

CANCER INCIDENCE IN THE TEHRAN METROPOLITAN AREA

SECOND REPORT OF

THE TEHRAN POPULATION-BASED CANCER REGISTRY (TPBCR)

CANCER STATISTICS, 1998–2001

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National Library of Iran Cataloging-in-Publication data

Title:

Cancer Incidence in the Tehran Metropolitan Area, Report of the Tehran Population-Based Cancer Registry, 1998-2001

ISBN: 978-964-519-018-3

Keywords:

Cancer Incidence, Tehran, Iran, Population-Based Cancer Registry

Suggested Citation:

Mohagheghi M., Mosavi-Jarrahi A., Cancer Incidence in the Population of Tehran Metropolis, 1998-2001. The Cancer Institute Cancer Research Center, Tehran, Iran, 2006

Published by:

The Cancer Institute Cancer Research Center, Imam Khomeini Medical Complex, Tehran
University of Medical Sciences and Health Services,
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- The Cancer Institute Research Center, Tehran University of Medical Sciences,
- The Digestive Disease Research Center, Tehran University of Medical Sciences
- The Deputy for Research, Ministry of Health, I.R. of Iran
- The Karolinska Institute, Sweden²
- The International Agency for Research on cancer

¹ The amount of contribution differs, more than 90% of the funding comes from the Cancer Institute Research Center.

² The Scientists from Karolinska Institute in Sweden, indirectly, contributed to the registry by evaluating the quality of cancer registry data utilizing a grant from SIDA. The evaluation study is currently undergoing and an interim report has been sent to the grantor..

Executive Summary

The annual report of the Tehran Population-Based Cancer Registry (TPBCR) summarizes information on new cases of cancer (incidence) and death due to cancer (mortality) for the population of the Tehran metropolitan area. This report represents the ongoing effort by the Cancer Institute Cancer Research Center, the pathology centers and hospitals as well as other health care providers for cancer patients throughout the greater Tehran metropolitan area.

This is the second report published by the TPBCR; the first was a pilot report prepared after the first year of the establishment of the registry. The TPBCR is a huge undertaking covering an urban population of almost 7,000,000, collecting cancer information from approximately 250 sources, including hospitals, pathology and diagnostic imaging centers and other cancer patient management institutions.

Although the formal catchment area of the registry is Tehran, Tehran is also a referral city for cancer patients from different parts of the country, which has produced challenging issues for epidemiologist interested in cancer surveillance, control, and prevention. The registry has contributed to numerous research-related activities throughout the country.

This report summarizes the data collected during the period of 1998 to 2001. The report consists mainly of incidence and descriptive measures of common cancers occurring in the population covered by the registry.

To summarize this report, during the four years 1998-2001, there were a total of 18,528 cases of cancer among males and 15,749 cases among females in the population residing in the catchment area. The crude incidence rate was 109 and 122 cases per 100,000 population for females and males, respectively. The most frequent cancer among females was breast with an age adjusted rate of 31 cases per 100,000 women, followed by Ovary, Colon, Brain and Nervous system, Non-Hodgkin's Lymphoma, Esophagus, Trachea and Lung, Thyroid gland, and Cervix uteri. For males, the most frequent cancer was stomach cancer with an age

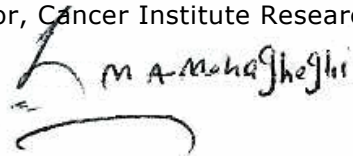
adjusted incidence of 19.7 cases per 100,000 population followed by cancers of the bladder, prostate, lung, lymphoma, Colon, and Esophagus.

This report provides tables of incidence as well as detailed information on more prevalence cancers occurring in the population of Tehran.

While challenging issues remain to be solved in a registry as big as the TPBCR in order to generate reliable cancer data, scientists are invited to explore and utilize the huge amount of information generated by the registry, now available online at "<http://crc.tums.ac.ir>", in addressing the issues of cancer prevention and control.

Mohammad Ali Mohagheghi, MD

Director, Cancer Institute Research Center



Preface

Cancer is the third cause of mortality after cardiovascular disease and accidental injuries among the Iranian population (Mohsen Naghavi 2005). The incidence of cancer is believed to be increasing as the rate of urbanization increases and the lifestyle of Iranians changes. The realization of the need to address cancer in a comprehensive manner is growing among public health administrators as well as the general public. The cancer registry, as the foundation of the cancer control program and its activities, has contributed enormously to different aspects of cancer control, from searching for the etiology of cancer to prolonging patient survival, as well as improving patient quality of life in developed and developing countries of the world (O.M. Jensen et al. 1991).

Cancer registration activities in Iran date back to 1968 when the first cancer registry (called the Babol Registry) was launched as a collaborative research agreement between the International Agency for Research on Cancer (IARC) and the Institute for Health Research affiliated with the School of Public Health of the Tehran University of Medical Sciences, in order to study the high incidence of esophageal cancer in the province of Mazandaran* (Alireza Mosavi-Jarrahi A et al. 2001). By 1971, the Babol Registry expanded its activities to cover the entire area of the Caspian littoral (from north of Khorasan province to north of the East Azerbaijan province). This registry was able to generate population data from 1968-1979. The Babol Registry ceased its activities in 1979, and then in 1991 started to collect cancer data from local treatment and diagnostic facilities. Along with the Babol Registry, another population-based cancer registry, called the Fars Registry, was established in Fars Province (central part of Iran) in 1976 and its activities were expanded to the neighboring provinces of Bakhtaran and Khuzestan. The activities of the Fars Registry were limited to the registration of histopathologically confirmed cases referred to the pathology departments or radiotherapy facility of Shiraz University of Medical Sciences. The Fars Registry was publishing cancer frequency data without reference to a defined population until recently (Alireza Mosavi-Jarrahi A et al. 2001).

In 1984, a bill was passed from the National House of Representatives requiring compulsory reporting of cancer cases to the Ministry of Health and Medical Education; however, due to the lack of a functional system to manage this compulsory reporting, no morbidity or mortality data were generated. In 1993, the Cancer Institute of the Tehran University of Medical Sciences, with a grant from the Ministry of Health and Medical Education, initiated a cancer registry campaign to assist public health authorities in different regions of the country in the establishment of regional population-based cancer registries. This campaign resulted in a series of activities in different regions, including a collaborative research agreement with the IARC, to establish a population-based cancer registry covering the population residing in the Tehran metropolitan area. This registry is currently active and continues to collect cancer data from the population residing in the greater Tehran metropolis. This report includes information from this collaborative registry for 1998-2001.

Another branch of the cancer registry in Iran was started in 1999 by the Ministry of Health, office of Disease Control, which is still in operation, collecting histopathologically confirmed cancer cases reported to the public health offices throughout the country. The data collection is passive and the reporting is done electronically. Since its conception, the registry has rigorously improved its data collection procedures as well as its quality of collected data. The registry reports cancer population data for various provinces throughout the country. In addition to its own cancer data collection, the Cancer Unit of the Office of Disease Control collaborates with the Gastrointestinal Research Center of the Tehran University of Medical Sciences to establish population-based cancer registries in the Caspian littoral to monitor the high incidence of esophageal cancer in the eastern provinces and the high incidence of stomach cancer in the province of Ardabil.

Although cancer registration in Iran is in its early stages, the enthusiasm and motivation seen among cancer researchers and public health administrators in mobilizing resources toward cancer registry activities are among the important steps toward the organization of a national cancer control program.

The Tehran Population-Based Cancer Registry (TPBCR)

As mentioned above, in 1993, a preliminary, hospital-based, cancer registry was established by the Cancer Institute with a grant from the Ministry of Health and Medical Education. Covering only the Imam Khomeini Medical Complex¹, this registry collected cancer data from all the clinics, hospitals, and diagnostic facilities of the complex in hopes of developing the instruments of cancer registration. The results of this one-year pilot study were sent as an internal report to the Cancer Institute. In 1995, the hospital-based cancer registry was extended to include other hospitals that were administratively run by the Tehran University of Medical Sciences. This expansion collected data for one year and another internal report was sent to the Cancer Institute. In 1996, the scientists of the Cancer Institute² and the IARC³ signed a research agreement⁴ in which the Cancer Institute Research Center undertook the responsibility of establishing the Tehran Metropolitan Area Population-Based Cancer Registry (TMACR). The Tehran Population-Based Cancer Registry routinely collects information regarding cancer cases referred to hospitals throughout Tehran. This report includes information from the TMACR for the years of 1998-2001.

The TMACR was initially funded by a grant from the Ministry of Health and, after experiencing some budget restraint, is now funded by the Cancer Institute Research Center from a grant supplied by the Ministry of Health and Medical Education allocated for the "Centers for Excellence". The TMACR was named after the great pathologist, the late Prof. Shamsa⁵ for his contribution to the established body of cancer data. The registry is currently active and collects cancer data among the population residing in the greater Tehran metropolis. Data from cancer

¹ The Imam Khomeini Medical Complex is the most comprehensive tertiary health care provider in Iran, which includes the Cancer Institute along with three other hospitals. The hospitals housed in this governmental complex provide close to 1000 beds.

² Dr. Mohammad Ali Mohagheghi (The Cancer Institute director at the time) and Dr. Alireza Mosavi-Jarrahi (Associate Prof. of Epidemiology at the Shaheed Beheshti University of Medical Sciences and an epidemiologist affiliated with the Cancer Institute).

³ Dr. D.M. Parkin, Head of the Descriptive Epidemiology Unit at the IARC.

⁴ Collaborative Research Agreement DEP/99/18

⁵ Prof. Shamsa, 1922 to 1999 a graduate from the Tehran University Medical School Dept. of Pathology, was one of the first pathologists at the Cancer Institute Pathology Department. His interest in cancer data, especially in standardizing cancer pathology reports, helped cancer reporting in Iran.

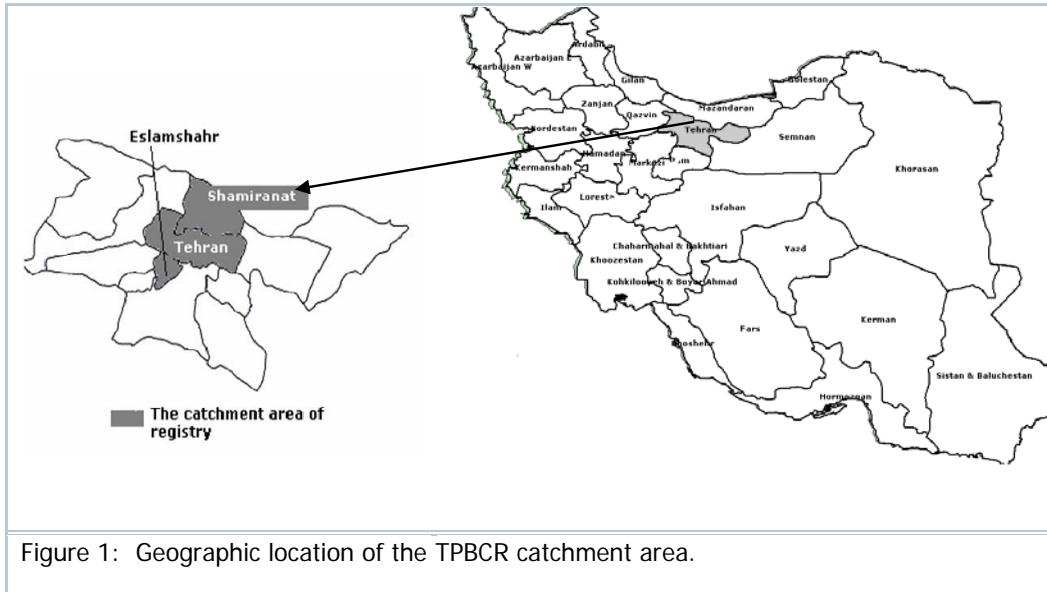
cases collected by the TMACR is available to the regional population-based cancer registries, since the patients from their catchments areas are referred to Tehran for treatment or diagnosis. While the main aim of the TMACR is to measure the incidence of cancers for the population living in the greater Tehran Metropolitan area, its huge number of cases has brought issues that challenge epidemiologists and other scientists in the field of cancer research with regards to the development of quality control measures, data management and communication. This relatively new registry has contributed to numerous national and international research projects, the data from which have benefited scientists from all over the country.

The Catchment Area of the TPBCR

Iran is divided into 29 provinces. The catchment area of the TPBCR is part of Tehran province located on the southern foothills of the Alborz mountain range at the latitude 35° 45' N. The province of Tehran includes two large urban areas and 10 small cities. The catchment area of the registry includes the Tehran metropolitan area plus the cities of Shemiranat and Eslamshar, with a population of 6,758,840 (based on the 1995 census report) living in an area of 1500 square kilometers (Figure1).

The Tehran metropolitan area is divided into 22 municipal districts. The northernmost side is contiguous with the town of Shemiran, and the southernmost side with the town of Rey and Eslamshahr. A major part of the Shemiranat and all of Eslamshar are administratively included in these 22 districts.

The general health care in these areas is primarily provided by three universities of health services and medical education: 1) Tehran University of Medical Science covers mainly the southern part of Tehran, 2) Iran University of Health Services Medical Education covers the central and western parts of the city, and 3) Shaheed Beheshti University of Health Services Medical education covers the northern and western parts of the city.



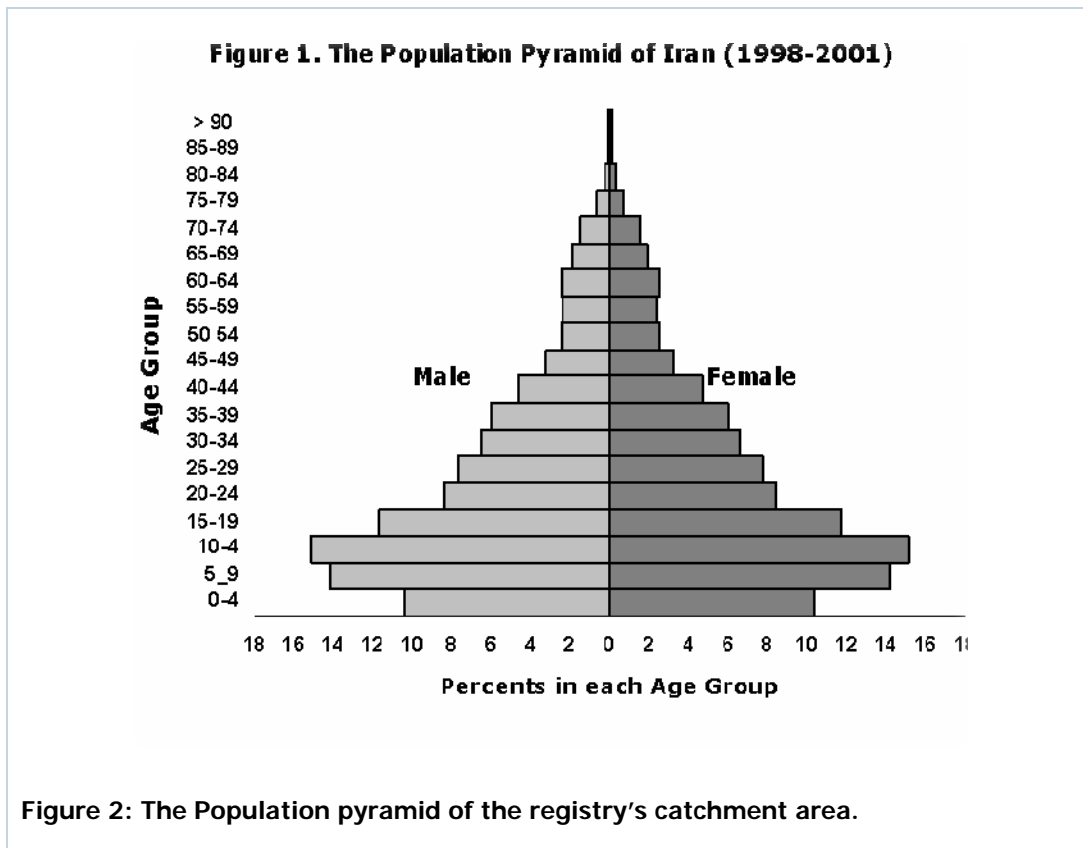
A total of 120 tertiary health care facilities, including hospitals, day clinics and specialized clinics, provide wide range of medical services to the residing population within the city, as well as cases referred from all over the country. Most of the hospitals have surgery units, but there are only 30 specialized cancer chemotherapy units and specialized cancer hospitals providing radiotherapy services.

