1.5	2.1	-	-	-	1.5	-	-	1.4	-	1.6	-	3.3	13.9	3.0	6.7	11.6	12.9	33.2	193
Other endocrine	0.2	0.3	-	-	1.6	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	6.6	8.4	0.7	2.0	3.3	1.5	3.2	2.0	3.6	4.3	9.6	15.0	16.3	31.3	26.7	20.0	40.6	64.7	16.6	200,2
Hodgkin's disease	1.0	1.1	-	-	-	-	1.1	1.4	-	0.9	3.2	-	6.5	3.5	3.0	-	5.8	-	-	201
Multiple myeloma	1.8	2.5	-	-	-	-	-	-	1.4	-	3.2	3.7	13.0	10.4	3.0	10.0	11.6	25.9	-	203
Lymphatic leukaemia	1.8	2.1	3.5	5.9	8.2	1.5	-	-	0.7	0.9	-	-	-	3.5	-	-	-	-	-	204
Myeloid leukaemia	3.2	4.1	2.1	-	-	1.5	-	-	1.4	2.6	1.6	7.5	3.3	10.4	17.8	10.0	29.0	77.6	-	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	1.8	2.2	-	-	1.6	-	1.1	0.7	0.7	-	4.8	3.7	-	3.5	8.9	16.6	11.6	12.9	-	208
Others and unspecified	4.4	6.1	1.4	-	-	3.0	-	-	-	3.4	1.6	7.5	16.3	17.4	20.8	23.3	29.0	77.6	49.8	OTH
ALL	112.5	154.2	14.6	15.7	23.0	16.3	12.7	14.3	24.9	41.3	110.9	228.2	253.9	431.2	391.4	622.5	1119.7	1643.6	1777.1	ALL

SINGAPORE: MALAY, ALL RESIDENTS 1993-1997, FEMALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D6
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	0.6	0.5	-	-	-	-	-	-	1.6	0.9	1.6	-	2.9	-	-	4.3	-	-	-	141
Salivary gland	0.2	0.2	-	-	-	-	-	-	-	-	-	-	2.9	2.3	-	-	-	-	-	142
Mouth	0.3	0.5	-	-	-	1.6	-	-	-	-	-	3.3	-	-	-	4.3	-	-	-	143-5
Oropharynx	0.3	0.3	-	-	-	-	-	-	-	0.9	-	-	-	-	-	4.3	-	11.9	-	146
Nasopharynx	1.7	2.0	-	-	-	-	-	-	1.6	2.8	1.6	6.6	8.7	2.3	8.5	8.5	7.1	-	-	147
Hypopharynx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148
Oesophagus	0.6	0.8	-	-	-	-	-	-	-	-	-	-	2.9	2.3	2.8	-	-	11.9	35.4	150
Stomach	3.1	4.0	-	-	-	-	-	0.7	0.8	2.8	3.3	3.3	11.6	7.0	8.5	17.0	49.6	11.9	53.1	151
Small intestines	0.2	0.3	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	7.1	-	-	152
Colon	6.9	9.2	-	-	-	-	1.1	0.7	0.8	4.7	3.3	26.4	20.2	25.8	31.2	55.3	85.1	11.9	17.7	153
Rectum	5.4	7.3	-	-	-	-	-	-	0.8	2.8	4.9	23.1	14.5	11.7	31.2	29.8	42.5	71.6	53.1	154
Liver	2.4	3.3	-	-	-	-	1.1	-	0.8	-	3.3	6.6	2.9	7.0	11.3	21.3	35.4	11.9	17.7	155
Gall bladder, etc	1.9	2.5	-	-	-	-	-	0.7	-	0.9	1.6	9.9	2.9	4.7	5.7	17.0	14.2	35.8	-	156
Pancreas	1.7	2.4	-	-	-	-	-	-	-	0.9	-	3.3	8.7	4.7	2.8	12.8	28.4	23.9	17.7	157
Nose, sinuses, etc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160
Larynx	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	-	161
Bronchus, trachea	8.1	10.6	-	-	1.8	-	1.1	0.7	1.6	5.6	11.5	19.8	11.6	30.5	14.2	46.8	113.4	71.6	123.9	162
Pleura	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	163
Thymus, heart	0.1	0.2	-	-	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	-	164
