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### BACKGROUND

*Cancer Incidence in Four Member Countries (Cyprus, Egypt, Israel, and Jordan)* presents information on cancer incidence over the period 1996-2001, drawn from data collected by 4 registries in the Middle East – situated in Cyprus, Egypt, Israel, and Jordan – as part of the Joint Cancer Registration Project of the Middle East Cancer Consortium (MECC). This chapter provides background information to help readers better understand the data, the populations they describe, the way the data were collected, and their strengths and limitations. Tables in the latter part of the chapter provide an overall summary of the cancer incidence rates in the populations covered by the MECC registries and, for comparison, the Surveillance, Epidemiology, and End Results (SEER) registry program in the United States. Each succeeding chapter covers a particular anatomical site or histological type of cancer in more detail.

Three other registries participate in the MECC Cancer Registration Project, covering the populations of Gaza and the West Bank in the Palestinian Authority (PA), and of Izmir in Turkey. A condition for inclusion in this monograph was that the registry data had been checked by audit. Unfortunately, these registries have not yet been audited – the PA registries due to difficulties of access, and the Izmir registry due to its very recent participation in the project. It is hoped that these registries can be audited in the near future and will be included in future MECC publications.

### THE REGISTRIES

#### *Cyprus National Cancer Registry*

The Cyprus National Cancer Registry covers the population currently governed by the Government of the Republic of Cyprus

(2001 population: 705,500), and not the Turkish-controlled part of the island.

Collection of data on cancer incidence from histopathological reports was initiated in Cyprus in 1990. The population-based cancer registry was established in 1998, after Cyprus joined the MECC. From that time, the data collection and coding operation was redefined and strengthened.

Since its establishment, the Cyprus National Cancer Registry has functioned in Nicosia as a unit of the Ministry of Health. It is staffed with 3 tumor registrars and comes under the direct responsibility of the Chief Health Officer of the Ministry of Health. Tumor registrars actively collect data by regularly visiting the hospitals and their oncology departments, and reviewing cytology and bone marrow registers and the histology reports.

Cancer is not yet a notifiable disease in Cyprus, and death certificates in Cyprus are not sufficiently detailed to be used as a source for cancer registration.

#### *Gharbiah Regional Cancer Registry, Egypt*

The Gharbiah Regional Cancer Registry, a population-based registry covering the Gharbiah Governorate, was established in 1998 within the context of the MECC Joint Cancer Registration Project. It is located in the Tanta Cancer Center of the Ministry of Health and Population. Tanta, the capital city of the Gharbiah Governorate, is situated in the middle of the Nile Delta, about 100 kilometers north of Egypt's capital city, Cairo. The registry is jointly sponsored by MECC and the Ministry of Health and Population, Cairo.

The registrar's principal investigator is Professor Amal Samy Ibrahim, professor of epidemiology and past vice dean of the

National Cancer Institute in Cairo. The current executive director is Professor Hany Hussein, professor of pediatric oncology in the National Cancer Institute in Cairo and director of the Tanta Cancer Center. The previous executive directors are Dr. Kadry Ismail and Dr. Ahmed Hablas, both surgery consultants and previous directors of the Tanta Cancer Center. They currently act as co-investigators in the registry and are responsible for field supervision. The data managers are Dr. Ibrahim Abdel Bar, a surgery consultant at Tanta Cancer Center, and Dr. Mohammed Ramadan, a chemotherapy specialist at Tanta Cancer Center. They also supervise the daily activities of the registry, and are helped by 5 technicians and secretaries.

Medical doctors of the Tanta Cancer Center actively collect data through regular visits to all governmental, non-governmental, and private centers and laboratories dealing with cancer patients. Data are also collected from death certificates. Centers outside Tanta that deal with cancer patients, mainly the National Cancer Institute in Cairo, are visited regularly to collect data on Gharbiah patients who might be treated there.

Registration began in 1999. The registry records all incident cancer cases among the approximately 3.4 million residents of Gharbiah diagnosed within and outside the Gharbiah Governorate. Although notification of cancer is not obligatory by law, a Ministerial decree that was issued to request collaboration with the registry has enhanced data collection efforts.

In the rest of this monograph, for convenience, we refer to Gharbiah as “Egypt.” The reader is to understand that this is merely a shorthand description, and that all results for Egypt in the monograph are derived from the Gharbiah subpopulation.