The Population at Risk

The population residing in the catchment area is mainly an urban population with a small portion considered to be rural (some areas of the Shemiranat includes suburban and rural areas). The population is young; more than 42% of the population is under 15 years of age and only 13% percent are over 50. Figure 2 and Table 1 present the population pyramid and number according to age and gender for the years 1998-2001.

Iran has six different ethnic groups (Kord, Lur, Persian, Turk, Baluch and Arab) scattered throughout the country. The Tehran population consists of immigrants from all over the country (all ethnic groups) who have immigrated and settled in the Tehran metropolis during the last 50 to 60 years [A.M.Habibi & B.Hourcade, 2005]. Therefore, the majority of the population of Tehran consists of immigrants from the different ethnic groups of Iran. Although the proportion of

each ethnic group has not been determined, it is fairly proportional to the total population of each ethnic group in the country, mostly Persian and Turk.



Based on the 1995 census, the majority of the Tehran population is literate; the spectrum of literacy ranges from some districts with an over 6-year literacy rate of 97% to others as low as 80% [A.M.Habibi & B.Hourcade, 2005].

The population is heterogeneous in terms of social classes. Different social classes are geographically distributed over the 22 districts of the Tehran metropolis: the upper class mainly lives in the northern part of the city and lower classes are primarily in the southern and southeastern parts of the city. Currently, the registry does not attempt to draw distribution of cases according to districts or social classes; however, this is a potentially achievable goal in the future activities of the registry.

Table 1. The distribution of the at-risk population* according to gender and age group, 1998-2001.

Age Group	Female	Male
0-4	262589	277381
5-9	380276	394830
10-14	479637	496153
15-19	403243	417519
20-24	325841	349254
25-29	325638	346845
30-34	300870	308206
35-39	271911	275317
40-44	218397	232533
45-49	164521	175954
50-54	124317	137752
55-59	99030	114907
60-64	85873	105772
65-69	69205	74871
70-74	53526	57501
75+	51752	46482
Total	3616626	3811275

*The population for each age and sex group was averaged over a 4-year period

The Data Collection Sources, and Procedures

The registry's data collection is active. Trained data abstractors are referred to diagnostic and treatment centers and facilities to obtain information about cancer cases referred to the facility. The abstractors are all medical technologists with at least two years of academic training in the field of medical technology. In addition, each abstractor is given ad hoc training before she/he is sent to abstract cancer cases. Data about cancer patients is collected mainly from three sources:

- 1) Pathology departments

- 2) Medical record departments in hospitals (including diagnostic imaging departments and outpatient clinics)
- 3) Tehran cemetery death certificate records.

Abstractors have two different procedures for data collection: 1) data collection from pathology departments; 2) data collection from the patients' medical records in hospital. In the first case, since each pathology department keeps a hard copy of the pathology reports, the abstractor is given a list of terms in order to separate cancer cases from other diagnoses and then items of information are abstracted to a form prepared for abstraction of cancer patient information. In addition, the abstractor brings a hard copy of the pathology report to the cancer registry office for further workup. For hospitals, the abstractor is referred to the medical records department where he/she abstracts information from the medical records of patients whose diagnoses are cancer, based on the ICD coding practices. In Tehran, almost all hospitals have a medical records department and each patient's record is coded according to the ICD coding system. If a patient's file includes a pathology report, a hard copy of the report is brought to the cancer registry office along with the abstracted information.

Generally, the abstractors visit hospitals every six months. Those hospitals where the number of cases is few may be visited once a year. Visiting hospitals or pathology departments requires the cooperation of the authorities in the respective department. While the majority of hospitals and pathology departments cooperate fully, some departments have reservations and their cooperation is limited. While attempts are made to cover all sources of data collection, no data are collected from private practice clinics and/or stand-alone sono-imaging centers.

To include cases reported using the death certificate records, databases of all death certificates with cancer as the cause of death (based on the ICD-9 coding system) are retrieved from the main Tehran cemetery office and electronically linked to the Tehran cancer registry databases. Those deaths that are due to cancer (without any record in the registry) are considered eligible cases and registered as Death Certificate Only cases.

Case Definition:

The registry has three eligibility criteria to include a case as incidence case:

- 1) any case of malignant tumor with an International Classification of Diseases for Oncology (ICD-O) behavior code of 3.
- 2) any incidence case that meets the criteria for abstraction and has a residence within the covered population (eligible for incidence).
- 3) Any death certificate notified cancer (Death Certificate Only or DCO) that the cancer registry database has no information about the case. The date of diagnosis as cancer for a case retrieved from the death certificate source is considered as date of death.

For this report, an eligible case is a patient diagnosed with cancer (by histopathology, death certificate, sono-imaging procedures, or clinically), who is a resident of the catchment area and the date of his/her first cancer diagnosis is between 1998 and 2001 (inclusive). A resident is a person who has lived at least one year in the geographic boundaries of the catchment area.

Procedure for the Verification of Case Eligibility

Although all cases of cancer referred to treatment and diagnostic facilities through out Tehran are abstracted for the registry, not all the abstracted cases are considered eligible for the purpose of estimating incidence. Several challenging points are complicating the verification of eligibility: the fact that many patients residing outside of Tehran are referred to facilities in Tehran complicates the ability to differentiate between a case that is from the at-risk population or the catchment area and a case that is from outside the catchment area.

Eligibility is established if a patient resides inside the geographic boundaries of the catchment area. This simple criterion is complicated when no residency address is present in the patient's hospital or pathology department records. In the absence of a residency address, a combination of telephone number, place of birth,

being insured outside the catchment area, and lack of any traceable residency address are used to establish residency criteria.

For cases diagnosed as cancer by death certificate only, the eligibility for residency is well documented in the death certificate however, problem inherent in death certificates (lack of a precise cause of death or report of metastatic cancers as primary cancers) complicate linkage and introduce uncertainty in the eligibility criteria. The date of diagnosis as cancer for a case retrieved from the death certificate source is considered as date of death.

Procedure to Eliminate Duplications

Another challenging issue is the collection of duplicate information for some cases, since a case can be abstracted from more than one source. The process to eliminate duplication is further complicated by the fact that no unique national identification number is assigned to people in Iran and there is a high degree of similarity among people's names. The registry now uses first name, last name, date of birth, birth certificate number, father's name, place of birth, and place of residency, or a combination of these fields, to eliminate duplications. The degree of uncertainty in establishment of duplication is high and several studies are under way to further validate strategies of duplicate elimination.

Data Management

All cases accessioned from the different sources are entered into a network of computers and a computer program with a data entry form that is compatible with data abstraction form allows the clerk to enter the data into the computer.

Quality Control

The quality of the information in the registry is control at two levels: 1) before data entry; 2) during the data entry level. Before the data entry, attempts are made to establish all necessary information (verification of residency, date of diagnosis, and proper coding of the pathology report). The verification of residency and date of diagnosis are mainly established at the abstractor level (the best of possible attempts). At the data entry level, a measure of quality control is applied to maintain consistency between the date of birth and age, gender and site of cancer, age and morphology of tumor, as well as likelihood of site and morphology combination.

In addition, software developed by the IARC, called IARCTools, which can flag a record that does not conform to proper topography and morphology combinations, is regularly used to check for anatomical site and morphology consistency. Any inconsistency is checked and corrected. In addition, the completeness of registry's coverage, and validity of the abstracted data items are measured and controlled with ad hoc programs when resources are available to the registry program.

Coding and Classification

The registry uses ICD-O coding system. All cases were coded according to the ICD-O-2 (prior to 1999) and to the ICD-O-3 (after 1999) coding systems. The ICD-O coding of a case is done either by the pathologist issuing the original pathology diagnosis report or by a trained pathologist working with the registry. The registry pathologist controls the codes assigned by the issuing pathologist to increase the reliability of the coding practice.

Different classifications are used for interim reports generated by the registry depending on the aim and objective of the report. For this report, the "conversion and check" program for cancer registries developed by the IARC, called DEPeditis and IARCTools, were used to convert the ICD-O-3 coding system to the

ICD-10 coding system. Tables of incidences were calculated using the ICD-10 two digit level classification. To avoid low numbers of cases in the cells, certain categories in the two-digit level of ICD-10 were combined as shown in Table 2, which presents the classifications and their corresponding ICD-10 codes used in the estimation of the incidence.

The data included in this report is presented in two parts; part one consists of tables of incidence, rate, and risks that are generated using the classification used in the table 2, and part two that includes descriptive measures about more prevalent cancers. For the second part, the same ICD-10 categories (as table 2) were used, but for each site ICD-OC topography and ICD-OM morphology details are presented as tables of frequency and percent. For lymphoma and leukemias, the three digit ICD-10 codes are used as sub-grouping classification. The group "Other morphology or topology" was constructed by adding up subcategories with low frequencies in the tables of frequencies.

Table 2. Classification used in this report.

ICD-10 codes	Anatomical Sites
C00	Lip
C01-C02	Tongue
C03-C06	Mouth
C07-C08	Salivary gland
C9, C10, C14	Tonsil, oropharynx & other ill-defined sites
C11	Nasopharynx
C12-C13	Hypopharynx
C15	Esophagus
C16	Stomach
C17	Small intestine
C18	Colon
C19-C20	Rectum
C21	Anus & anal canal
C22	Liver & intrahepatic bile ducts
C23-C24	Gallbladder
C25	Pancreas
C30-C31	Nose, sinuses, etc.
C32	Larynx
C33-C34	Trachea & lung
C37-C39	Other thoracic organs
C40-C41	Bone
C43	Malignant melanoma of skin
C44	Other malignant neoplasms of skin
C45-C46	Mesothelioma & Kaposi's sarcoma
C47+49	Connective & soft tissue
C50	Breast
C51-C52, C57-C58	Vulva, vagina, & unspecified female genital areas
C53	Cervix uteri
C54	Corpus uteri
C55	Uterus unspecified
C56	Ovary
C60 & C63	Penis & other unspecified male genital organs
C61	Prostate
C62	Testis
C64-C65	Kidney & renal pelvis
C66 & C68	Ureter & other unspecified urinary organs
C67	Bladder
C69	Eye & adenexa
C70-C72	Brain, nervous system
C73	Thyroid gland
C74-C75	Adrenal gland, other endocrine glands & related areas
C81	Hodgkin's disease
C82-C85 & C96	Non-Hodgkin's lymphoma
C90	Multiple myeloma & malignant plasma cell neoplasm
C91	Lymphoid leukemia
C92-C94	Myeloid leukemia
C95	Leukemia, unspecified
C26, C39, C48 & C76-C80	Other, unspecified

Calculation of Incidence and Risk

Two sets of estimates for rates and risks were calculated in this report: 1) an estimate based on all eligible cases; 2) an estimate based on all eligible cases excluding the DCO cases. For each set, age-specific and age-adjusted incidence, and cumulative risk and rate were calculated for each classified category. The age-adjusted incidence was calculated using the world standard population (Table 3).

Table 3: Age distribution of the world population

Age Group	Number per 100,000 Population
0-4	12,000
5-9	10,000
10-14	9,000
15-19	9,000
20-24	8,000
25-29	8,000
30-34	6,000
35-39	6,000
40-44	6,000
45-49	6,000
50-54	5,000
55-59	4,000
60-64	4,000
65-69	3,000
70-74	2,000
75-79	1,000
80-84	500
85+	500

The cumulative risk was calculated for life spans of 0-64 and 0-70 years. To calculate the cumulative risk, the cumulative rate was calculated by the sum of the age-specific incidence rates multiplied by the width of the age group. Using the formula in Exhibition 1, the cumulative risk was calculated for each category (anatomical site). The cumulative risk is the risk that an individual would have of developing a particular cancer over a defined life span (e.g. 0-75) in the absence of any other cause of death.

$$\text{Exhibition 1. } \text{Cumulative Risk} = 100 \times [1 - \exp(- \text{Cumulative Rate})/100]$$

Summary of Results

During this four-year period, 107,000 cases of cancer were registered in the TPBCR. Of these, close to 18,000 cases were eliminated due to redundancy (cases that were accessioned more than one time from different facilities). Of the remaining cases, 34,269 met a combination of criteria confirming that they belonged to the population at risk. The separation of patients belonging to the catchments area was based on several criteria, including having a residency address or a telephone number within the area code of the catchment area, being born in Tehran, and having no residency address or telephone number outside Tehran.

From the mortality report, a total of 15,853 cancer death records were retrieved from the Tehran cemetery database for the 1998-2001 time periods. Linkage of the Tehran mortality database and the cancer registry database retrieved 7,716 cases that were linked to incidence cases in the database, which were then eliminated from the incidence calculation. The remaining 8,737 mortality cases were treated as DCOs and were included in the incidence estimation. Due to the large number of DCOs, two sets of incidence were estimated: 1) incidence based on all cases including DCOs, and 2) incidence excluding DCOs.

For the set including DCOs, we estimated a crude rate of 122 and an age-adjusted rate (ASR) of 163 for males, and a crude rate of 109 and an ASR of 142 for females. Cancers of the stomach, bladder and colon were the most frequent cancers among males, with a crude incidence of 14, 10, and 5, and an ASR of 20, 13, and 7, respectively. Cancers of the breast, stomach, and ovary were the most frequent cancers among females, with a crude rate of 25, 7, and 5, and an ASR of 31, 10, and 6, respectively. Tables 4 and 5 present the age-specific and adjusted incidence rates for different categories of cancers.

For the set excluding DCOs, we estimated a crude rate of 92 and an ASR of 121 for males, and a crude rate of 83 and an ASR of 106 for females. Cancers of the stomach, bladder and colon were the most frequent cancers among males, with a crude incidence of 9, 8, and 4 and an ASR of 13, 12, and 6, respectively. Cancers of the breast, stomach and ovary were the most frequent cancers among females, with a crude rate of 20, 5, and 4, and an ASR of 25, 6, and 5, respectively. Tables 6 and 7 present the age-specific and adjusted incidence rates for different categories of cancers for the set excluding DCOs. For both sets of the data, two summary tables of cumulative risk and rate were estimated and are presented in Tables 9 through 12.

Interpretation of the Data

This report describes the results of the TPBCR, a population-based cancer registry that has several unique features that may introduce uncertainty and ambiguity in terms of completeness of the case findings. First of all, the registry operates in a city that acts as magnet for cancer patients seeking second opinions in order to enjoy better quality of treatment and patient care. This in turn causes the accession of a large number of cases that do not really belong to the population at risk. The lack of precise and informative medical record keeping in the hospitals further complicates this matter and contributes to a major source of uncertainty in differentiating between a case that belongs to the population at risk with a case that does not belong to the at-risk population. The presence of a high proportion of referral cases in a registry is a problem that may contribute to overestimation of the rate for all cancers or certain cancers, and may result from the various patterns in which patients seek medical services.

Another source of uncertainty that needs to be considered in interpreting this report is the fact that the low quality of patient information available to the registry may result in high rate of duplication and complicate reporting of second primary cancers.

The third source of uncertainty is the inclusion of prevalent cases as new cases causing an overestimation of the rates. The registry has been collecting data for the last four years and the inclusion of death cases that were not registered as incidence may result in the inclusion of prevalent cases that died during the registry's operation time (1998-2001). This problem is more severe for cancers associated with longer survival times. A large number of DCOs (about 24%) in our study may in fact be causing an overestimation of the rates by inclusion of prevalent cases as new cases. In order to address this problem, the percent of cases included as DCOs is presented for cancers of specific sites to help the reader interpret the results. While a high percentage of DCOs with cancers associated with long survival times may indicate overestimation of the incidence, on the other hand, cancers associated with short survival times (i.e. such as lung and stomach cancer) may be less subject to overestimation, as the number of

prevalent cases is small. A high percentage of DCOs associated with certain sites (i.e. site of common metastases) may in fact contribute to overestimation incidence for those sites, as is the case for lung and liver. The inclusion of DCO's in the registry, otherwise, increases completeness as not all cancers have histopathology diagnosis plus a short survival time may be associated with higher proportion of certain cancers due to a late stage care seeking in the country.

Although the registry faces the challenging issues of determination of residency, duplication, linkage, and notion of prevalent cases, the registry benefits from a high degree of validity in terms of tumor diagnosis and coding system as well as completeness in terms of accession of all cases.