Bone	0.5	0.4	-	-	-	-	1.1	1.5	-	0.9	-	-	2.9	-	-	-	-	-	-	170
Connective tissues	0.8	0.9	-	1.0	-	-	-	0.7	1.6	0.9	-	3.3	-	-	2.8	-	7.1	-	17.7	171
Melanoma of skin	0.8	1.0	-	-	-	-	1.1	-	-	-	-	-	-	2.3	-	12.8	14.2	-	17.7	172
Skin, others	3.3	4.2	-	-	1.8	3.2	-	1.5	-	1.9	4.9	3.3	5.8	11.7	11.3	8.5	28.4	47.7	53.1	173
Female breast	33.2	41.2	-	-	1.8	-	1.1	4.5	23.0	39.3	103.2	207.9	98.3	84.4	93.5	97.8	70.9	95.4	88.5	174
Cervix uteri	8.3	10.5	-	-	-	-	-	-	4.8	10.3	11.5	49.5	34.7	35.1	19.8	29.8	28.4	35.8	17.7	180
Chorionepithelioma	0.2	0.2	-	-	-	-	-	0.7	-	-	1.6	-	-	-	-	-	-	-	-	181
Corpus uteri	6.3	7.9	-	-	-	-	-	-	4.8	5.6	9.8	26.4	14.5	11.7	39.6	29.8	42.5	35.8	17.7	182
Ovary, etc	10.3	12.7	0.7	1.0	3.7	-	4.4	3.7	6.4	10.3	22.9	52.8	31.8	23.4	25.5	42.5	42.5	11.9	17.7	183
Other fem. genital	0.4	0.6	-	-	-	-	-	-	-	-	-	3.3	-	-	2.8	-	7.1	11.9	-	184
Bladder	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	7.0	2.8	8.5	14.2	23.9	17.7	188
Kidney & Oth. Urinary	2.3	2.9	1.4	-	-	-	-	-	1.6	1.9	1.6	6.6	5.8	4.7	14.2	12.8	14.2	11.9	17.7	189
Eye	0.3	0.3	1.4	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	2.3	2.6	2.9	8.3	7.3	3.2	-	-	1.6	1.9	-	-	-	-	5.7	-	-	-	-	191-2
Thyroid	5.0	5.7	-	-	1.8	1.6	3.3	2.2	7.9	4.7	8.2	26.4	5.8	-	11.3	4.3	14.2	83.5	17.7	193
Other endocrine	0.3	0.4	0.7	-	-	-	-	-	-	-	-	3.3	-	-	-	-	-	11.9	-	194
Non-Hodgkin's lymphoma	3.6	4.5	-	-	-	1.6	3.3	1.5	-	2.8	3.3	16.5	2.9	7.0	17.0	21.3	21.3	47.7	-	200,2
Hodgkin's disease	0.6	0.7	-	-	-	3.2	1.1	0.7	0.8	-	-	3.3	-	-	-	-	-	-	-	201
Multiple myeloma	1.0	1.4	-	-	-	-	-	-	0.8	-	-	3.3	-	-	11.3	8.5	7.1	11.9	17.7	203
Lymphatic leukaemia	1.2	1.4	2.9	5.2	1.8	-	-	-	-	-	1.6	-	-	-	2.8	-	7.1	-	-	204
Myeloid leukaemia	2.0	2.4	1.4	-	-	1.6	1.1	0.7	-	1.9	4.9	3.3	2.9	-	5.7	17.0	-	23.9	17.7	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	1.8	2.3	0.7	-	-	-	-	0.7	-	1.9	1.6	6.6	5.8	2.3	8.5	8.5	14.2	11.9	17.7	208
Others and unspecified	5.4	6.6	0.7	-	1.8	-	-	0.7	0.8	5.6	9.8	6.6	2.9	16.4	22.7	42.5	35.4	35.8	88.5	OTH
ALL	124.1	156.3	12.9	16.7	21.9	16.2	20.0	22.3	62.0	112.2	216.2	527.9	303.6	304.6	416.3	569.8	751.4	763.5	743.1	ALL

SINGAPORE: INDIAN, ALL RESIDENTS 1993-1997, MALES			INCIDENCE RATES BY AGE GROUP (YEARS)																	Appendix D7
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	2.7	2.2	-	-	-	-	-	-	-	1.6	2.2	4.4	-	7.7	11.1	6.5	11.0	34.6	23.9	141
Salivary gland	0.5	0.6	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	-	-	47.7	142
Mouth	3.9	3.5	-	-	-	-	-	-	-	-	4.5	4.4	10.9	7.7	8.3	6.5	27.4	57.7	47.7	143-5
Oropharynx	1.1	0.8	-	-	-	-	-	-	-	-	-	-	-	3.8	5.5	9.7	5.5	-	-	146