### *Israel National Cancer Registry*

The Israel National Cancer Registry, established in 1960, is part of the Center for Disease Control at the Ministry of Health

of Israel. The main goal of this population-based registry is to maintain an updated, complete database on cancer incidence in the Israeli population. The registry provides data regarding incidence, prevalence, and survival, and is the basis for medical research, health planning, and monitoring of malignancies.

Reporting to the registry, which was voluntary prior to 1982, is now mandatory, and all Israeli hospitals (and since the late 1980s, also the private pathology laboratories) report, usually by submitting a copy of the medical documentation. Thus, the method of data collection is mostly passive, but when needed, registry staff visit reporting sources to collect data actively.

Reporting sources include pathology, cytology, and hematology laboratories; hospital discharge forms; oncology institutes; death notification from district health offices; and the file of deaths from the Central Bureau of Statistics. Since 2000, through collaboration with the Israeli Hematology Society, all hematologists have been reporting the hematological malignancies that they see.

Several studies have been conducted to assess the registry’s completeness during its more than 40 years of operation. These studies began in the 1970s, with the latest one based on 1994 data. The method used for these studies was to actively search for cancer patients in a defined period in all (or major) hospitals, and to compare the resulting data with the file in the registry (record linkage). These studies resulted in estimated completeness rates of over 94% (usually 95% and more) for solid tumors. In the latest study, a completeness rate of only 85%-90% was noted for non-solid tumors, resulting in the above-mentioned initiative to collaborate with the Israeli Hematology Society. One problem in these studies was that the Israel National Cancer Registry registers only Israeli citizens, but hospitals also treat non-Israeli patients.

The work at the registry is simplified by the existence of a unique identification number that is given to all Israeli citizens (at birth or immigration). This number, used by Israelis in all their contacts

with the health system and other government departments, prevents duplication of data. Each year, the registry receives a file containing all deaths in the country, which it uses to update the vital status of those in the register.

The registry uses the International Classification of Diseases for Oncology, 3<sup>rd</sup> Edition (ICD-O-3) coding system for sites and histologies. Other parameters (such as stage of disease) are coded in accordance with the SEER Program, thus bringing the registry in line with MECC standards, which are described later in this chapter.

### *Jordan Cancer Registry*

The population-based Jordan Cancer Registry was established in 1996 under the umbrella of the Ministry of Health. Administration of the registry on a daily basis is the responsibility of the operations manager, under the supervision of His Excellency the Minister of Health. Much of the energy behind the establishment of the Registry was provided by Dr. Aref Bataynaha, the previous Minister of Health. Dr. Samir Al-Kayed (oncologist) and Dr. Bassam Al Hijawi (epidemiologist) pioneered the early work of the registry and set up its system of data collection.

The registry is located in Amman, capital city of Jordan, with 4 sub-offices: 1 located in Irbid in the Northern region, and 3 in large health institutions in Amman. The total number of staff in the registry is 11, of whom 3 are supported by a MECC grant. The remaining staff members are supported by the Ministry of Health. The staff members of the registry include an epidemiologist, a community health doctor, a statistician, data entry personnel, and a general secretary.

The registry covers the entire Jordanian population distributed over all 12 governorates, located in 3 regions. Amman includes approximately 38% of the total population.

Data for cancer registration are collected from all possible sources of information in the 4 health sectors: government, military, private, and university. Well-trained designated persons at each institution abstract cancer data from patients' files, complete the notification forms, and forward them to the registry. The data collection system may therefore be described as partly passive. However, there is also an active component, implemented by the central registry staff through regular site visits to the health institutions, the frequency of visits determined according to the size of the institutions' patient loads. Currently, 97 hospitals and 19 pathology laboratories notify cancer to the registry.

Since its establishment, the registry has been fully computerized and has produced regular annual statistical reports that contain information on cancer incidence by age, sex, and type of cancer, as well as cancer trends. The reports are circulated widely throughout Jordan. The registry also has served as a focus for clinical and epidemiological research, and is increasingly used in planning oncology services such as radiotherapy units, a breast cancer mass screening program, cancer prevention and control programs, hospices, and palliative care activities.

In 2003, the Ministry of Health declared by Public Health Law that cancer is a notifiable disease in Jordan, requiring all health institutions in all sectors to report cancer cases. Registry staff members are working in collaboration with the Civil Department to improve the quality of the national death certificate. It is hoped that this will help to collect better data on deaths where cancer is an underlying cause, and thereby on cancer mortality.