Part II

The Tables

Table 5. Age specific and adjusted incidence per 100,000 by age group for female, 1996-2000 (includes DCO's)

Site	No	%	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	Crude	ASR	ICD10 Codes
Lip	10	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.3	0.0	0.4	0.0	1.9	0.1	0.1	C00
Tongue	91	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.3	0.6	1.2	1.0	1.3	2.6	4.3	7.5	12.1	0.6	0.9	C01-C02
Mouth	78	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.2	0.7	0.3	0.6	2.0	2.6	5.4	4.2	8.2	0.5	0.7	C03-C06
Salivary gland	89	0.6	0.0	0.0	0.0	0.2	0.7	0.5	0.7	0.6	1.1	2.0	2.0	1.5	0.9	1.4	2.8	1.9	0.6	0.7	C07-C08
Tonsil, Oropharynx & Other ill-defined sites	12	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.2	0.5	0.3	1.1	0.0	0.0	0.1	0.1	C9, C10, C14
Nasopharynx	66	0.4	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.7	1.1	1.4	1.8	1.3	0.6	1.8	1.9	0.0	0.5	0.5	C11
Hypopharynx	26	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.0	0.6	0.5	1.2	0.4	2.3	1.5	0.2	0.2	C12-C13
Esophagus	536	3.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	2.9	2.9	9.1	16.0	23.4	30.1	54.8	46.5	3.8	5.3	C15
Stomach	1030	6.6	0.0	0.0	0.1	0.1	0.2	0.8	1.6	3.0	5.3	7.8	17.3	21.8	38.5	51.8	85.3	114.8	7.2	10.0	C16
Small intestine	240	1.5	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.7	0.9	1.1	3.2	4.6	8.2	6.9	17.8	41.2	1.7	2.3	C17
Colon	650	4.2	0.0	0.0	0.0	0.0	0.3	0.8	1.7	3.0	6.4	9.8	14.1	16.2	23.7	31.9	36.1	40.2	4.5	6.1	C18
Rectum	376	2.4	0.0	0.0	0.0	0.0	0.2	0.9	1.7	2.6	3.6	4.1	8.7	9.9	12.3	19.2	15.9	21.8	2.6	3.5	C19-C20
Anus & anal canal	37	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.8	0.6	2.0	1.2	1.8	0.9	2.4	0.3	0.4	C21
Liver & intrahepatic bile ducts	334	2.1	0.7	0.1	0.2	0.1	0.1	0.3	0.3	0.7	1.7	3.7	2.8	6.6	9.6	17.0	26.2	44.1	2.3	3.2	C22
Gallbladder	164	1.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.7	0.9	3.2	3.5	5.3	10.1	14.5	17.4	1.1	1.6	C23-C24
Pancreas	260	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.6	2.3	5.4	6.3	8.5	13.0	19.2	36.3	1.8	2.6	C25
Nose, sinuses, etc	34	0.2	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.1	0.5	0.2	0.8	1.3	0.6	0.7	1.4	2.4	0.2	0.3	C30-C31
larynx	93	0.6	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.5	2.0	2.0	2.3	3.2	4.7	3.3	10.2	0.7	0.9	C32
Trachea and Lung	726	4.6	0.0	0.0	0.0	0.1	0.4	0.8	0.6	2.1	4.5	7.3	14.9	17.0	23.1	35.1	59.5	71.7	5.1	7.0	C33-C34
Other Thoracic organs	41	0.3	0.5	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.3	0.5	1.0	1.0	0.6	1.8	2.3	1.5	0.3	0.4	C37-C39
Bone	269	1.7	0.0	1.1	2.0	2.9	1.3	1.2	0.9	0.9	1.5	1.4	2.2	3.0	2.9	7.2	6.6	11.6	1.9	2.0	C40-C41
Malignant melanoma of skin	79	0.5	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.3	0.9	0.5	0.8	0.8	2.3	5.1	4.2	10.7	0.5	0.7	C43
Other malignant neoplasms of skin	618	3.9	0.0	0.1	0.0	0.2	0.3	0.6	0.6	0.8	4.4	8.8	14.9	16.2	19.6	30.1	43.6	52.8	4.3	6.0	C44
Mesothelioma and Kaposi's Sarcoma	28	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.6	1.0	0.9	0.0	1.9	2.9	0.2	0.3	C45-C46
Connective and soft tissue	239	1.5	0.7	0.5	0.6	1.3	1.6	1.3	1.8	1.0	1.5	3.2	3.6	3.8	3.5	4.7	6.6	7.3	1.7	1.9	C47+49
Breast	3553	22.7	0.0	0.0	0.0	0.0	1.1	5.2	14.3	31.4	55.1	92.1	104.5	93.9	90.8	96.7	94.2	101.3	24.8	31.5	C50
Vulva, Vagina, & unspecified female genital	73	0.5	0.2	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.8	1.4	1.4	2.5	2.0	2.9	3.7	2.4	0.5	0.7	C51-C52, C57-C58
Cervix uteri	514	3.3	0.0	0.0	0.0	0.0	0.1	0.5	1.1	2.8	6.8	8.1	12.1	16.7	16.9	19.6	25.8	28.6	3.6	4.8	C53
Corpus uteri	261	1.7	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.7	3.0	4.1	6.5	6.8	12.6	12.3	17.8	8.7	1.8	2.5	C54
Uterus unspecified	73	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.4	1.0	1.1	2.4	3.0	2.6	2.9	1.9	1.9	0.5	0.7	C55
Ovary	728	4.6	0.1	0.1	0.2	1.2	2.4	2.6	2.6	3.1	6.4	11.6	15.7	18.0	26.0	29.4	27.6	29.6	5.1	6.5	C56
Kidney and renal pelvic	185	1.2	1.4	0.4	0.0	0.1	0.2	0.3	0.2	0.8	1.8	2.7	2.2	4.6	8.2	8.7	10.3	4.4	1.3	1.8	C64-C65
Urethra and other & unspecified urinary organs	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.5	0.0	0.0	C66 & C68
Bladder	388	2.5	0.1	0.0	0.0	0.1	0.0	0.5	0.2	0.5	1.0	2.6	3.4	8.6	16.1	19.9	30.9	57.7	2.7	3.8	C67
Eye & adenexa	42	0.3	1.0	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.5	0.4	0.5	0.6	2.2	2.3	1.9	0.3	0.4	C69
Brain, Nervous system	570	3.6	1.4	1.9	1.9	2.2	2.4	2.6	2.5	5.4	5.7	7.3	10.5	9.4	8.8	10.9	12.6	12.1	4.0	4.5	C70-C72
Thyroid gland	360	2.3	0.0	0.1	0.2	1.1	1.5	2.6	2.3	3.7	5.7	6.1	7.1	5.3	6.4	6.9	5.6	8.7	2.5	2.8	C73
Adrenal & other related endocrine glands	55	0.4	0.8	0.1	0.0	0.5	0.2	0.2	0.7	0.3	0.2	1.4	0.4	0.3	0.9	1.1	0.0	1.0	0.4	0.4	C74-C75
Hodgkin's disease	177	1.1	0.1	0.2	0.4	2.2	2.2	1.8	1.1	1.1	1.7	0.9	0.8	1.3	1.5	2.5	2.3	2.9	1.2	1.2	C81
Non-Hodgkin's Lymphoma	570	3.6	0.9	0.3	0.7	1.4	2.9	2.3	2.3	3.6	4.7	6.1	7.5	9.1	16.1	21.4	27.6	28.1	4.0	4.9	C82-C85 & C96
Multiple myeloma & malignant plasma cell	136	0.9	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	1.3	2.7	2.6	3.0	6.1	5.1	9.4	7.8	1.0	1.3	C90
Lymphoid Leukaemia	236	1.5	2.7	2.7	1.8	1.2	1.2	0.4	0.7	0.6	0.8	1.7	1.4	2.5	1.8	5.1	5.2	5.8	1.7	1.8	C91
Myeloid Leukaemia	212	1.4	0.4	0.7	0.8	1.1	1.2	1.7	1.2	1.9	1.1	2.9	2.4	2.3	3.5	5.8	3.3	4.4	1.5	1.6	C92-C94
Leukaemia unspecified	315	2.0	0.9	0.6	0.6	1.4	1.5	1.2	0.8	1.0	2.3	2.0	6.3	4.1	5.5	8.0	12.2	29.6	2.2	2.7	C95
Others and Unspecified	1082	6.9	1.4	0.7	0.4	0.6	1.5	2.1	2.7	3.8	7.0	13.1	20.2	25.8	33.6	51.5	67.5	82.9	7.6	10.1	***
All sites	15659	100	13	10	10	18	25	33	46	82	147	230	320	359	456	599	779	982	109	142	
All sites but Skin	15041	96	13	10	10	18	25	33	46	81	143	221	305	342	436	569	736	929	105	136	

*** C26, C39, C48& C76-C80

Table 4. Age specific and adjusted incidence per 100,000 by age group for male, 1996-2000 (includes DCO's)

Site	No	%	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	Crude	ASR	ICD10 Codes
Lip	35	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.4	0.5	0.7	0.2	2.3	1.3	4.9	0.2	0.3	C00
Tongue	86	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.4	1.4	0.9	3.3	2.4	4.4	4.4	8.6	0.6	0.8	C01-C02
Mouth	96	0.5	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.4	2.2	1.6	0.9	1.7	2.8	4.0	8.7	0.6	0.9	C03-C06
Salivary gland	77	0.4	0.0	0.0	0.1	0.1	0.0	0.3	0.4	0.0	0.4	0.9	2.0	3.3	1.2	2.0	3.5	5.4	0.5	0.7	C07-C08
Tonsil, Oropharynx & Other ill-defined sites	27	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.9	0.9	1.7	1.3	2.2	0.2	0.2	C9, C10, C14
Nasopharynx	143	0.8	0.0	0.0	0.1	0.4	0.1	0.9	0.2	1.6	1.3	2.9	3.5	4.6	3.1	2.7	3.5	0.5	0.9	1.1	C11
Hypopharynx	43	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.7	0.7	1.1	1.4	1.3	3.9	2.2	0.3	0.4	C12-C13
Esophagus	723	3.9	0.0	0.0	0.0	0.0	0.1	0.3	0.8	1.5	3.0	4.3	8.7	11.8	23.0	41.6	57.6	96.1	4.8	6.8	C15
Stomach	2109	11.5	0.0	0.1	0.0	0.2	0.3	0.7	2.1	3.6	7.9	13.7	24.8	35.2	70.2	127.0	168.9	267.7	14.0	19.7	C16
Small intestine	266	1.4	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.6	1.1	2.9	3.6	3.5	6.6	16.1	19.2	36.2	1.8	2.5	C17
Colon	753	4.1	0.0	0.0	0.0	0.1	0.4	0.7	1.7	2.6	5.8	9.1	14.6	17.7	20.4	40.9	38.0	61.0	5.0	6.7	C18
Rectum	462	2.5	0.0	0.0	0.0	0.0	0.1	0.4	1.7	2.1	4.2	5.8	7.5	9.0	17.8	18.1	22.3	37.2	3.1	4.0	C19-C20
Anus &anal canal	31	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	1.5	0.4	0.7	2.0	1.3	2.2	0.2	0.3	C21
Liver &intrahepatic bile ducts	414	2.2	0.3	0.0	0.1	0.1	0.3	0.1	0.4	0.9	1.8	3.9	6.0	6.6	13.0	25.1	28.8	45.9	2.7	3.8	C22
Gallbladder	122	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	2.3	2.2	2.0	3.3	7.7	7.9	12.4	0.8	1.1	C23-C24
Pancreas	351	1.9	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.5	0.6	2.3	5.1	9.4	12.3	19.8	26.2	42.6	2.3	3.3	C25
Nose, sinuses,etc	61	0.3	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.4	0.8	0.9	1.5	0.7	2.4	1.7	2.2	2.7	0.4	0.5	C30-C31
larynx	578	3.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.4	2.6	5.7	12.2	15.1	23.0	34.9	37.1	45.3	3.8	5.4	C32
Trachea and Lung	1584	8.6	0.0	0.0	0.0	0.0	0.7	0.4	1.1	2.2	5.5	9.3	20.8	37.1	48.2	84.1	130.0	205.1	10.5	14.8	C33-C34
Other Thoracic organs	45	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.1	0.4	0.4	1.2	2.7	1.7	2.2	0.3	0.4	C37-C39
Bone	362	2.0	0.2	1.0	2.1	4.0	2.4	1.2	2.0	1.0	1.4	1.7	4.0	3.5	5.2	8.4	6.1	14.0	2.4	2.5	C40-C41
Malignant melanoma of skin	99	0.5	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.5	0.9	0.6	1.8	0.9	3.1	4.4	6.1	10.8	0.7	0.9	C43
Other malignant neoplasms of skin	1133	6.2	0.1	0.3	0.2	0.2	0.3	0.5	1.4	1.9	5.7	10.8	22.2	26.2	41.0	55.0	62.4	119.3	7.5	10.4	C44
Mesothelioma and Kaposi's Sarcoma	53	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.8	0.4	0.2	1.1	0.9	2.7	3.5	7.6	0.4	0.5	C45-C46
Connective &soft tissue	340	1.8	1.2	0.7	0.5	1.9	2.0	1.7	1.7	2.2	2.3	3.7	3.5	5.7	5.0	9.4	7.4	10.3	2.3	2.6	C47+49
Breast	92	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.5	1.3	1.6	2.6	2.8	3.7	5.2	8.6	0.6	0.8	C50
Penis & other unspecified male genital organ	7	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.4	0.0	0.3	0.0	0.0	0.1	0.1	C60 & C63
Prostate	1565	8.5	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.5	1.1	5.1	15.5	36.5	95.2	145.7	365.5	10.3	15.5	C61
Testis	281	1.5	0.7	0.2	0.1	0.8	1.9	4.1	4.8	3.1	2.9	3.3	0.4	2.2	0.7	2.7	1.3	1.6	1.9	1.8	C62
Kidney and renal pelvic	341	1.9	1.2	0.3	0.0	0.1	0.1	0.0	0.1	0.9	1.5	4.6	6.7	8.3	11.1	19.4	19.6	20.5	2.3	3.1	C64-C65
Urethra and other unspecified urinary organs	11	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0	1.7	1.6	0.1	0.1	C66 & C68
Bladder	1408	7.7	0.0	0.1	0.1	0.2	0.3	0.6	0.9	2.2	5.3	10.4	15.1	23.4	42.5	72.1	115.2	207.8	9.3	13.2	C67
Eye & adenexa	61	0.3	1.4	0.1	0.1	0.1	0.0	0.1	0.2	0.3	0.0	0.4	0.4	0.4	1.2	1.7	2.6	5.4	0.4	0.6	C69
Brain, Nervous system	795	4.3	1.5	2.9	2.3	2.4	2.7	3.5	5.1	6.3	5.7	8.6	10.0	10.7	17.6	21.1	17.9	18.4	5.3	5.9	C70-C72
Thyroid gland	134	0.7	0.0	0.1	0.0	0.4	0.4	0.7	1.3	0.9	0.8	1.9	2.6	3.3	2.4	3.4	3.5	5.4	0.9	1.0	C73
Adrenal and other endocrine related	60	0.3	0.8	0.1	0.2	0.2	0.1	0.3	0.2	0.5	0.6	1.3	0.5	0.9	1.2	0.7	0.4	0.0	0.4	0.5	C74-C75
Hodgkin's disease	311	1.7	0.4	0.8	1.1	1.9	2.9	2.0	2.6	3.4	2.1	2.4	3.1	2.0	4.7	1.7	4.4	4.3	2.1	2.1	C81
Non-Hodgkin's Lymphoma	887	4.8	0.7	1.7	2.0	2.8	2.9	3.1	3.7	4.7	6.0	8.1	11.5	14.0	19.2	24.1	36.7	58.8	5.9	7.1	C82-C85 & C96
Multiple myeloma & malignant plasma cell	189	1.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6	1.3	1.4	4.2	5.5	8.1	11.7	10.0	9.2	1.3	1.7	C90
Lymphoid Leukaemia	383	2.1	3.7	4.6	2.2	2.4	2.4	0.7	0.2	1.0	1.0	2.1	2.6	2.6	5.5	6.7	8.3	9.7	2.5	2.8	C91
Myeloid Leukaemia	247	1.3	1.0	0.4	0.3	1.3	0.9	1.3	1.9	1.8	2.5	1.3	3.3	2.6	5.9	3.4	3.9	11.9	1.6	1.9	C92-C94
Leukaemia unspecified	463	2.5	0.6	1.1	0.6	2.3	1.7	1.7	1.1	1.5	2.6	3.1	4.4	3.3	8.8	15.4	22.7	49.7	3.0	3.8	C95
Others and unspecified	1173	6.4	1.0	0.2	0.7	0.9	1.5	1.0	2.7	5.1	6.5	10.4	18.8	24.0	33.2	55.0	67.6	109.0	7.8	10.4	***
All sites	18401	100	15	15	13	23	25	27	40	56	88	147	240	323	511	858	1120	1939	122	163	
All sites but skin	17268	94	15	14	13	23	25	27	39	54	83	137	218	297	470	803	1058	1820	115	153	