Nasopharynx	1.3	1.3	-	-	-	-	-	-	1.3	-	2.2	-	10.9	-	5.5	3.2	-	-	23.9	147
Hypopharynx	1.1	1.4	-	-	-	-	-	-	-	-	-	4.4	10.9	-	-	-	5.5	23.1	23.9	148
Oesophagus	3.2	2.8	-	-	-	-	-	-	-	1.6	-	-	10.9	-	11.1	16.2	16.5	23.1	71.6	150
Stomach	9.2	8.4	-	-	-	-	-	1.5	2.7	-	4.5	13.3	21.8	11.5	22.2	32.4	32.9	127.0	167.1	151
Small intestines	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	7.7	-	6.5	-	-	47.7	152
Colon	5.1	4.4	-	-	-	-	-	-	-	-	6.7	-	16.4	19.2	11.1	19.5	38.4	34.6	23.9	153
Rectum	5.0	4.2	-	-	-	-	-	-	-	3.3	6.7	-	10.9	7.7	13.8	9.7	32.9	57.7	71.6	154
Liver	7.9	7.0	1.6	-	-	-	-	1.5	-	1.6	2.2	13.3	5.5	15.4	16.6	25.9	43.9	103.9	143.2	155
Gall bladder, etc	1.4	1.1	-	-	-	-	-	-	-	1.6	-	4.4	-	-	-	13.0	16.5	-	-	156
Pancreas	2.6	2.1	-	-	-	-	-	-	-	1.6	-	-	10.9	3.8	11.1	9.7	16.5	23.1	-	157
Nose, sinuses, etc	0.5	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.0	11.5	-	160
Larynx	5.3	4.7	-	-	-	-	2.3	-	-	-	4.5	4.4	16.4	7.7	11.1	16.2	49.4	46.2	47.7	161
Bronchus, trachea	11.1	9.3	-	-	-	-	-	-	-	1.6	9.0	13.3	21.8	15.4	19.4	61.6	65.9	127.0	95.5	162
Pleura	0.2	0.1	-	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	163
Thymus, heart	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164
Bone	0.5	0.7	-	-	3.4	-	-	-	-	-	2.2	4.4	-	-	-	-	-	-	-	170
Connective tissues	0.8	0.6	-	-	-	-	-	-	-	1.6	6.7	-	-	-	2.8	-	-	-	-	171
Melanoma of skin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172
Skin, others	3.4	3.4	-	-	-	-	-	-	1.3	-	2.2	4.4	10.9	-	11.1	6.5	16.5	23.1	119.4	173
Male breast	0.3	0.2	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	11.5	-	175
Prostate	10.4	8.3	-	-	-	-	-	-	-	-	-	-	-	11.5	24.9	48.7	76.8	173.2	214.8	185
Testis	1.0	1.2	-	-	-	6.1	2.3	1.5	1.3	-	-	4.4	-	-	-	-	-	-	-	186
Penis	0.8	0.6	-	-	-	-	-	-	-	-	-	-	-	3.8	5.5	3.2	5.5	-	-	187
Bladder	5.3	4.8	-	-	-	-	-	-	1.3	-	9.0	13.3	-	7.7	13.8	29.2	22.0	-	119.4	188
Kidney & Oth. Urinary	2.9	3.3	1.6	-	-	-	-	-	-	-	4.5	8.8	27.3	3.8	5.5	6.5	16.5	-	-	189
Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	2.2	2.8	1.6	6.8	-	-	2.3	-	1.3	-	-	4.4	10.9	7.7	-	3.2	-	-	47.7	191-2
Thyroid	1.3	1.5	-	-	-	-	2.3	-	1.3	-	4.5	4.4	10.9	-	-	-	-	11.5	-	193
Other endocrine	0.6	0.9	-	4.5	-	3.1	-	-	-	-	2.2	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	2.9	3.0	-	-	3.4	3.1	-	4.5	1.3	-	6.7	4.4	10.9	-	5.5	6.5	-	11.5	23.9	200,2
Hodgkin's disease	1.8	1.5	-	-	-	3.1	4.6	1.5	2.7	-	2.2	-	-	3.8	-	6.5	5.5	-	-	201
Multiple myeloma	1.3	1.4	-	-	-	-	-	-	-	-	2.2	8.8	5.5	3.8	2.8	-	-	23.1	-	203
Lymphatic leukaemia	1.9	2.3	1.6	6.8	3.4	6.1	-	1.5	-	1.6	-	-	-	-	-	3.2	11.0	-	-	204