### *US Surveillance, Epidemiology, and End Results Program*

The SEER Program of the National Cancer Institute (NCI) is an authoritative source of information on cancer incidence and survival in the United States (<http://seer.cancer.gov>). SEER currently collects and publishes cancer incidence and survival data from population-based cancer registries covering approximately 26% of

the US population. The SEER Program registries routinely collect data on patient demographics, primary tumor site, tumor morphology and stage at diagnosis, first course of treatment, and follow-up for vital status. The SEER Program is the only comprehensive source of population-based information in the United States that includes patient survival data.

SEER began collecting data on cancer cases in 1973 in the states of Connecticut, Iowa, New Mexico, Utah, and Hawaii, and the metropolitan areas of Detroit (Michigan) and San Francisco-Oakland (California). In 1974-1975, the metropolitan area of Atlanta (Georgia) and the 13-county Seattle-Puget Sound (Washington) area were added. In 1978, 10 predominantly Black rural counties in Georgia were added, followed in 1980 by the addition of American Indians residing in Arizona. Three additional geographic areas participated in the SEER program prior to 1990: New Orleans, Louisiana (1974-1977, rejoined 2001); New Jersey (1979-1989, rejoined 2001); and Puerto Rico (1973-1989). The NCI also funds a cancer registry that, with technical assistance from SEER, collects information on cancer cases among Alaska Native populations residing in Alaska. In 1992, the SEER Program was expanded to increase coverage of minority populations, especially Hispanics, by adding the state of California's Los Angeles County and 4 counties in the San Jose-Monterey area south of San Francisco. In 2001, the SEER Program expanded coverage to include Kentucky and the remaining counties in California (known as the Greater California registry); in addition, New Jersey and Louisiana once again became participants. For the expansion registries (Kentucky, Greater California, New Jersey, and Louisiana), NCI funds are combined with funding from the US Centers for Disease Control and Prevention (through the National Program of Cancer Registries) and with funding from the states.

For this report, the SEER Program utilized cancer incidence data submitted to the NCI in November 2004 for cancer cases diagnosed in 1999-2001 from 13 population-based cancer registries that cover approximately 14% of the US population: Atlanta, Connecticut,

Detroit, Hawaii, Iowa, New Mexico, San Francisco-Oakland, Seattle-Puget Sound, Utah, Los Angeles County, San Jose-Monterey, rural Georgia, and the Alaska Native Tumor Registry. Corresponding population data for these respective geographic areas come from the US Bureau of the Census.

The SEER Program is considered the standard for data quality around the world. Quality control has been an integral part of SEER Program activities since its inception. Currently, quality control studies of various types, including case finding, recoding, and reliability, are conducted every 1-2 years to evaluate the quality and completeness of the data being reported (SEER's standard for case ascertainment is 98%). In some studies, a sample of cases is reabstracted to evaluate the accuracy of each of the data elements collected from the medical records. In other studies, targeted information gathering is performed to address specific data quality needs. Computer edits also are used by registries to ensure accurate and consistent data.

### THE REGISTRY POPULATIONS

Many of the tables in this chapter and in the remainder of this monograph present statistics for each population side by side in the same table. The populations are arranged from left to right in the following order: Cyprus, Israel (Jews), Israel (Arabs), Egypt, Jordan, and US SEER. This order originally arose from a desire to place together MECC populations with similar age structure. Thus Cyprus and Israel (Jews) are placed adjacent to one another, and similarly Israel (Arabs), Egypt, and Jordan. US SEER is placed last as a comparison population, even though the population structure of the SEER geographic areas is similar to those of Cyprus and Israel (Jews). The Israeli population is subdivided into Israeli Jews and Israeli Arabs for the purpose of comparing cancer rates in the 2 sectors within Israel, and also to allow comparisons between Israeli Arabs and the Arabs in neighboring countries.

Table 1.1 and Figure 1.1 present the number of persons in the 6 populations (MECC and US SEER) subdivided by sex and 5-year age groups, averaged over the reporting period.

The age distributions in these populations vary widely. The percentage of individuals under age 20 years is higher in Jordanians (52%), Egyptians (48%), and Israeli Arabs (50%) than in Cypriots (31%), Israeli Jews (35%), and the US SEER population (29%). Conversely the percentage over 50 years is lower in Jordanians (10%), Egyptians (12%), and Israeli Arabs (10%) than in Cypriots (26%), Israeli Jews (24%), and the US SEER population (25%). These profound differences in age distribution make it difficult to

compare cancer incidence across the countries using crude incidence rates; therefore, this monograph uses age-standardized and age-specific incidence rates for purposes of comparison (see “Statistical Methods”).