*** C26, C39, C48, & C76-C80

Table 6 . Age specific and adjusted incidence per 100,000 by age group for male, 1996-2000 (does not include DCO's)

Site	No.	%	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	Crude	ASR	ICD10 codes
Lip	35	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.4	0.5	0.7	0.2	2.3	1.3	4.9	0.2	0.3	C00
Tongue	78	0.6	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.4	1.1	0.9	3.3	1.7	4.0	3.9	8.1	0.5	0.7	C01-C02
Mouth	74	0.5	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.4	0.2	1.3	0.7	1.3	2.6	2.7	6.5	5.9	0.5	0.7	C03-C06
Salivary gland	77	0.6	0.0	0.0	0.1	0.1	0.0	0.3	0.4	0.0	0.4	0.9	2.0	3.3	1.2	2.0	3.5	5.4	0.5	0.7	C07-C08
Tonsil, Oropharynx & Other ill-defined sites	27	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.9	0.9	1.7	1.3	2.2	0.2	0.2	C9, C10, C14
Nasopharynx	143	1	0.0	0.0	0.1	0.4	0.1	0.9	0.2	1.6	1.3	2.9	3.5	4.6	3.1	2.7	3.5	0.5	0.9	1.1	C11
Hypopharynx	43	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.7	0.7	1.1	1.4	1.3	3.9	2.2	0.3	0.4	C12-C13
Esophagus	554	4	0.0	0.0	0.0	0.0	0.1	0.3	0.6	1.4	2.7	3.9	7.7	10.0	19.2	29.8	44.1	62.6	3.7	5.1	C15
Stomach	1387	10	0.0	0.1	0.0	0.2	0.2	0.7	1.6	2.3	4.7	10.0	18.2	24.9	50.1	88.1	106.5	151.1	9.2	12.9	C16
Small intestine	64	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3	1.1	1.3	1.1	2.1	4.0	2.6	5.9	0.4	0.6	C17
Colon	647	4.7	0.0	0.0	0.0	0.1	0.3	0.7	1.7	2.6	5.7	8.3	12.8	15.3	18.3	31.5	32.3	47.0	4.3	5.7	C18
Rectum	406	2.9	0.0	0.0	0.0	0.0	0.1	0.4	1.3	1.9	3.9	5.1	6.9	7.6	16.4	16.1	18.8	30.8	2.7	3.6	C19-C20
Anus & anal canal	31	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	1.5	0.4	0.7	2.0	1.3	2.2	0.2	0.3	C21
Liver & intrahepatic bile ducts	131	0.9	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.3	1.1	1.3	2.2	3.5	4.3	8.7	7.9	5.4	0.9	1.2	C22
Gallbladder	103	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	2.3	2.0	1.7	2.8	6.7	6.5	7.6	0.7	0.9	0.9	C23-C24
Pancreas	176	1.3	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.5	1.6	2.9	5.2	7.1	8.0	16.6	13.0	1.2	1.6	C25
Nose, sinuses, etc	55	0.4	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.4	0.8	0.7	1.3	0.7	2.1	1.3	1.7	2.7	0.4	0.5	C30-C31
larynx	469	3.4	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.2	2.3	5.1	11.5	12.4	19.5	27.8	26.6	32.4	3.1	4.3	C32
Trachea and Lung	881	6.3	0.0	0.0	0.0	0.0	0.5	0.1	0.7	1.8	3.6	5.6	14.0	23.1	30.1	48.6	67.2	87.4	5.9	8.1	C33-C34
Other Thoracic organs	45	0.3	0.2	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.1	0.4	0.4	1.2	2.7	1.7	2.2	0.3	0.4	C37-C39
Bone	244	1.8	0.1	1.0	1.8	3.4	2.1	1.0	1.9	0.8	1.0	1.3	1.8	1.5	2.4	1.7	1.7	2.7	1.6	1.5	C40-C41
Malignant melanoma of skin	99	0.7	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.5	0.9	0.6	1.8	0.9	3.1	4.4	6.1	10.8	0.7	0.9	C43
Other malignant neoplasms of skin	1095	7.9	0.1	0.3	0.2	0.2	0.3	0.5	1.1	1.9	5.3	10.8	21.7	26.0	40.1	53.6	60.7	111.7	7.2	10.1	C44
Mesothelioma and Kaposi's Sarcoma	53	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.8	0.4	0.2	1.1	0.9	2.7	3.5	7.6	0.4	0.5	C45-C46
Connective &soft tissue	340	2.4	1.2	0.7	0.5	1.9	2.0	1.7	1.7	2.2	2.3	3.7	3.5	5.7	5.0	9.4	7.4	10.3	2.3	2.6	C47+49
Breast	80	0.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.5	1.1	1.5	2.2	2.6	3.7	3.9	7.0	0.5	0.7	C50
Penis & other unspecified male genital organ	7	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.4	0.0	0.3	0.0	0.0	0.1	0.1	C60 & C63
Prostate	1053	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.9	3.8	12.0	28.7	74.1	103.0	208.9	7.0	10.4	C61
Testis	273	2	0.6	0.2	0.1	0.7	1.9	3.9	4.7	3.1	2.9	3.3	0.4	2.2	0.7	2.7	1.3	1.1	1.8	1.7	C62
Kidney and renal pelvic	290	2.1	1.2	0.3	0.0	0.1	0.1	0.0	0.1	0.8	1.5	4.3	5.8	7.9	9.0	16.1	16.6	13.0	1.9	2.6	C64-C65
Urethra and other unspecified urinary organs	11	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0	1.7	1.6	0.1	0.1	C66 & C68
Bladder	1268	9.1	0.0	0.1	0.1	0.2	0.3	0.6	0.8	2.1	5.0	10.0	14.4	21.2	38.9	67.0	102.1	176.5	8.4	11.9	C67
Eye & adenexa	56	0.4	1.4	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.4	0.4	0.4	1.2	1.3	1.7	4.9	0.4	0.5	C69
Brain, Nervous system	697	5	1.4	2.9	2.2	2.2	2.7	3.4	4.9	5.7	5.2	7.1	8.4	8.3	15.2	16.8	14.4	11.3	4.7	5.1	C70-C72
Thyroid gland	134	1	0.0	0.1	0.0	0.4	0.4	0.7	1.3	0.9	0.8	1.9	2.6	3.3	2.4	3.4	3.5	5.4	0.9	1.0	C73
Adrenal and other endocrine related	60	0.4	0.8	0.1	0.2	0.2	0.1	0.3	0.2	0.5	0.6	1.3	0.5	0.9	1.2	0.7	0.4	0.0	0.4	0.5	C74-C75
Hodgkin's disease	311	2.2	0.4	0.8	1.1	1.9	2.9	2.0	2.6	3.4	2.1	2.4	3.1	2.0	4.7	1.7	4.4	4.3	2.1	2.1	C81
Non-Hodgkin's Lymphoma	788	5.7	0.7	1.7	2.0	2.6	2.8	3.0	3.5	4.1	5.5	7.6	10.0	12.4	16.8	20.4	32.7	43.2	5.3	6.2	C82-C85 & C96
Multiple myeloma & malignant plasma cell	189	1.4	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6	1.3	1.4	4.2	5.5	8.1	11.7	10.0	9.2	1.3	1.7	C90
Lymphoid Leukaemia	383	2.8	3.7	4.6	2.2	2.4	2.4	0.7	0.2	1.0	1.0	2.1	2.6	2.6	5.5	6.7	8.3	9.7	2.5	2.8	C91
Myeloid Leukaemia	247	1.8	1.0	0.4	0.3	1.3	0.9	1.3	1.9	1.8	2.5	1.3	3.3	2.6	5.9	3.4	3.9	11.9	1.6	1.9	C92-C94
Leukaemia unspecified	28	0.2	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.4	0.0	0.2	0.0	0.7	1.3	0.0	2.7	0.2	0.2	C95
Others and Unspecified	767	5.5	0.5	0.1	0.4	0.5	1.0	0.7	2.3	3.9	4.6	7.6	13.7	14.4	22.3	40.2	40.6	57.2	5.1	6.7	***
All sites	13899	100	14	13	12	19	22	24	35	48	74	122	195	255	401	635	786	1190	92	121	
All sites but skin	12804	92	13	13	12	19	22	24	34	47	69	111	174	229	361	582	725	1079	85	111	

***C26, C39, C48& C76-C80

Table 7 . Age specific and adjusted incidence per 100,000 by age group for female, 1996-2000 (does not include DCO's)

Site	No.	%	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	Crude	ASR	ICD10 Codes	
Lip	10	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.3	0.0	0.4	0.0	1.9	0.1	0.1	C00	
Tongue	78	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.6	1.2	1.0	1.0	2.3	4.0	6.1	9.2	0.5	0.7	C01-C02	
Mouth	61	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.0	0.7	0.2	0.4	1.3	2.0	4.0	3.7	6.8	0.4	0.6	C03-C06	
Salivary gland	89	0.7	0.0	0.0	0.0	0.2	0.7	0.5	0.7	0.6	1.1	2.0	2.0	1.5	0.9	1.4	2.8	1.9	0.6	0.7	C07-C08	
Tonsil, Oropharynx & Other ill-defined sites	12	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.2	0.5	0.3	1.1	0.0	0.0	0.1	0.1	C9, C10, C14	
Nasopharynx	66	0.6	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.7	1.1	1.4	1.8	1.3	0.6	1.8	1.9	0.0	0.5	0.5	C11	
Hypopharynx	26	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.0	0.6	0.5	1.2	0.4	2.3	1.5	0.2	0.2	0.2	C12-C13	
Esophagus	387	3.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	2.6	2.4	8.3	12.2	19.0	22.5	36.5	22.3	2.7	3.9	C15	
Stomach	595	5	0.0	0.0	0.1	0.1	0.2	0.5	1.1	2.2	2.8	5.6	12.5	13.9	26.6	33.0	45.9	42.6	4.1	5.8	C16	
Small intestine	33	0.3	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.3	0.0	0.8	1.0	2.0	0.4	2.3	1.5	0.2	0.3	C17	
Colon	570	4.8	0.0	0.0	0.0	0.0	0.2	0.8	1.5	2.9	6.0	9.0	13.5	13.9	21.9	27.5	29.0	30.0	4.0	5.4	C18	
Rectum	327	2.8	0.0	0.0	0.0	0.0	0.2	0.9	1.7	2.3	3.4	3.5	7.9	9.1	10.5	16.3	13.6	14.5	2.3	3.0	C19-C20	
Anus & anal canal	37	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.8	0.6	2.0	1.2	1.8	0.9	2.4	0.3	0.4	C21
Liver & intrahepatic bile ducts	106	0.9	0.7	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.9	1.4	2.4	2.0	4.4	3.6	5.2	8.2	0.7	1.0	C22	
Gallbladder	134	1.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.7	0.5	3.2	3.3	5.3	8.7	10.8	11.1	0.9	1.3	C23-C24	
Pancreas	123	1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	2.0	2.8	3.5	5.0	6.9	9.4	9.2	0.9	1.2	C25	
Nose, sinuses, etc	31	0.3	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.1	0.5	0.2	0.8	1.0	0.6	0.7	1.4	1.5	0.2	0.3	C30-C31	
Larynx	46	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.1	1.1	1.2	1.5	2.0	2.9	1.4	1.9	0.3	0.4	C32	
Trachea and Lung	376	3.2	0.0	0.0	0.0	0.1	0.3	0.5	0.3	1.4	2.9	5.5	9.7	10.4	14.6	18.1	28.1	17.0	2.6	3.6	C33-C34	
Other Thoracic organs	41	0.3	0.5	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.3	0.5	1.0	1.0	0.6	1.8	2.3	1.5	0.3	0.4	C37-C39	
Bone	170	1.4	0.0	0.9	1.8	2.5	1.2	1.2	0.8	0.7	0.8	0.6	1.4	1.3	0.6	1.4	0.5	2.4	1.2	1.1	C40-C41	
Malignant melanoma of skin	79	0.7	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.3	0.9	0.5	0.8	0.8	2.3	5.1	4.2	10.7	0.5	0.7	C43	
Other malignant neoplasms of skin	596	5	0.0	0.0	0.0	0.2	0.3	0.6	0.6	0.8	4.1	8.4	14.7	16.0	19.6	28.6	41.7	49.9	4.1	5.8	C44	
Mesothelioma and Kaposi's Sarcoma	28	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.6	1.0	0.9	0.0	1.9	2.9	0.2	0.3	C45-C46	
Connective and soft tissue	239	2	0.7	0.5	0.6	1.3	1.6	1.3	1.8	1.0	1.5	3.2	3.6	3.8	3.5	4.7	6.6	7.3	1.7	1.9	C47+49	
Breast	2899	24.4	0.0	0.0	0.0	0.0	1.1	4.8	12.1	28.2	48.5	77.7	84.3	71.7	75.0	73.9	67.0	65.4	20.3	25.4	C50	
Vulva, Vagina, & unspecified female genital	73	0.6	0.2	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.8	1.4	1.4	2.5	2.0	2.9	3.7	2.4	0.5	0.7	C51-C52, C57-C58	
Cervix uteri	359	3	0.0	0.0	0.0	0.0	0.1	0.4	0.8	2.3	5.5	6.6	9.9	12.4	12.3	11.2	15.9	11.1	2.5	3.3	C53	
Corpus uteri	261	2.2	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.7	3.0	4.1	6.5	6.8	12.6	12.3	17.8	8.7	1.8	2.5	C54	
Uterus unspecified	73	0.6	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.4	1.0	1.1	2.4	3.0	2.6	2.9	1.9	1.9	0.5	0.7	C55	
Ovary	592	5	0.1	0.1	0.2	1.2	2.3	2.5	2.3	3.1	4.9	9.5	13.1	14.2	22.5	20.7	18.7	20.4	4.1	5.2	C56	
Kidney and renal pelvic	166	1.4	1.4	0.4	0.0	0.1	0.2	0.3	0.1	0.6	1.8	2.4	2.2	4.3	7.9	6.9	8.4	2.9	1.2	1.6	C64-C65	
Urethra and other & unspecified urinary organs	3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.5	0.0	0.0	C66 & C68	
Bladder	309	2.6	0.1	0.0	0.0	0.1	0.0	0.4	0.2	0.4	0.9	2.4	3.2	7.6	14.9	17.4	24.8	35.4	2.2	3.1	C67	
Eye & adenexa	41	0.3	1.0	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.5	0.4	0.5	0.6	2.2	1.9	1.9	0.3	0.4	C69	
Brain, Nervous system	494	4.2	1.3	1.8	1.9	2.1	2.4	2.5	2.3	5.0	5.1	6.2	9.7	7.1	7.3	8.3	9.4	4.8	3.5	3.8	C70-C72	
Thyroid gland	360	3	0.0	0.1	0.2	1.1	1.5	2.6	2.3	3.7	5.7	6.1	7.1	5.3	6.4	6.9	5.6	8.7	2.5	2.8	C73	
Adrenal & other related endocrine glands	55	0.5	0.8	0.1	0.0	0.5	0.2	0.2	0.7	0.3	0.2	1.4	0.4	0.3	0.9	1.1	0.0	1.0	0.4	0.4	C74-C75	
Hodgkin's disease	177	1.5	0.1	0.2	0.4	2.2	2.2	1.8	1.1	1.1	1.7	0.9	0.8	1.3	1.5	2.5	2.3	2.9	1.2	1.2	C81	
Non-Hodgkin's Lymphoma	497	4.2	0.7	0.3	0.7	1.4	2.5	2.2	2.0	3.2	4.4	5.2	6.9	7.6	14.0	18.5	24.4	21.3	3.5	4.2	C82-C85 & C96	
M** myeloma & malignant plasma cell	136	1.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	1.3	2.7	2.6	3.0	6.1	5.1	9.4	7.8	1.0	1.3	C90	
Lymphoid Leukaemia	236	2	2.7	2.7	1.8	1.2	1.2	0.4	0.7	0.6	0.8	1.7	1.4	2.5	1.8	5.1	5.2	5.8	1.7	1.8	C91	
Myeloid Leukaemia	212	1.8	0.4	0.7	0.8	1.1	1.2	1.7	1.2	1.9	1.1	2.9	2.4	2.3	3.5	5.8	3.3	4.4	1.5	1.6	C92-C94	
Leukaemia unspecified	29	0.2	0.5	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.4	0.0	0.3	1.8	0.9	1.0	0.2	0.3	C95	
Others and Unspecified	645	5.4	1.0	0.4	0.2	0.4	1.2	1.5	2.0	2.4	4.9	8.7	12.5	17.2	21.3	28.6	39.8	33.4	4.5	6.0	***	
All site	11877	100	12	9	9	16	22	29	40	71	125	191	260	274	362	431	519	500	83	106		
All site but skin	11281	95	12	9	9	16	22	29	39	70	120	183	245	258	342	403	477	450	79	100		

***C26, C39, C48 & C76-C80

Table 8. Summary of rates and risks for females, 1998-2001 (includes DCO's).