Myeloid leukaemia	2.2	2.3	1.6	-	3.4	-	2.3	3.0	1.3	1.6	-	-	5.5	-	-	6.5	11.0	-	47.7	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	1.0	1.0	-	-	-	-	-	-	-	-	-	-	5.5	-	2.8	-	16.5	-	23.9	208
Others and unspecified	2.7	2.2	-	-	-	-	-	-	-	-	-	4.4	-	11.5	2.8	6.5	32.9	46.2	-	OTH
ALL	106.4	97.2	8.2	18.0	13.7	21.5	16.1	15.1	16.0	19.7	87.5	123.9	234.6	161.4	227.1	363.3	587.3	969.8	1432.3	ALL

SINGAPORE: INDIAN, ALL RESIDENTS 1993-1997, FEMALES	INCIDENCE RATES BY AGE GROUP (YEARS)																		Appendix D8
SITE	CR	ASR	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80+	ICD
Lip Vermilion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140
Tongue	0.7	0.9	-	-	-	-	-	-	-	-	-	-	8.1	-	5.7	9.2	-	-	-	141
Salivary gland	0.6	0.9	-	-	-	-	-	-	-	-	-	9.3	-	-	-	-	-	31.9	-	142
Mouth	3.3	4.8	-	-	-	-	-	-	-	-	-	4.7	4.0	28.4	5.7	27.6	65.7	31.9	50.2	143-5
Oropharynx	0.4	0.4	-	-	-	-	-	-	-	-	-	-	4.0	4.7	-	-	-	-	-	146
Nasopharynx	0.2	0.1	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	147
Hypopharynx	0.6	0.6	-	-	-	-	-	-	-	1.6	2.4	-	-	-	-	-	-	31.9	-	148
Oesophagus	1.3	1.8	-	-	-	-	-	-	-	-	-	-	4.0	4.7	5.7	18.4	32.9	-	-	150
Stomach	4.4	6.3	-	-	-	-	-	1.5	1.5	3.2	2.4	18.6	4.0	4.7	-	55.1	49.3	63.9	100.5	151
Small intestines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152
Colon	6.3	9.4	-	-	-	-	-	1.5	-	4.8	-	27.9	-	18.9	17.2	73.5	82.2	-	200.9	153
Rectum	4.0	5.7	-	-	-	-	-	-	-	-	4.7	14.0	4.0	18.9	17.2	36.8	32.9	63.9	50.2	154
Liver	1.3	1.6	-	-	-	-	-	1.5	-	-	2.4	-	-	-	11.4	9.2	16.4	31.9	-	155
Gall bladder, etc	2.0	2.7	-	-	-	-	-	-	1.5	-	-	4.7	4.0	-	17.2	36.8	-	31.9	-	156
Pancreas	1.8	3.1	-	-	-	-	-	-	-	-	-	-	8.1	-	11.4	18.4	32.9	-	100.5	157
Nose, sinuses, etc	0.4	0.3	-	-	-	-	-	1.5	-	-	2.4	-	-	-	-	-	-	-	-	160
Larynx	0.6	0.8	-	-	-	-	-	-	-	-	-	-	-	-	5.7	9.2	16.4	-	-	161
Bronchus, trachea	3.1	5.2	-	-	-	-	-	-	-	-	-	9.3	4.0	9.5	17.2	9.2	32.9	95.8	150.7	162
Pleura	0.2	0.2	-	-	-	-	-	-	-	-	-	-	-	-	5.7	-	-	-	-	163
Thymus, heart	0.4	0.5	-	-	3.6	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	164
Bone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170
Connective tissues	0.9	0.9	-	-	-	-	-	-	1.5	-	2.4	-	4.0	-	5.7	9.2	-	-	-	171
Melanoma of skin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172
Skin, others	2.6	3.8	-	-	-	3.3	-	-	-	1.6	4.7	9.3	-	4.7	11.4	9.2	16.4	31.9	100.5	173
Female breast	31.1	36.8	-	-	-	-	2.4	-	14.7	22.5	56.9	130.4	56.6	104.0	120.1	101.1	246.5	191.6	150.7	174
Cervix uteri	6.4	7.5	-	-	-	-	-	-	-	9.7	7.1	4.7	8.1	42.5	22.9	46.0	49.3	31.9	50.2	180
Chorionepithelioma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	181