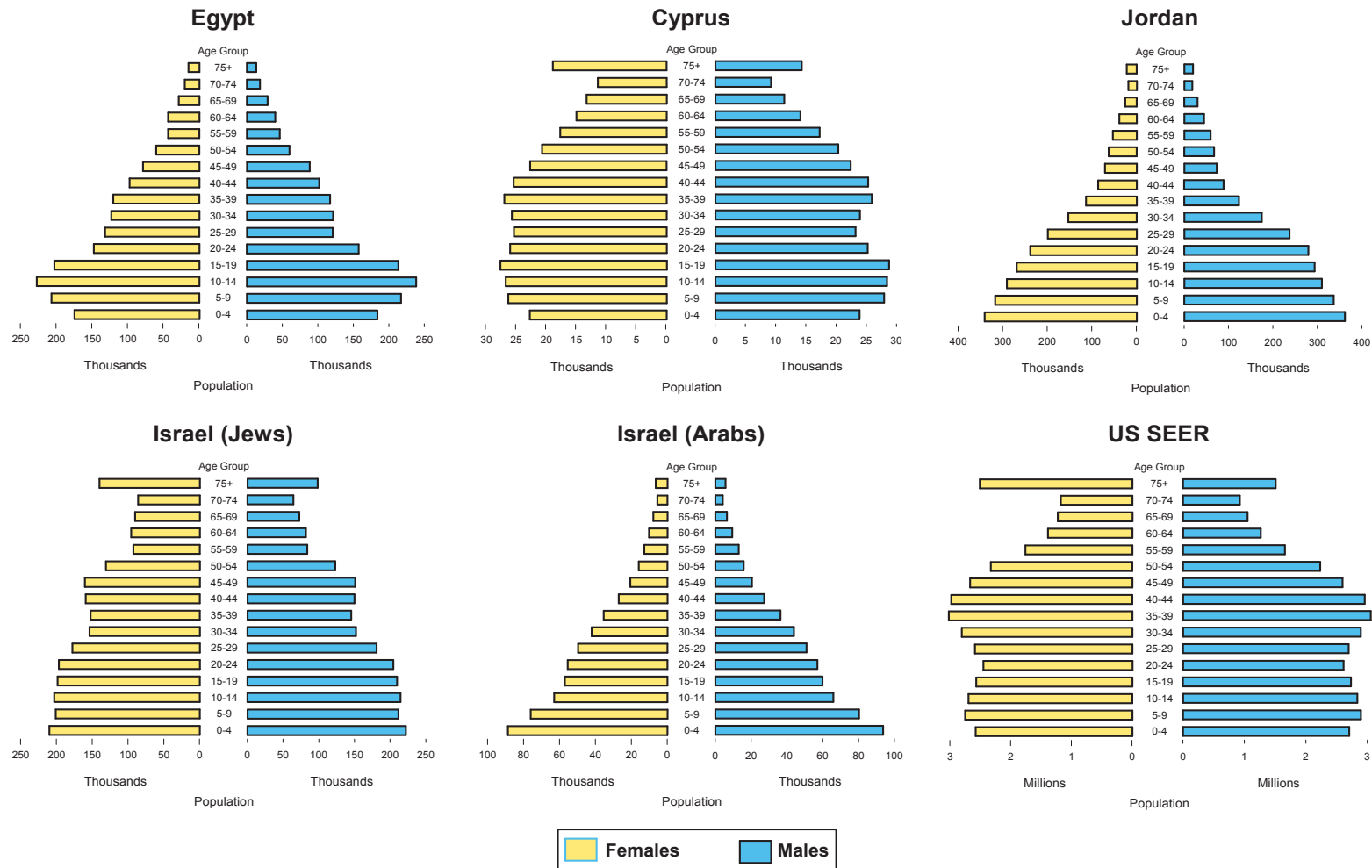
Table 1.1 also shows clear differences in the size of the populations covered by the registries. US SEER has the largest population; the Jordanian, Israeli Jewish, and Egyptian populations are intermediate; and the Israeli Arab and Cypriot populations are the smallest. The size of the population influences the total number of cancer cases registered, although other important factors also govern this number (see “Statistical Methods”).