Site	No. of Cases	%	Cumulative rate		Cumulative risk		Crude	ASR	ICD-10 codes
			0-65	0-75	0-65	0-75			
Lip	10	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C00
Tongue	89	0.6	0.1	0.2	0.1	0.2	0.6	0.8	C01-C02
Mouth	84	0.5	0.1	0.1	0.1	0.1	0.6	0.8	C03-C06
Salivary gland	92	0.6	0.1	0.1	0.1	0.1	0.6	0.7	C07-C08
Tonsil, oropharynx & ill-defined sites	12	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C9, C10, C14
Nasopharynx	64	0.4	0.0	0.1	0.0	0.1	0.4	0.5	C11
Hypopharynx	26	0.2	0.0	0.0	0.0	0.0	0.2	0.2	C12-C13
Esophagus	542	3.4	0.4	0.9	0.4	0.9	3.8	5.4	C15
Stomach	1028	6.5	0.7	1.8	0.7	1.8	7.1	10.0	C16
Small intestine	242	1.5	0.1	0.4	0.1	0.4	1.7	2.3	C17
Colon	656	4.2	0.5	1.0	0.5	1.0	4.5	6.2	C18
Rectum	379	2.4	0.3	0.5	0.3	0.5	2.6	3.5	C19-C20
Anus & anal canal	36	0.2	0.0	0.1	0.0	0.1	0.2	0.3	C21
Liver & intrahepatic bile ducts	336	2.1	0.2	0.6	0.2	0.6	2.3	3.2	C22
Gallbladder	167	1.1	0.1	0.3	0.1	0.3	1.2	1.6	C23-C24
Pancreas	262	1.7	0.2	0.5	0.2	0.5	1.8	2.6	C25
Nose, sinuses, etc.	30	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C30-C31
Larynx	95	0.6	0.1	0.1	0.1	0.1	0.7	0.9	C32
Trachea and lung	726	4.6	0.5	1.2	0.5	1.2	5.0	7.0	C33-C34
Other thoracic organs	43	0.3	0.0	0.1	0.0	0.1	0.3	0.4	C37-C39
Bone	301	1.9	0.2	0.3	0.2	0.3	2.1	2.2	C40-C41
Malignant melanoma of skin	66	0.4	0.0	0.1	0.0	0.1	0.5	0.6	C43
Other malignant neoplasms of skin	617	3.9	0.5	1.0	0.5	1.0	4.3	6.0	C44
Mesothelioma and Kaposi's sarcoma	29	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C45-C46
Connective & soft tissue	210	1.3	0.1	0.2	0.1	0.2	1.5	1.7	C47+49
Breast	3563	22.6	2.9	4.0	2.9	3.9	24.7	31.6	C50
Vulva, vagina & unspec.* female genital	69	0.4	0.1	0.1	0.1	0.1	0.5	0.6	C51-C52, C57-C58
Cervix uteri	516	3.3	0.4	0.7	0.4	0.7	3.6	4.8	C53
Corpus uteri	266	1.7	0.2	0.4	0.2	0.4	1.8	2.6	C54
Uterus unspecified	84	0.5	0.1	0.1	0.1	0.1	0.6	0.8	C55
Ovary	710	4.5	0.6	0.9	0.6	0.9	4.9	6.4	C56
Kidney and renal pelvis	193	1.2	0.2	0.2	0.2	0.2	1.3	1.8	C64-C65
Urethra & unspecified urinary organs	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C66 & C68
Bladder	382	2.4	0.3	0.7	0.3	0.7	2.6	3.8	C67
Eye & adenexa	45	0.3	0.0	0.1	0.0	0.1	0.3	0.4	C69
Brain, nervous system	566	3.6	0.4	0.5	0.4	0.5	3.9	4.4	C70-C72
Thyroid gland	358	2.3	0.2	0.3	0.2	0.3	2.5	2.8	C73
Adrenal & endocrine related glands	53	0.3	0.0	0.0	0.0	0.0	0.4	0.4	C74-C75
Hodgkin's disease	178	1.1	0.1	0.1	0.1	0.1	1.2	1.2	C81
Non-Hodgkin's lymphoma	573	3.6	0.4	0.7	0.4	0.7	4.0	4.9	C82-C85 & C96
M** myeloma & malignant plasma cell	138	0.9	0.1	0.2	0.1	0.2	1.0	1.3	C90
Lymphoid Leukemia	237	1.5	0.1	0.2	0.1	0.2	1.6	1.8	C91
Myeloid Leukemia	215	1.4	0.1	0.2	0.1	0.2	1.5	1.6	C92-C94
Leukemia unspecified	313	2.0	0.2	0.4	0.2	0.4	2.2	2.7	C95
Others and unspecified	1144	7.3	0.9	1.7	0.9	1.6	7.9	10.6	C26, C39, C48, C76-C80
All sites combined	15749	100	12	21	11	19	109	142	

* Unspecified ** Multiple

Table 9. Summary of rates and risks for males, 1998-2001 (includes DCO's).

Site	No. of Cases	%	Cumulative				Crude	ASR	ICD-10 codes
			rate		risk				
			0-65	0-75	0-65	0-75			
Lip	36	0.2	0.0	0.1	0.0	0.1	0.2	0.3	C00
Tongue	87	0.5	0.1	0.1	0.1	0.1	0.6	0.8	C01-C02
Mouth	98	0.5	0.1	0.2	0.1	0.2	0.6	0.9	C03-C06
Salivary gland	84	0.5	0.1	0.1	0.1	0.1	0.6	0.7	C07-C08
Tonsil, oropharynx & ill-defined sites	27	0.1	0.0	0.0	0.0	0.0	0.2	0.3	C9, C10, C14
Nasopharynx	138	0.7	0.1	0.1	0.1	0.1	0.9	1.1	C11
Hypopharynx	44	0.2	0.0	0.1	0.0	0.1	0.3	0.4	C12-C13
Esophagus	732	4.0	0.5	1.3	0.5	1.3	4.8	6.9	C15
Stomach	2115	11.4	1.4	3.7	1.4	3.6	13.9	19.7	C16
Small intestine	268	1.4	0.2	0.5	0.2	0.5	1.8	2.5	C17
Colon	762	4.1	0.6	1.1	0.6	1.1	5.0	6.8	C18
Rectum	467	2.5	0.3	0.6	0.3	0.6	3.1	4.1	C19-C20
Anus & anal canal	30	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C21
Liver & intrahepatic bile ducts	418	2.3	0.3	0.7	0.3	0.7	2.8	3.8	C22
Gallbladder	126	0.7	0.1	0.2	0.1	0.2	0.8	1.2	C23-C24
Pancreas	351	1.9	0.3	0.6	0.3	0.6	2.3	3.3	C25
Nose, sinuses, etc.	61	0.3	0.0	0.1	0.0	0.1	0.4	0.5	C30-C31
Larynx	581	3.1	0.5	0.9	0.5	0.9	3.8	5.4	C32
Trachea and Lung	1579	8.5	1.0	2.8	1.0	2.8	10.4	14.7	C33-C34
Other thoracic organs	52	0.3	0.0	0.1	0.0	0.1	0.3	0.4	C37-C39
Bone	394	2.1	0.2	0.3	0.2	0.3	2.6	2.8	C40-C41
Malignant melanoma of skin	89	0.5	0.1	0.1	0.1	0.1	0.6	0.8	C43
Other malignant neoplasms of skin	1126	6.1	0.8	1.7	0.8	1.7	7.4	10.4	C44
Mesothelioma and Kaposi's sarcoma	53	0.3	0.0	0.1	0.0	0.1	0.3	0.5	C45-C46
Connective & soft tissue	301	1.6	0.2	0.3	0.2	0.3	2.0	2.3	C47+49
Breast	90	0.5	0.1	0.1	0.1	0.1	0.6	0.8	C50
Penis & unspec.* male genital organ	10	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C60 & C63
Prostate	1570	8.5	0.8	3.2	0.8	3.2	10.3	15.6	C61
Testis	276	1.5	0.1	0.2	0.1	0.2	1.8	1.8	C62
Kidney and renal pelvis	347	1.9	0.3	0.5	0.3	0.5	2.3	3.1	C64-C65
Urethra & unspec.* urinary organs	11	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C66 & C68
Bladder	1398	7.5	0.9	2.4	0.9	2.4	9.2	13.1	C67
Eye & adenexa	62	0.3	0.0	0.1	0.0	0.1	0.4	0.6	C69
Brain, Nervous system	808	4.4	0.5	0.7	0.5	0.7	5.3	6.0	C70-C72
Thyroid gland	132	0.7	0.1	0.1	0.1	0.1	0.9	1.0	C73
Adrenal & endocrine related glands	61	0.3	0.0	0.0	0.0	0.0	0.4	0.5	C74-C75
Hodgkin's disease	310	1.7	0.2	0.2	0.2	0.2	2.0	2.0	C81
Non-Hodgkin's lymphoma	897	4.8	0.5	1.0	0.5	1.0	5.9	7.1	C82-C85 & C96
M* myeloma & malignant plasma cell	191	1.0	0.2	0.3	0.2	0.3	1.3	1.7	C90
Lymphoid Leukemia	385	2.1	0.2	0.3	0.2	0.3	2.5	2.9	C91
Myeloid Leukemia	248	1.3	0.1	0.2	0.1	0.2	1.6	1.9	C92-C94
Leukemia unspecified	463	2.5	0.2	0.6	0.2	0.6	3.0	3.8	C95
Others and unspecified	1250	6.7	0.8	1.8	0.8	1.8	8.2	11.0	C26, C39, C48, C76-C80
Total	18528	100	12	285	11	24	122	163	

* Unspecified ** Multiple

Table 10. Summary of rates and risks for female 1998-2001 (does not include DCOs).

Site	No. of Cases	%	Cumulative rate		Cumulative risk		Crude	ASR	ICD-10 codes
			0-65	0-75	0-65	0-75			
Lip	10	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C00
Tongue	78	0.6	0.1	0.1	0.1	0.1	0.5	0.7	C01-C02
Mouth	61	0.6	0.0	0.1	0.0	0.1	0.5	0.6	C03-C06
Salivary gland	89	0.8	0.1	0.1	0.1	0.1	0.6	0.7	C07-C08
Tonsil, oropharynx & ill-defined sites	12	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C9, C10, C14
Nasopharynx	66	0.5	0.0	0.1	0.0	0.1	0.4	0.5	C11
Hypopharynx	26	0.2	0.0	0.0	0.0	0.0	0.2	0.2	C12-C13
Esophagus	387	3.3	0.3	0.7	0.3	0.7	2.7	3.9	C15
Stomach	595	5.0	0.5	1.0	0.5	1.0	4.1	5.7	C16
Small intestine	33	0.3	0.0	0.0	0.0	0.0	0.2	0.3	C17
Colon	570	4.8	0.5	0.8	0.5	0.8	4.0	5.4	C18
Rectum	327	2.8	0.3	0.5	0.3	0.5	2.3	3.0	C19-C20
Anus & anal canal	37	0.3	0.0	0.1	0.0	0.1	0.2	0.3	C21
Liver & intrahepatic bile ducts	106	0.9	0.1	0.2	0.1	0.2	0.7	1.0	C22
Gallbladder	134	1.1	0.1	0.2	0.1	0.2	0.9	1.3	C23-C24
Pancreas	123	1.0	0.1	0.2	0.1	0.2	0.9	1.2	C25
Nose, sinuses, etc.	31	0.2	0.0	0.0	0.0	0.0	0.2	0.2	C30-C31
Larynx	46	0.4	0.0	0.1	0.0	0.1	0.3	0.5	C32
Trachea and lung	376	3.1	0.3	0.5	0.3	0.5	2.6	3.5	C33-C34
Other thoracic organs	41	0.4	0.0	0.1	0.0	0.1	0.3	0.4	C37-C39
Bone	170	1.7	0.1	0.1	0.1	0.1	1.4	1.3	C40-C41
Malignant melanoma of skin	79	0.6	0.0	0.1	0.0	0.1	0.5	0.6	C43
Other malignant neoplasms of skin	596	5.0	0.5	0.9	0.5	0.9	4.1	5.8	C44
Mesothelioma and Kaposi's sarcoma	28	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C45-C46
Connective & soft tissue	239	1.8	0.1	0.2	0.1	0.2	1.5	1.7	C47+49
Breast	2899	24.3	2.4	3.2	2.3	3.1	20.2	25.5	C50
Vulva, vagina & unspec.* female	73	0.6	0.1	0.1	0.1	0.1	0.5	0.6	C51-C52, C57-C58
Cervix uteri	359	3.0	0.3	0.5	0.3	0.5	2.5	3.3	C53
Corpus uteri	261	2.2	0.2	0.4	0.2	0.4	1.8	2.6	C54
Uterus unspecified	73	0.7	0.1	0.1	0.1	0.1	0.6	0.8	C55
Ovary	592	4.8	0.5	0.7	0.5	0.7	4.0	5.1	C56
Kidney and renal pelvis	166	1.4	0.1	0.2	0.1	0.2	1.2	1.6	C64-C65
Urethra & unspecified urinary organs	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C66 & C68
Bladder	309	2.5	0.2	0.6	0.2	0.6	2.1	3.0	C67
Eye & adenexa	41	0.4	0.0	0.1	0.0	0.1	0.3	0.4	C69
Brain, nervous system	494	4.1	0.3	0.4	0.3	0.4	3.4	3.8	C70-C72
Thyroid gland	360	3.0	0.2	0.3	0.2	0.3	2.5	2.8	C73
Adrenal & endocrine related glands	55	0.4	0.0	0.0	0.0	0.0	0.4	0.4	C74-C75
Hodgkin's disease	177	1.5	0.1	0.1	0.1	0.1	1.2	1.2	C81
Non-Hodgkin's lymphoma	497	4.2	0.3	0.6	0.3	0.6	3.5	4.3	C82-C85 & C96
M** myeloma & malignant plasma cell	136	1.2	0.1	0.2	0.1	0.2	1.0	1.3	C90
Lymphoid leukemia	236	2.0	0.1	0.2	0.1	0.2	1.6	1.8	C91
Myeloid leukemia	212	1.8	0.1	0.2	0.1	0.2	1.5	1.6	C92-C94
Leukemia unspecified	29	0.2	0.0	0.0	0.0	0.0	0.2	0.2	C95
Others and unspecified	645	5.9	0.5	1.0	0.5	1.0	4.9	6.5	C26, C39, C48& C76-C80
All sites combined	11877	100	9	15	9	14	83	106	

* Unspecified ** Multiple

Table 11. Summary of rates and risks for male, 1998-2001 (does not include DCOs).