Corpus uteri	5.5	6.2	-	-	-	-	-	-	4.4	6.4	-	9.3	16.2	28.4	17.2	46.0	32.9	31.9	-	182
Ovary, etc	9.0	10.3	1.8	-	-	-	2.4	3.0	5.9	8.1	2.4	46.6	40.4	14.2	22.9	46.0	49.3	-	-	183
Other fem. genital	0.2	0.2	-	-	-	-	-	-	-	-	-	-	-	4.7	-	-	-	-	-	184
Bladder	0.7	1.4	-	-	-	-	-	-	-	-	-	4.7	-	-	-	-	32.9	-	50.2	188
Kidney & Oth. Urinary	1.3	1.9	-	-	-	-	-	-	-	-	-	-	4.0	-	11.4	18.4	16.4	31.9	-	189
Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190
Brain,nervous system	1.1	1.3	1.8	-	3.6	-	-	3.0	-	-	-	-	4.0	-	-	9.2	-	-	-	191-2
Thyroid	4.0	3.4	-	-	-	-	2.4	7.5	1.5	8.1	9.5	9.3	12.1	-	-	9.2	-	-	-	193
Other endocrine	0.2	0.3	-	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194
Non-Hodgkin's lymphoma	2.0	2.3	-	-	-	-	-	-	2.9	1.6	2.4	4.7	4.0	-	11.4	-	32.9	31.9	-	200,2
Hodgkin's disease	0.7	0.6	1.8	-	-	-	-	-	1.5	1.6	-	-	-	-	5.7	-	-	-	-	201
Multiple myeloma	1.5	1.7	-	-	-	-	-	-	-	-	2.4	-	4.0	14.2	5.7	9.2	16.4	-	-	203
Lymphatic leukaemia	0.2	0.2	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	204
Myeloid leukaemia	1.7	1.8	-	-	-	-	-	-	-	1.6	7.1	-	8.1	4.7	5.7	-	-	-	50.2	205
Monocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206
Other leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207
Leukaemia, unspecified	0.6	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63.9	50.2	208
Others and unspecified	2.9	4.0	-	-	3.6	-	-	-	-	1.6	4.7	4.7	4.0	4.7	5.7	36.8	49.3	31.9	-	OTH
ALL	104.1	131.2	7.1	-	14.4	3.3	7.2	19.6	35.2	74.1	116.1	312.0	210.2	311.9	366.0	643.4	904.0	830.1	1105.0	ALL

APPENDIX E1
CUMULATIVE RATES(%) FOR AGE 0-74 BY ETHNIC GROUP, 1993-1997: MALES

Site	All	Chinese	Malay	Indian	ICD
Lip, Vermilion	0.00	0.00	0.00	0.00	140
Tongue	0.16	0.15	0.12	0.22	141
Salivary gland	0.08	0.10	0.06	0.01	142
Mouth	0.19	0.20	0.03	0.35	143-5
Oropharynx	0.12	0.12	0.08	0.12	146
Nasopharynx	1.51	1.8	0.77	0.12	147
Hypopharynx	0.19	0.24	0.03	0.10	148
Oesophagus	0.73	0.94	0.12	0.28	150
Stomach	2.54	3.28	0.78	0.71	151
Small intestines	0.09	0.11	0.03	0.07	152
Colon	2.60	3.29	1.08	0.56	153
Rectum	2.10	2.57	1.28	0.43	154
Liver	2.35	2.77	1.80	0.64	155
Gall bladder, etc.	0.28	0.31	0.21	0.18	156
Pancreas	0.58	0.71	0.27	0.27	157
Nose, sinuses, etc.	0.11	0.14	0.02	0.06	160
Larynx	0.69	0.79	0.26	0.56	161
Bronchus, trachea	6.13	7.70	3.72	1.04	162
Pleura	0.04	0.06	0.01	0.01	163
Thymus, heart	0.06	0.05	0.10	0.00	164
Bone	0.06	0.07	0.06	0.05	170
Connective tissues	0.15	0.16	0.17	0.06	171
Melanoma of skin	0.04	0.05	0.03	0.00	172
Skin, others	1.02	1.24	0.38	0.26	173
Male breast	0.02	0.03	0.01	0.01	175
Prostate	1.51	1.72	1.01	0.81	185