**Table 1.1. Overview and Summary Data: Number of Persons by 5-Year Age Group and Sex, Averaged over the Reporting Period, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001**

| Age Group          | Cyprus<br>1998-2001 |         |         | Israel (Jews)<br>1996-2001 |           |           | Israel (Arabs)<br>1996-2001 |         |         | Egypt<br>1999-2001 |           |           | Jordan<br>1996-2001 |           |           | US SEER*<br>1999-2001 |            |            |
|--------------------|---------------------|---------|---------|----------------------------|-----------|-----------|-----------------------------|---------|---------|--------------------|-----------|-----------|---------------------|-----------|-----------|-----------------------|------------|------------|
|                    | Total               | Male    | Female  | Total                      | Male      | Female    | Total                       | Male    | Female  | Total              | Male      | Female    | Total               | Male      | Female    | Total                 | Male       | Female     |
| <b>Total cases</b> | 694,125             | 341,225 | 352,900 | 4,816,677                  | 2,364,568 | 2,452,108 | 1,165,217                   | 590,017 | 575,200 | 3,491,875          | 1,764,255 | 1,727,620 | 4,820,401           | 2,512,962 | 2,307,439 | 38,951,829            | 19,238,095 | 19,713,734 |
| 00-04 y            | 46,600              | 23,850  | 22,750  | 432,017                    | 221,867   | 210,150   | 182,467                     | 93,667  | 88,800  | 358,727            | 183,535   | 175,192   | 702,411             | 361,218   | 341,194   | 2,778,108             | 1,422,556  | 1,355,553  |
| 05-09 y            | 54,275              | 27,925  | 26,350  | 412,600                    | 211,433   | 201,167   | 156,350                     | 80,200  | 76,150  | 424,112            | 216,918   | 207,195   | 654,115             | 336,252   | 317,863   | 2,934,003             | 1,501,781  | 1,432,221  |
| 10-14 y            | 55,150              | 28,400  | 26,750  | 417,885                    | 214,502   | 203,383   | 128,917                     | 65,883  | 63,033  | 465,851            | 238,011   | 227,839   | 601,175             | 309,485   | 291,690   | 2,846,936             | 1,457,808  | 1,389,128  |
| 15-19 y            | 56,400              | 28,725  | 27,675  | 408,217                    | 209,550   | 198,667   | 116,900                     | 59,800  | 57,100  | 416,429            | 213,149   | 203,280   | 562,932             | 293,450   | 269,482   | 2,728,754             | 1,404,392  | 1,324,362  |
| 20-24 y            | 51,250              | 25,200  | 26,050  | 401,183                    | 204,267   | 196,917   | 112,517                     | 56,983  | 55,533  | 305,313            | 157,392   | 147,921   | 518,330             | 279,362   | 238,968   | 2,674,846             | 1,369,046  | 1,305,800  |
| 25-29 y            | 48,550              | 23,175  | 25,375  | 358,983                    | 180,900   | 178,083   | 100,600                     | 50,883  | 49,717  | 252,762            | 120,569   | 132,194   | 436,268             | 236,598   | 199,669   | 2,898,812             | 1,475,844  | 1,422,968  |
| 30-34 y            | 49,650              | 23,900  | 25,750  | 306,225                    | 152,067   | 154,158   | 86,100                      | 43,867  | 42,233  | 244,766            | 121,259   | 123,507   | 327,785             | 174,187   | 153,598   | 3,096,528             | 1,575,017  | 1,521,512  |
| 35-39 y            | 52,875              | 25,875  | 27,000  | 297,883                    | 145,267   | 152,617   | 71,883                      | 36,350  | 35,533  | 237,593            | 117,030   | 120,563   | 236,953             | 122,967   | 113,986   | 3,222,935             | 1,624,420  | 1,598,516  |
| 40-44 y            | 50,700              | 25,250  | 25,450  | 309,200                    | 149,883   | 159,317   | 54,383                      | 27,250  | 27,133  | 199,395            | 101,518   | 97,877    | 175,426             | 88,730    | 86,697    | 3,131,515             | 1,561,457  | 1,570,058  |
| 45-49 y            | 45,050              | 22,375  | 22,675  | 311,583                    | 150,950   | 160,633   | 41,083                      | 20,417  | 20,667  | 167,462            | 88,347    | 79,114    | 144,402             | 72,981    | 71,422    | 2,790,328             | 1,374,232  | 1,416,096  |
| 50-54 y            | 41,050              | 20,325  | 20,725  | 254,250                    | 122,917   | 131,333   | 31,883                      | 15,883  | 16,000  | 120,391            | 59,942    | 60,449    | 129,809             | 67,031    | 62,777    | 2,410,692             | 1,176,959  | 1,233,733  |
| 55-59 y            | 34,950              | 17,250  | 17,700  | 176,483                    | 83,767    | 92,717    | 25,967                      | 13,067  | 12,900  | 89,939             | 46,160    | 43,779    | 112,773             | 58,985    | 53,788    | 1,789,482             | 869,731    | 919,751    |
| 60-64 y            | 29,075              | 14,075  | 15,000  | 178,017                    | 81,983    | 96,033    | 19,733                      | 9,433   | 10,300  | 83,634             | 39,724    | 43,910    | 83,348              | 44,264    | 39,084    | 1,363,376             | 650,187    | 713,189    |
| 65-69 y            | 24,725              | 11,400  | 13,325  | 162,967                    | 72,550    | 90,417    | 14,367                      | 6,450   | 7,917   | 57,952             | 29,075    | 28,877    | 55,796              | 29,991    | 25,805    | 1,153,046             | 530,666    | 622,379    |
| 70-74 y            | 20,650              | 9,225   | 11,425  | 150,617                    | 64,350    | 86,267    | 9,767                       | 4,150   | 5,617   | 38,898             | 18,363    | 20,535    | 36,986              | 17,901    | 19,085    | 1,065,058             | 468,173    | 596,885    |
| 75+ y              | 33,175              | 14,275  | 18,900  | 238,567                    | 98,317    | 140,250   | 12,300                      | 5,733   | 6,567   | 28,652             | 13,264    | 15,388    | 41,894              | 19,561    | 22,333    | 2,067,409             | 775,826    | 1,291,583  |