Site	No. of Cases	%	Cumulative rate				Crude	ASR	ICD-10 codes
			0-65	0-75	0-65	0-75			
Lip	35	0.3	0.0	0.1	0.0	0.1	0.2	0.3	C00
Tongue	78	0.6	0.1	0.1	0.1	0.1	0.5	0.7	C01-C02
Mouth	74	0.5	0.0	0.1	0.0	0.1	0.5	0.7	C03-C06
Salivary gland	77	0.6	0.1	0.1	0.1	0.1	0.6	0.7	C07-C08
Tonsil, Oropharynx and ill-defined sites	27	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C9, C10, C14
Nasopharynx	143	1.0	0.1	0.1	0.1	0.1	0.9	1.1	C11
Hypopharynx	43	0.3	0.0	0.1	0.0	0.1	0.3	0.4	C12-C13
Esophagus	554	4.0	0.4	0.9	0.4	0.9	3.7	5.1	C15
Stomach	1387	9.9	1.0	2.4	1.0	2.4	9.2	12.8	C16
Small intestine	64	0.4	0.1	0.1	0.1	0.1	0.4	0.6	C17
Colon	647	4.7	0.5	0.9	0.5	0.9	4.3	5.7	C18
Rectum	406	2.9	0.3	0.5	0.3	0.5	2.7	3.6	C19-C20
Anus & anal canal	31	0.2	0.0	0.0	0.0	0.0	0.2	0.3	C21
Liver & intrahepatic bile ducts	131	1.0	0.1	0.2	0.1	0.2	0.9	1.2	C22
Gallbladder	103	0.8	0.1	0.2	0.1	0.2	0.7	1.0	C23-C24
Pancreas	176	1.3	0.1	0.3	0.1	0.3	1.2	1.6	C25
Nose, sinuses, etc.	55	0.4	0.0	0.1	0.0	0.1	0.4	0.5	C30-C31
Larynx	469	3.4	0.4	0.7	0.4	0.7	3.1	4.3	C32
Trachea and Lung	881	6.2	0.6	1.5	0.6	1.5	5.7	8.0	C33-C34
Other Thoracic organs	45	0.4	0.0	0.1	0.0	0.1	0.3	0.4	C37-C39
Bone	244	2.0	0.1	0.2	0.1	0.2	1.8	1.8	C40-C41
Malignant melanoma of skin	99	0.6	0.1	0.1	0.1	0.1	0.6	0.8	C43
Other malignant neoplasms of skin	1095	7.8	0.8	1.7	0.8	1.7	7.2	10.0	C44
Mesothelioma and Kaposi's sarcoma	53	0.4	0.0	0.1	0.0	0.1	0.3	0.5	C45-C46
Connective & soft tissue	340	2.1	0.2	0.3	0.2	0.3	2.0	2.3	C47+49
Breast	80	0.6	0.1	0.1	0.1	0.1	0.5	0.7	C50
Penis and unspec* male genital organ	7	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C60 & C63
Prostate	1053	7.6	0.6	2.3	0.6	2.2	7.0	10.2	C61
Testis	273	1.9	0.1	0.1	0.1	0.1	1.8	1.7	C62
Kidney and renal pelvis	290	2.1	0.2	0.4	0.2	0.4	1.9	2.6	C64-C65
Urethra & unspecified urinary organs	11	0.1	0.0	0.0	0.0	0.0	0.1	0.1	C66 & C68
Bladder	1268	9.0	0.8	2.2	0.8	2.2	8.3	11.7	C67
Eye & adenexa	56	0.4	0.0	0.1	0.0	0.1	0.4	0.5	C69
Brain, nervous system	697	5.1	0.4	0.6	0.4	0.6	4.7	5.2	C70-C72
Thyroid gland	134	0.9	0.1	0.1	0.1	0.1	0.9	1.0	C73
Adrenal and related endocrine glands	60	0.4	0.0	0.0	0.0	0.0	0.4	0.5	C74-C75
Hodgkin's disease	311	2.2	0.2	0.2	0.2	0.2	2.0	2.0	C81
Non-Hodgkin's lymphoma	788	5.7	0.5	0.9	0.5	0.9	5.2	6.2	C82-C85 & C96
M** myeloma & plasma cell neoplasm	189	1.4	0.2	0.3	0.2	0.3	1.3	1.7	C90
Lymphoid leukemia	383	2.7	0.2	0.3	0.2	0.3	2.5	2.9	C91
Myeloid leukemia	247	1.8	0.1	0.2	0.1	0.2	1.6	1.9	C92-C94
Leukemia unspecified	28	0.2	0.0	0.0	0.0	0.0	0.2	0.2	C95
Others and unspecified	767	6.0	0.6	1.2	0.6	1.2	5.5	7.2	C26, C39, C48& C76-C80
All sites Combined	13899	100	9	20	9	18	92	121	

* Unspecified ** Multiple

Part III

Cancer by Site

Esophagus

A. Descriptive Measures, Demography:

Total number of cases during the study period: 1259

Female incidence (ASR): 5.4

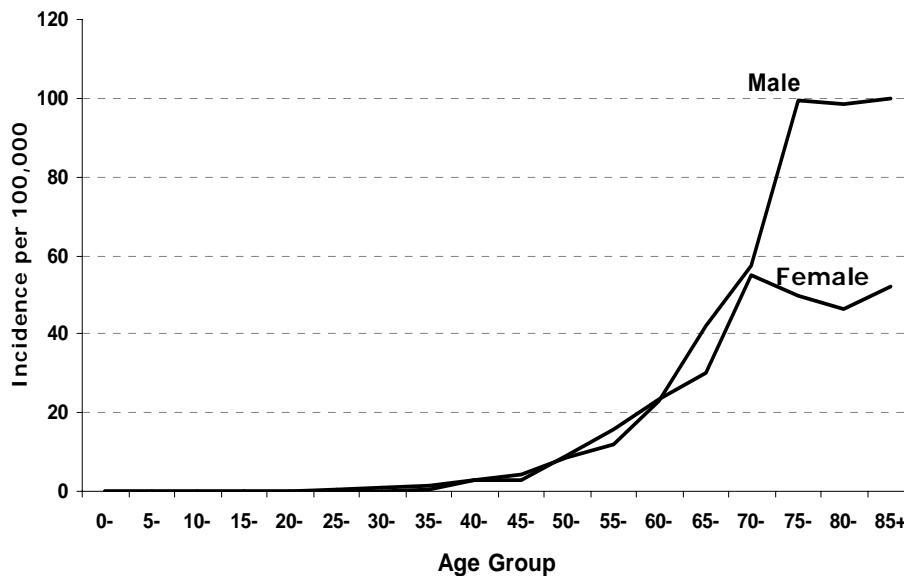
Male incidence (ASR): 6.9

Male to female ratio: 1.3

Percent of Cases less than 45 years of age: 10%

Percent of cases diagnosed by death certificate only: 22%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among esophageal cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Esophagus, Oesophagus, NOS	609	64.7	C15.9
Esophagus, Lower Third Of Esophagus	211	22.4	C15.5
Esophagus, Middle Third Of Esophagus	77	8.2	C15.4
Esophagus, Upper Third Of Esophagus	36	3.8	C15.3
Esophagus, Overlapping Lesion Of Esophagus	4	0.4	C15.8
Esophagus, Cervical Esophagus	2	0.2	C15.0
Esophagus, Thoracic Esophagus	2	0.2	C15.1
Total	941	100	

Esophagus, continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among esophageal cancer cases.

Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Squamous cell carcinoma,NOS	612	65	8070
Adenocarcinoma,NOS	123	13.1	8140
Neoplasm, malignant	74	7.9	8000
Sq. cell carc. ,ker. type,NOS	63	6.7	8071
Epithelial tumor	23	2.4	8010
Carcinoma,undifferentiated,NOS	11	1.2	8020
Mucin-producing adenocarcinoma	8	0.9	8481
Sq. cell carc. ,lg. cell,non-ker.	7	0.7	8072
Other Morphologies	20	2	N/A
Total	941	100	

Stomach

A. Descriptive Measures: Demography:

Total number of cases during the study period: 3139

Female incidence (ASR): 10.0

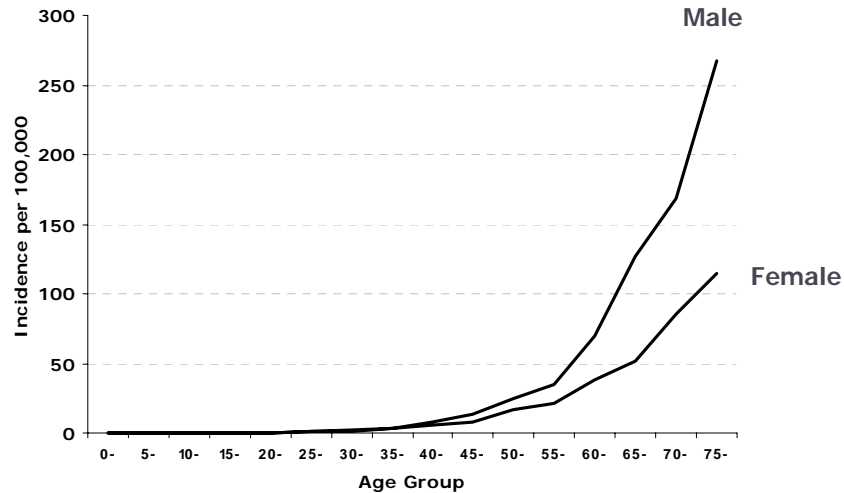
Male incidence (ASR): 19.7

Male to female ratio: 1.97

Percent of Cases less than 45 years of age: 10%

Percent of cases diagnosed by death certificate only: 29%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of stomach cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Stomach, NOS	1379	69.6	C16.9
Stomach, Cardia, NOS	258	13	C16.0
Gastric Antrum	127	6.4	C16.3
Lesser Curvature Of Stomach, NOS	89	4.5	C16.5
Stomach, Pylorus	41	2.1	C16.4
Overlapping Lesion Of Stomach	25	1.3	C16.8
Fundus Of Stomach	24	1.2	C16.1
Greater Curvature Of Stomach, NOS	20	1	C16.6
Body Of Stomach	19	1	C16.2
Total	1982	100	

Stomach, continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among stomach cancer cases.

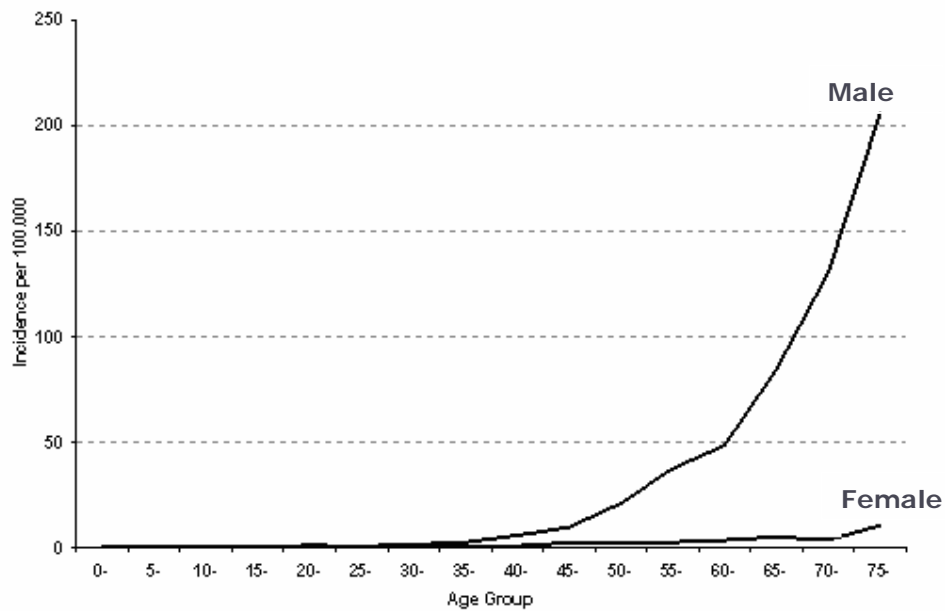
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Adenocarcinoma,NOS	1207	60.9	8140
Neoplasm, malignant	226	11.4	8000
Signet ring cell carcinoma	141	7.1	8490
Mucin-producing adenocarcinoma	119	6.0	8481
Epithelial tumor	72	3.6	8010
Carcinoma,undifferentiated,NOS	50	2.5	8020
Adenocarcinoma,intestinal type	37	1.9	8144
Squamous cell carcinoma,NOS	33	1.7	8070
Mucinous adenocarcinoma	23	1.2	8480
Carcinoma,diffuse type	10	0.5	8145
Other Morphologies	64	4.0	N/A
Total	1982	100	

Lung

A. Descriptive Measures, Demography:

Total number of cases during the study period: 2310
 Female incidence (ASR): 7.0
 Male incidence (ASR): 14.7
 Male to female ratio: 2.1
 Percent of Cases less than 45 years of age: 12%
 Percent of cases diagnosed by death certificate only: 33%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among lung cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Bronchus, Lung, NOS	975	77.6	C34.9
Bronchus, Upper lobe, lung	108	8.6	C34.1
Bronchus, Lower lobe, lung	80	6.4	C34.3
Bronchus, Main bronchus	54	4.3	C34.0
Bronchus, Middle lobe, lung	21	1.7	C34.2
Trachea	8	7.0	C33.9
Bronchus, Overl. lesion of lung	8	0.7	C34.8
Total	1254	100	

Lung, Continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among lung cancer cases.

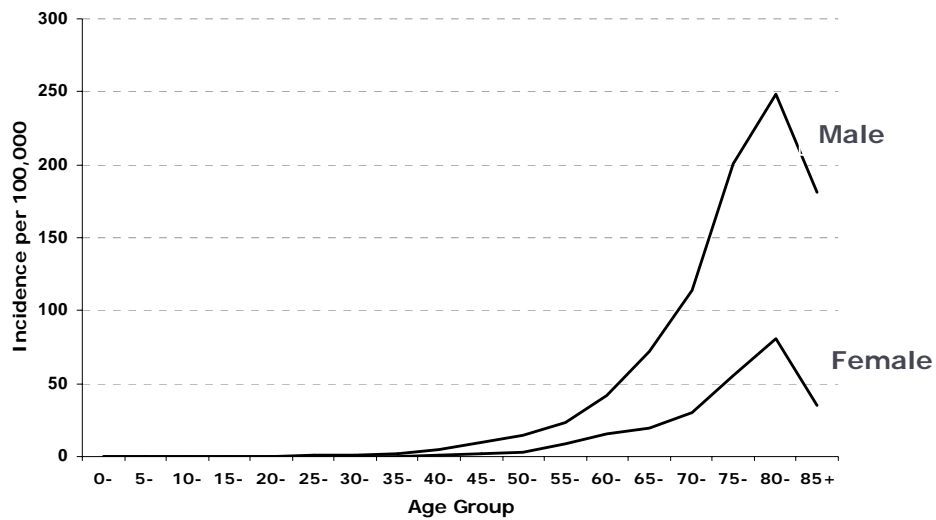
Morphology subcategories	No. of cases	Percent	ICD-OM codes
Squamous cell carcinoma,NOS	299	23.8	8070
Adenocarcinoma,NOS	221	17.6	8140
Neoplasm, malignant	194	15.4	8000
Epithelial tumor	131	10.4	8010
Small cell carcinoma,NOS	128	10.2	8041
Bronchiolo-alveolar adenocarcinoma	56	4.5	8250
Non-small cell carcinoma	53	4.2	8046
Carcinoma,undifferentiated,NOS	41	3.3	8020
Oat cell carcinoma	20	1.6	8042
Sq. cell carc. ,ker. Type,NOS	20	1.6	8071
Other Morphologies	94	7.9	N/A
Total	1257	100	

Bladder

A. Descriptive Measures, Demography:

Total number of cases during the study period: 1796
 Female incidence (ASR): 3.8
 Male incidence (ASR): 13.1
 Male to female ratio: 3.5
 Percent of Cases less than 45 years of age: 9.3%
 Percent of cases diagnosed by death certificate only: 17%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among bladder cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Bladder, Urinary bladder, NOS	1565	98.9	C67.9
Bladder, Lateral wall of urinary bladder	5	0.3	C67.2
Bladder, Trigone of urinary bladder	3	0.2	C67.0
Bladder, Dome of urinary bladder	2	0.1	C67.1
Bladder, Anterior wall of urinary bladder	2	0.1	C67.3
Bladder, Ureteric orifice	2	0.1	C67.6
Bladder, Posterior wall of urinary bladder	1	0.1	C67.4
Bladder, Bladder neck	1	0.1	C67.5
Bladder, Overl. lesion of bladder	2	0.2	C67.8
Total	1583	100	

Bladder, Continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among bladder cancer cases.