Testis	0.09	0.10	0.10	0.08	186
Penis	0.12	0.15	0.00	0.09	187
Bladder	0.82	0.94	0.54	0.48	188
Other urinary	0.67	0.82	0.32	0.37	189
Eye	0.01	0.01	0.02	0.00	190
Brain, nervous system	0.23	0.24	0.23	0.19	191-2
Thyroid	0.19	0.20	0.22	0.12	193
Other endocrine	0.05	0.06	0.02	0.05	194
Non-Hodgkin lymphoma	0.76	0.81	0.90	0.23	200,2
Hodgkin disease	0.07	0.04	0.13	0.15	201
Multiple myeloma	0.14	0.13	0.28	0.12	203
Lymphatic leukaemia	0.17	0.17	0.12	0.18	204
Myeloid leukaemia	0.35	0.37	0.44	0.18	205
Monocytic leukaemia	0.00	0.00	0.00	0.00	206
Other leukaemia	0.01	0.01	0.00	0.00	207
Leukaemia, unspecified	0.20	0.20	0.27	0.12	208
Other and unspecified	0.85	1.02	0.62	0.29	OTH
ALL	28.1	33.88	16.6	9.57	ALL

APPENDIX E2
CUMULATIVE RATES(%) FOR AGE 0-74 BY ETHNIC GROUP, 1993-1997: FEMALES

Site	All	Chinese	Malay	Indian	ICD
Lip, Vermilion	0.00	0.00	0.00	0.00	140
Tongue	0.06	0.05	0.06	0.12	141
Salivary gland	0.07	0.07	0.03	0.05	142
Mouth	0.08	0.05	0.05	0.68	143-5
Oropharynx	0.02	0.02	0.03	0.04	146
Nasopharynx	0.48	0.56	0.24	0.01	147
Hypopharynx	0.00	0.00	0.00	0.02	148
Oesophagus	0.17	0.17	0.04	0.33	150
Stomach	1.32	1.47	0.52	0.70	151
Small intestines	0.08	0.09	0.05	0.00	152
Colon	2.17	2.36	1.27	1.13	153
Rectum	1.38	1.53	0.81	0.64	154
Liver	0.57	0.62	0.45	0.20	155
Gall bladder, etc.	0.27	0.26	0.29	0.32	156
Pancreas	0.38	0.40	0.31	0.35	157
Nose, sinuses, etc.	0.04	0.04	0.00	0.02	160
Larynx	0.07	0.07	0.02	0.16	161
Bronchus, trachea	2.15	2.42	1.29	0.41	162
Pleura	0.01	0.01	0.00	0.03	163
Thymus, heart	0.03	0.03	0.02	0.03	164
Bone	0.03	0.04	0.03	0.00	170
Connective tissues	0.10	0.10	0.09	0.11	171
Melanoma of skin	0.05	0.04	0.15	0.00	172
Skin, others	0.75	0.81	0.41	0.30	173
Female breast	4.98	5.11	4.13	4.28	174
Cervix uteri	1.58	1.71	1.12	0.95	180
Chorioepithelioma	0.01	0.01	0.01	0.00	181
Corpus uteri	0.95	0.95	0.92	0.80	182
Ovary, etc.	1.19	1.16	1.36	1.22	183
Other fem. genital	0.12	0.14	0.07	0.02	184
Bladder	0.19	0.20	0.16	0.19	188
Other urinary	0.27	0.27	0.32	0.25	189
Eye	0.01	0.00	0.01	0.00	190
Brain, nervous system	0.19	0.20	0.15	0.11	191-2
Thyroid	0.56	0.60	0.46	0.30	193
Other endocrine	0.03	0.03	0.02	0.02	194
Non-Hodgkin lymphoma	0.46	0.47	0.49	0.30	200,2
Hodgkin disease	0.04	0.03	0.05	0.05	201
Multiple myeloma	0.13	0.11	0.16	0.26	203
Lymphatic leukaemia	0.10	0.11	0.11	0.01	204
Myeloid leukaemia	0.22	0.23	0.20	0.14	205
Monocytic leukaemia	0.00	0.00	0.00	0.00	206
Other leukaemia	0.00	0.00	0.00	0.00	207
Leukaemia, unspecified	0.12	0.11	0.25	0.00	208
Other and unspecified	0.68	0.68	0.73	0.58	OTH
ALL	22.09	23.31	16.87	15.12	ALL