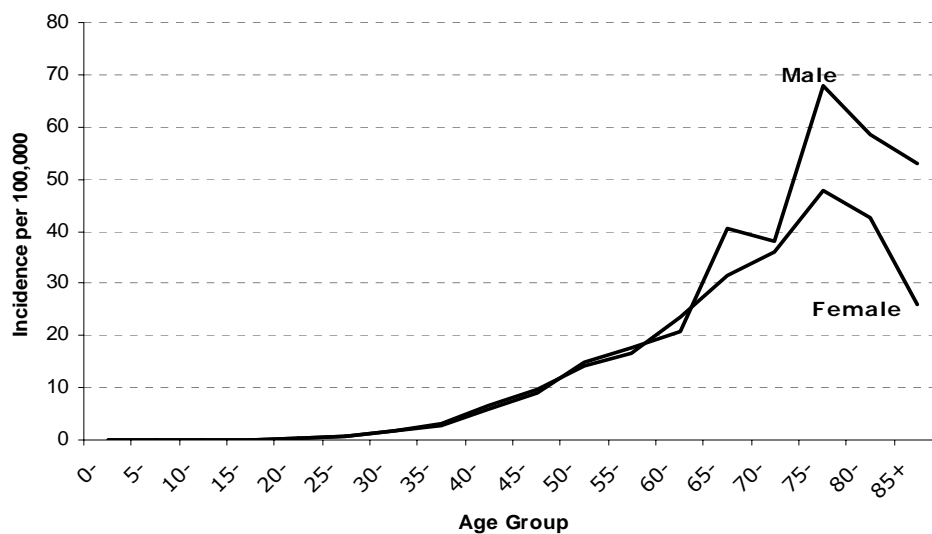
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Papillary trans. cell carc.	788	49.6	8130
Transitional cell carcinoma,NOS	651	41	8120
Neoplasm, malignant	46	2.9	8000
Adenocarcinoma,NOS	27	1.7	8140
Epithelial tumor	23	1.4	8010
Squamous cell carcinoma,NOS	17	1.1	8070
Papillary carcinoma,NOS	8	0.5	8050
Carcinoma,undifferentiated,NOS	6	0.4	8020
Mucin-producing adenocarcinoma	6	0.4	8481
Other morphologies	16	1.2	N/A
Total	1588	100	

Colon

A. Descriptive Measures, Demography:

Total number of cases during the study period: 1403
 Female incidence (ASR): 6.2
 Male incidence (ASR): 6.8
 Male to female ratio: 1.1
 Percent of Cases less than 45 years of age: 21.4%
 Percent of cases diagnosed by death certificate only: 11%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different sub site of involvement among colon cancer cases

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Colon, NOS	677	55.6	C18.9
Colon, Sigmoid colon	218	17.9	C18.7
Colon, Cecum	88	7.2	C18.0
Colon, Ascending colon	87	7.1	C18.2
Colon, Descending colon	59	4.8	C18.6
Colon, Transverse colon	35	2.9	C18.4
Colon, Overl. Lesion of colon	23	1.9	C18.8
Colon, Appendix	11	0.9	C18.1
Colon, Hepatic flexure of colon	10	0.8	C18.3
Colon, Splenic flexure of colon	9	0.7	C18.5
Total	1217	100	

Colon, Continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among colon cancer cases

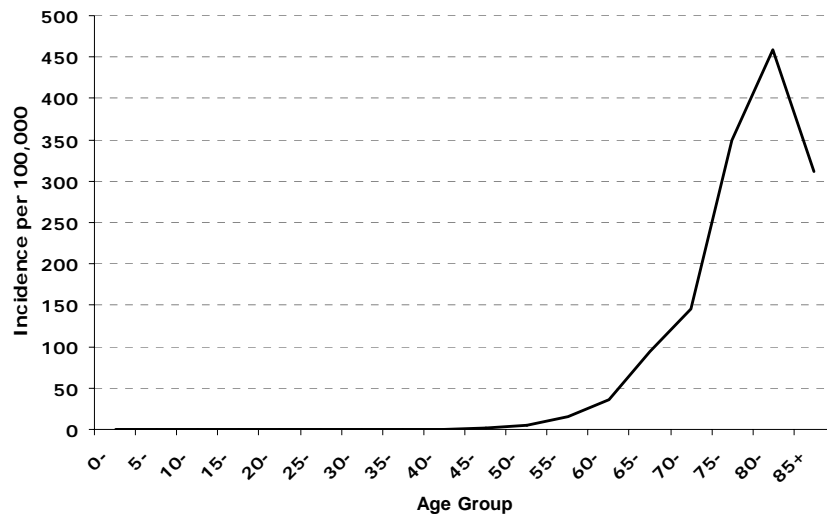
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Adenocarcinoma,NOS	860	70.7	8140
Neoplasm	137	11.3	8000
Mucin-producing adenocarcinoma	93	7.6	8481
Mucinous adenocarcinoma	51	4.2	8480
Epithelial tumor	20	1.6	8010
Signet ring cell carcinoma	9	0.7	8490
Carcinoma,undifferentiated,NOS	6	0.5	8020
Squamous cell carcinoma,NOS	6	0.5	8070
Papillary adenocarcinoma,NOS	6	0.5	8260
Other Morphologies	29	2.6	N/A
Total	1217	100	

Prostate

A. Descriptive Measures, Demography:

Total number of cases during the study period: 1565
 Incidence (ASR): 15.6
 Percent of Cases less than 45 years of age: 0.9%
 Percent of cases diagnosed by death certificate only: 33%

B. Age Specific Incidence:



C. Morphology based on ICD-O-3:

Frequency of different morphologies among prostate cancer cases

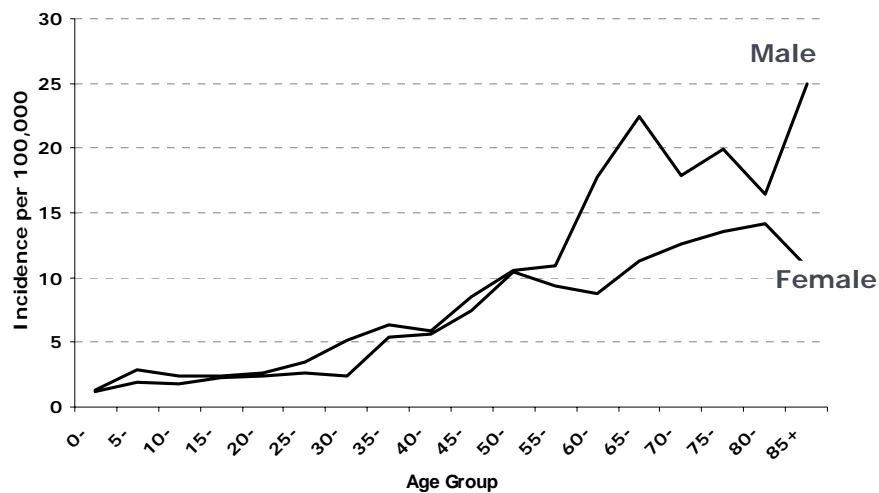
Morphology subcategories	No. of cases	Percent	ICD-OM codes
Adenocarcinoma, NOS	901	86.5	8140
Neoplasm, malignant	72	6.9	8000
Epithelial tumor	41	3.9	8010
Other morphologies	21	2.1	N/A
Total	1042	100	

Brain and CNS

A. Descriptive Measures, Demography:

Total number of cases during the study period: 1365
 Female incidence (ASR): 4.4
 Male incidence (ASR): 6.0
 Male to female ratio: 1.4
 Percent of Cases less than 45 years of age: 59.7%
 Percent of cases diagnosed by death certificate only: 12%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among brain cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Brain, NOS	340	28.5	C71.9
Brain, Frontal Lobe	145	12.2	C71.1
Brain, Overl. Lesion Of Brain	133	11.2	C71.8
Brain, Temporal Lobe	109	9.2	C71.2
Brain, Parietal Lobe	99	8.3	C71.3
Brain, Cerebellum, NOS	84	7.1	C71.6
Nervous System, Spinal Cord	62	5.2	C72.0
Brain, Brain Stem	37	3.1	C71.7
Nervous System, NOS	36	3	C72.9
Meninges, Cerebral Meninges	35	2.9	C70.0
Other parts of Nervous system	21	1.8	N/A
Total	1210	100	

Brain and CNS, Continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among brain cancer cases.

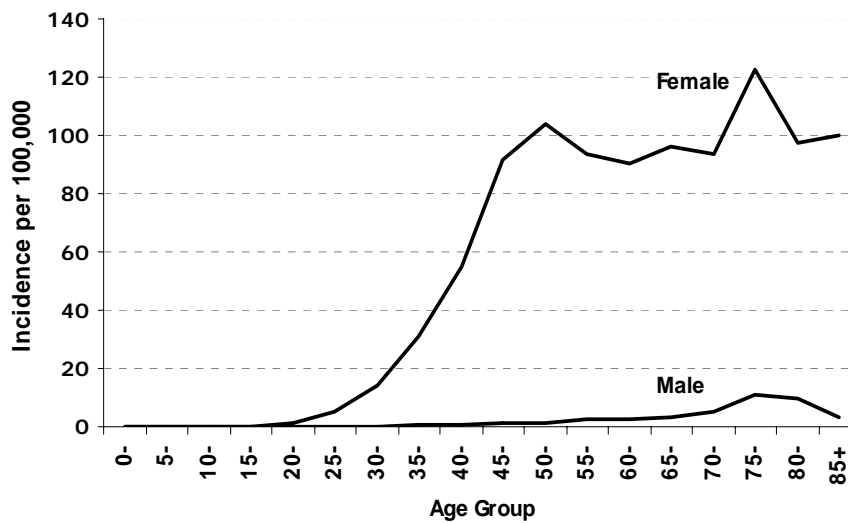
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Astrocytoma,NOS	375	31.5	9400
Glioblastoma,NOS	226	19.0	9440
Ependymoma,NOS	76	6.4	9391
Astrocytoma,anaplastic	60	5.0	9401
Fibrillary astrocytoma	48	4.0	9420
Medulloblastoma,NOS	47	3.9	9470
Glioma	43	3.6	9380
Neoplasm	39	3.3	8000
Oligodendroglioma,NOS	36	3.0	9450
Primitive neuroectodermal tumor	35	2.9	9473
Meningioma	27	2.3	9530
Gemistocytic astrocytoma	25	2.1	9411
Mixed glioma	24	2.0	9382
Neurilemmoma	20	1.7	9560
Other morphologies	110	9.6	N/A
Total	1191	100	

Breast

A. Descriptive Measures, Demography:

Total number of cases during the study period: 3645
 Female incidence (ASR): 31.6
 Male incidence (ASR): 0.8
 Male to female ratio: 0.02
 Percent of Cases less than 45 years of age: 36%
 Percent of cases diagnosed by death certificate only: 15%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among breast cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Breast, NOS	2713	91.1	C50.9
Upper-outer quadrant of breast	116	3.9	C50.4
Overl. lesion of breast	50	1.7	C50.8
Breast, Nipple	28	0.9	C50.0
Lower-outer quadrant of breast	25	0.8	C50.5
Upper-inner quadrant of breast	22	0.7	C50.2
Lower-inner quadrant of breast	14	0.5	C50.3
Central portion of breast	9	0.3	C50.1
Axillary tail of breast	2	0.1	C50.6
Total	2979	100	

Breast, Continues**D. Morphology based on ICD-O-3:**

Frequency of different morphologies among breast cancer cases.

Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Infiltrating duct carcinoma	2228	74.8	8500
Neoplasm, malignant	286	9.6	8000
Epithelial tumor	154	5.2	8010
Lobular carcinoma,NOS	101	3.4	8520
Medullary carcinoma,NOS	60	2.0	8510
Adenocarcinoma,NOS	29	1.0	8140
Mucinous adenocarcinoma	21	0.7	8480
Comedocarcinoma,NOS	19	0.6	8501
Infiltrating duct and lobular carcinoma	16	0.5	8522
Carcinoma,undifferentiated,NOS	9	0.3	8020
Papillary carcinoma,NOS	7	0.2	8050
P. dis. & infil. duct carc.,breast	7	0.2	8541
Other Morphologies	42	1.0	N/A
Total	2979	100	

Ovary

A. Descriptive Measures, Demography:

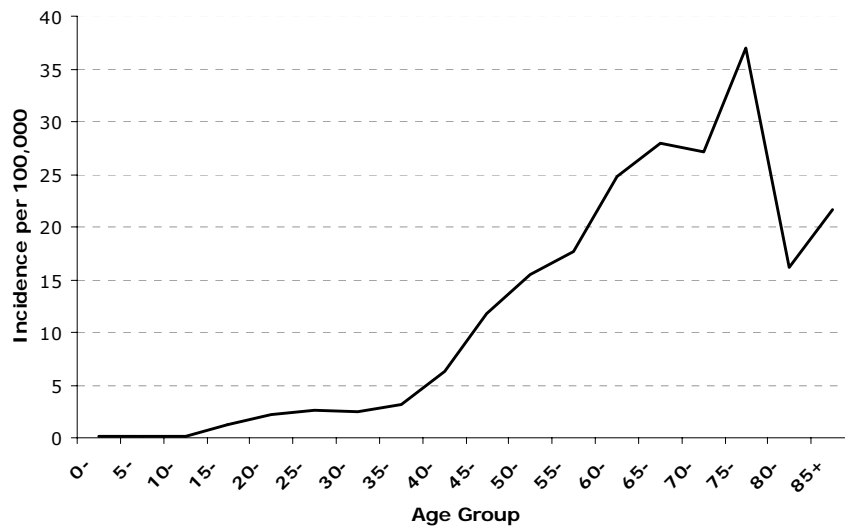
Total number of cases during the study period:728

Incidence (ASR): 6.4

Percent of Cases less than 45 years of age: 35%

Percent of cases diagnosed by death certificate only: 16%

B. Age Specific Incidence:



C. Morphology based on ICD-O-3:

Frequency of different morphologies among ovary cancer cases.

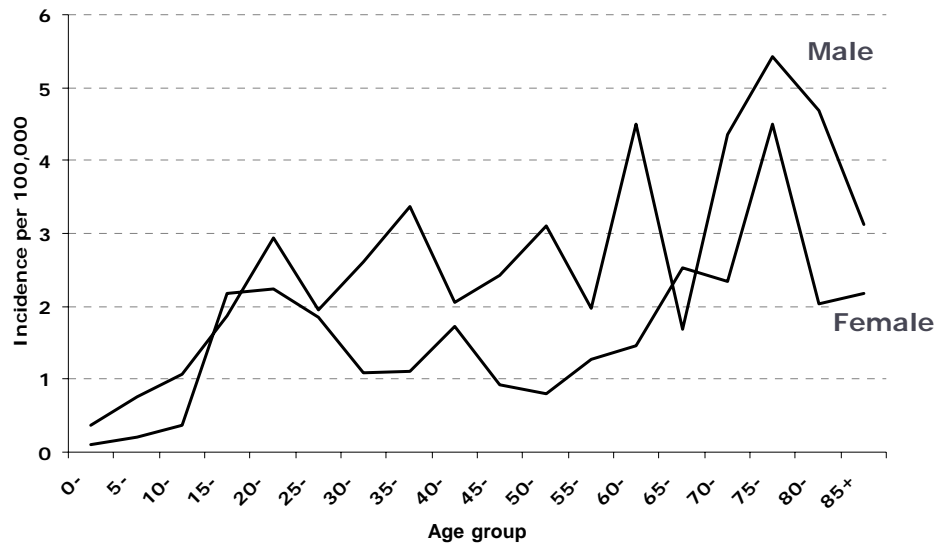
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Papillary serous cystadenocarcinoma	123	20.8	8460
Neoplasm, malignant	111	18.8	8000
Adenocarcinoma,NOS	60	10.1	8140
Serous cystadenocarcinoma,NOS	51	8.6	8441
Endometrioid carcinoma	30	5.1	8380
Epithelial tumor	21	3.5	8010
Serous surface papillary carcinoma	21	3.5	8461
Dysgerminoma	20	3.4	9060
Mucinous cystadenocarcinoma,NOS	17	2.9	8470
Cystadenocarcinoma,NOS	16	2.7	8440
Papillary carcinoma,NOS	15	2.5	8050
Other Morphologies	107	18.4	N/A
Total	592	100	

Hodgkin's Lymphomas

A. Descriptive Measures: Demography:

Total number of cases during the study period: 488
 Female incidence (ASR): 1.2
 Male incidence (ASR): 2.0
 Male to female ratio: 1.7
 Percent of Cases less than 45 years of age: 77%
 Percent of cases diagnosed by death certificate only: 0.0%

B. Age Specific Incidence:



C. Topography based on ICD-O-3:

Frequency of different subsites of involvement among Hodgkin's lymphoma cancer cases.

Topology subcategories	No. of cases	Percent	ICD-OC Codes
Lymph nodes of headface and neck	246	50.4	C77.0
Lymph node, NOS	70	14.3	C77.9
Lymph nodes of axilla or arm	44	9	C77.3
Intrathoracic lymph nodes	26	5.3	C77.1
Lymph nodes inguinal region or leg	23	4.7	C77.4
Intra-abdominal lymph nodes	15	3.1	C77.2
Head and face or neck, NOS	9	1.8	C76.0
Arising from other sites	52	11.1	N/A
Total	488	100	

Hodgkin's Lymphomas, Continues

D. Morphology based on ICD-O-3:

Frequency of different morphologies among Hodgkin's lymphoma cases.

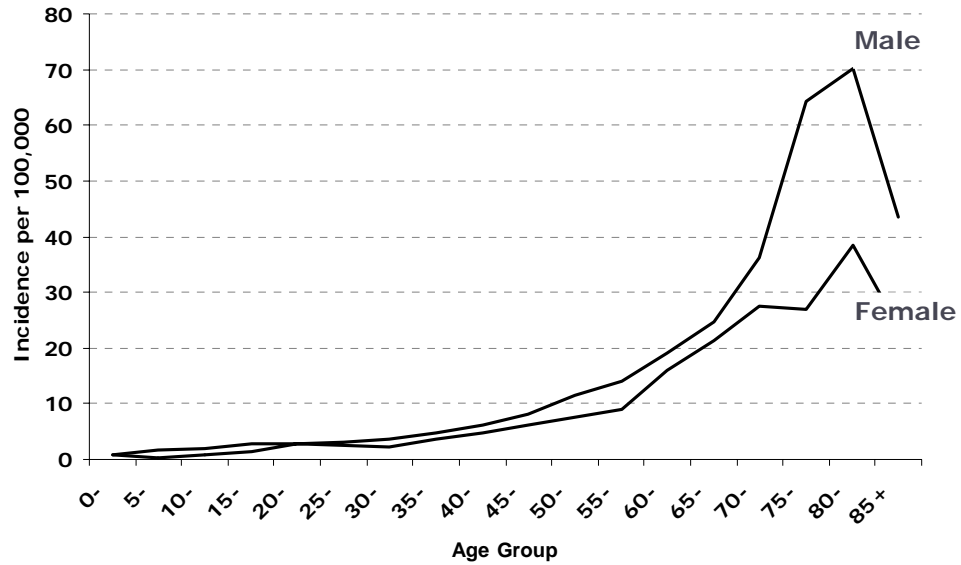
Morphology subcategories	No. of cases	Percent	ICD-OM Codes
Hodgkin's disease, NOS	152	31.1	9650
Hodgkin's disease, nodular sclerosis,NOS	134	27.5	9663
Hodgkin's disease, mixed cellularity	128	26.2	9652
Hodgkin's disease, nodular scler., lymphocyte. predom	32	6.6	9665
Hodgkin lymphoma ,lymphocyte-rich	30	6.1	9651
Hodgkin's disease, lymphocyte. deplet., NOS	5	1	9653
Hodgkin's disease. lymphocytic pred. nod.	3	0.6	9659
Hodgkin's disease, nodular scler.,lymphocyt. deplet.	2	0.4	9667
Hodgkin's disease, nodular sclerosis, cellular phase	2	0.4	9664
Total	488	100	

Non-Hodgkin's Lymphomas

A. Descriptive Measures: Demography:

Total number of cases during the study period: 1457
 Female incidence (ASR): 4.9
 Male incidence (ASR): 7.1
 Male to female ratio: 1.6
 Percent of Cases less than 45 years of age: 42%
 Percent of cases diagnosed by death certificate only: 11%

B. Age Specific Incidence:



1) Non-Hodgkin's Lymphomas, diffuse

A. Topography based on ICD-O-3:

Frequency of different subsite of involvement among diffuse non-Hodgkin's lymphoma cancer cases.

Topographical subcategories	No. of cases	Percent	ICD-OC codes
Lymph nodes of head, face and neck	140	21.9	C77.0
Lymph node, NOS	61	9.5	C77.9
Lymph nodes of axilla or arm	47	7.4	C77.3
Lymph nodes, intra-abdominal	43	6.7	C77.2
Stomach, NOS	26	4.1	C16.9
Lymph nodes, inguinal region or leg	23	3.6	C77.4
Tonsils, NOS	19	3.0	C09.9
Heart, mediastinum, NOS	14	2.2	C38.3
Abdomen, NOS	10	1.6	C76.2
Intrathoracic lymph nodes	10	1.6	C77.1
Lymph nodes of multiple regions	10	1.6	C77.8
Arising from other sites	235	37.9	N/A
Total	638	100	

B. Morphology based on ICD-O-3:

Frequency of different morphologies among diffuse non-Hodgkin's lymphoma cases.

Morphological subcategories	No. of cases	Percent	ICD-O codes
Lymphoma, large cell, diffuse	313	49.1	9680
Lymphoma, mixed small and large cell, diffuse	107	16.8	9675
Lymphoma, small lymphocytic	89	13.9	9670
Lymphoma, immunoblastic	41	6.4	9684
Precursor cell lymphoblastic lymphoma	40	6.3	9727
Burkitt's lymphoma, NOS	26	4.1	9687
Lymphoma, lymphoplasmacytic	16	2.5	9671
lymphocytic, intermediate. differentiated, diffuse	4	0.6	9673
Precursor B-cell lymphoblastic lymphoma	1	0.2	9728
Precursor T-cell lymphoblastic lymphoma	1	0.2	9729
Total	638	100	

2) Non-Hodgkin's Lymphomas Peripheral and Cutaneous T-cell Lymphomas

A. Topography based on ICD-O-3:

Frequency of different subsites of involvement among peripheral and cutaneous T-cell non-Hodgkin's lymphoma cases.

Topographical subcategories	No. of cases	Percent	ICD-O codes
Skin, NOS	12	19.7	C44.9
Lymph nodes of head, face and neck	10	16.4	C77.0
Skin of trunk	5	8.2	C44.5
Lymph nodes of axilla or arm	4	6.6	C77.3
Arising from other sites	30	48.7	N/A
Total	61	100	

B. Morphology based on ICD-O-3:

Frequency of different morphologies among peripheral and cutaneous T-cell non-Hodgkin's lymphoma cases.

Morphological subcategories	No. of cases	Percent	ICD-O codes
Mycosis fungoides	23	37.7	9700
Peripheral T-cell lymphoma, NOS	16	26.2	9702
Large cell (Ki-1+) lymphoma	12	19.7	9714
NK/T-cell lymphoma, nasal and nasal type	4	6.6	9719
Peripheral T-cell lymphoma, AILD	3	4.9	9705
Sézary's disease	1	1.6	9701
Cutaneous lymphoma	1	1.6	9709
Total	61	100	

3) Other and unspecified types of non-Hodgkin's lymphoma

A. Topography based on ICD-O-3:

Frequency of different subsites of involvement among other and unspecified types of non-Hodgkin's lymphoma cases.

Topographical subcategories	No. of cases	Percent	ICD-O codes
Unknown primary site	104	18.1	C80.9
Lymph nodes of head, face and neck	56	9.7	C77.0
Lymph node, NOS	55	9.5	C77.9
Blood, bone marrow	54	9.4	C42.1
Intra-abdominal lymph nodes	22	3.8	C77.2
Brain, NOS	18	3.1	C71.9
Stomach, NOS	14	2.4	C16.9
Heart, mediastinum, NOS	14	2.4	C38.3
Abdomen, NOS	13	2.3	C76.2
Lymph nodes, inguinal region or leg	13	2.3	C77.4
Lymph nodes of axilla or arm	12	2.1	C77.3
Head, face or neck, NOS	11	1.9	C76.0
Arising from other sites	190	33.0	N/A
Total	576	100	

B. Morphology based on ICD-O-3:

Frequency of different morphologies among other and unspecified types of non-Hodgkin's lymphoma cases.

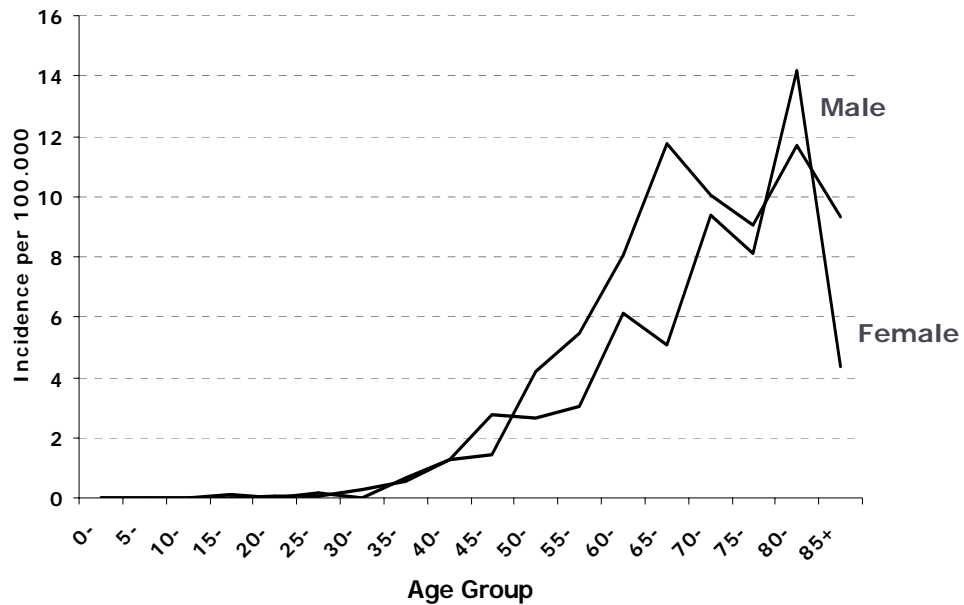
Morphological subcategories	No. of cases	Percent	ICD-O codes
Lymphoma, NOS	341	62.5	9590
Lymphoma, non-Hodgkin's, NOS	233	37.2	9591
Composite Hodgkin's and non-Hodgkin's lymphoma	2	0.4	9596
Total	576	100	

Multiple myeloma and malignant plasma cell neoplasm

A. Descriptive Measures: Demography:

Total number of cases during the study period: 325
 Female incidence (ASR): 1.3
 Male incidence (ASR): 1.7
 Male to female ratio: 1.3
 Percent of Cases less than 45 years of age: 15%
 Percent of cases diagnosed by death certificate only: 0.0%

B. Age Specific Incidence:



C. Morphology based on ICD-O-3:

Frequency of different subtypes of multiple myeloma and malignant plasma cell neoplasm.

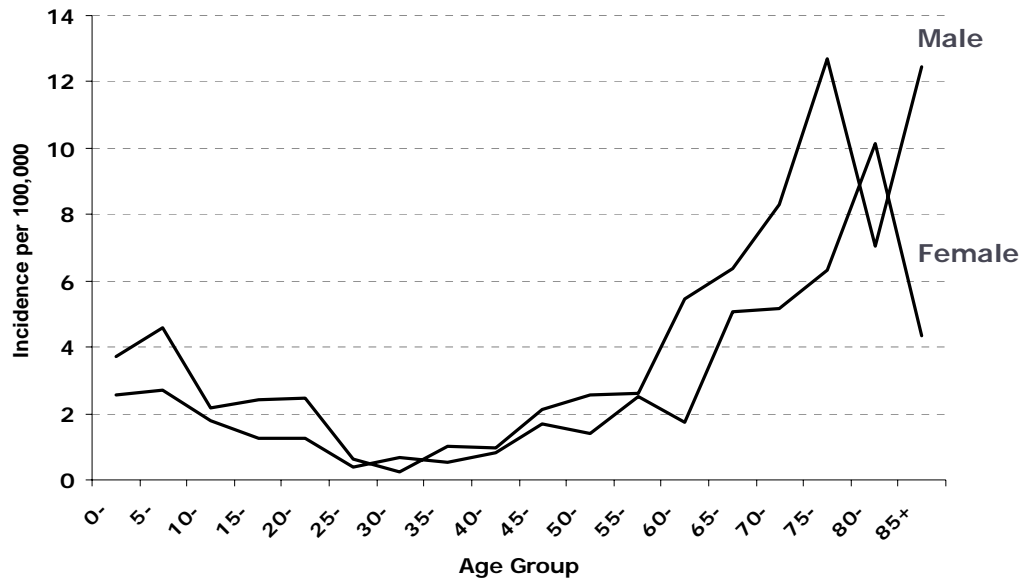
Morphology subcategories	No. of cases	Percent	ICD-10 Codes
Multiple myeloma	281	86.6	C900
Plasmacytoma, Extramedullary	43	13.1	C902
Plasma Cell Leukaemia	1	0.3	C901
Total	329	100	

Lymphoid Leukemia

A. Descriptive Measures: Demography:

Total number of cases during the study period: 619
 Female incidence (ASR): 2.5
 Male incidence (ASR): 1.7
 Male to female ratio: 0.62
 Percent of Cases less than 45 years of age: 70%
 Percent of cases diagnosed by death certificate only: 47%

B. Age Specific Incidence:



C. Morphology based on ICD-O-3:

Frequency of different subtypes of lymphoid leukemia

Morphology subcategories	No. of cases	Percent	ICD-10 Codes
Acute Lymphoblastic Leukaemia	437	70.8	C910
Chronic Lymphoblastic Leukaemia	128	20.5	C911
Hairy Cell Leukaemia	34	5.5	C914
Adult T-cell Leukaemia	8	1.3	C915
Lymphoid Leukaemia, unspecified	8	1.3	C919
lymphocytic leukaemia	4	0.6	C913
Total	619	100	

Myeloid Leukemia

A. Descriptive Measures: Demography:

Total number of cases during the study period: 459

Female incidence (ASR): 1.5

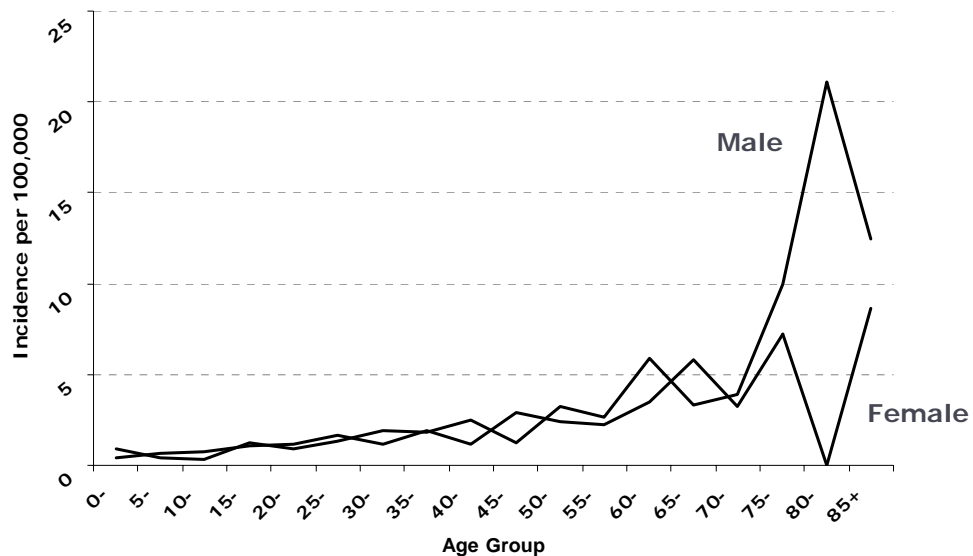
Male incidence (ASR): 1.6

Male to female ratio: 1.3

Percent of Cases less than 45 years of age: 59%

Percent of cases diagnosed by death certificate only: 0.0%

B. Age Specific Incidence:



C. Morphology based on ICD-O-3:

Frequency of different subtypes of myeloid leukemia.

Morphology subcategories	No. of cases	Percent	ICD-10 Codes
Acute myeloid Leukemia	305	66.4	C920
Chronic myeloid leukemia	95	20.7	C921
Acute promyelocytic Leukaemia	26	5.7	C924
Acute myelomonocytic Leukaemia	22	4.8	C925
Myeloid Leukaemia Unspecified	7	1.5	C929
Myeloid Sarcoma	4	0.9	C923
Total	459	100	

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