\*SEER 13 Registries, Public Use Data Set, from data submitted November 2004.

Figure 1.1. Overview and Summary Data: Age Distributions in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER - 1996 - 2001





### DATA COLLECTED BY THE MECC REGISTRIES

#### *Data Items*

The collection of data by the MECC registries is guided by the *Manual of Standards for Cancer Registration [1]*. The manual specifies that certain data items are required for registration, while others are optional. The list of required items includes the following: identification number, sequence number, age at diagnosis, date of birth, sex, residential status, date of diagnosis, basis of diagnosis, primary site code (ICD-O-3), histologic type, behavior and grade, and summary stage.

#### *Inclusion Criteria*

For the purposes of this monograph, only those diseases that carry an ICD-O-3 behavior code 3 – i.e., those defined as malignant, with one exception noted below – are counted as cancer. Within this rubric, certain cancers are excluded, namely, basal or squamous cell carcinomas of the skin (which are very numerous in certain populations but almost always nonlethal). Note that, because of the behavior code exclusion, cervical intra-epithelial neoplasia and various carcinomas in situ are not counted here, even though they are recorded at MECC registries. Furthermore, some MECC registries record cases of benign brain tumors, but these too are not counted in this monograph. The one exception to the rule of including only behavior code 3 is the inclusion of in situ bladder carcinomas.

Cancer registries use special rules to decide whether to separately count multiple tumors developing in the same person. Although all the MECC countries follow the rules for counting multiple primary tumors suggested by the International Association of Cancer Registries (IACR), US SEER follows slightly different rules. The major differences are that the SEER Program considers each segment of the colon and rectum a separate primary site, each skin site a separate primary site, and, in general, each breast a separate

organ/primary site. Therefore, the rates for colorectal cancers, melanomas, and breast cancers may be slightly higher for SEER than for those registries utilizing the IACR rules.

#### *Data Quality*

MECC has regularly conducted exercises to check the quality and standardization of coding across the registries. These exercises have indicated that although some data items are already reliably recorded, others still have some way to go toward achieving the required quality. Specifically, age at diagnosis, major anatomical site (the 3-digit code where the leading “C” is counted as one of the digits – e.g., C34 for Bronchus and Lung), and major histological type are reliably recorded; summary stage is not. For this reason, summary stage information is not included in this monograph.

Equally important to a successful and meaningful population-based registry program is the completeness of coverage of the population; that is, a high proportion of the cancers diagnosed in the population need to be registered. MECC has instituted an external audit program that checks this important issue. The registries participating in this monograph have all been checked by audit and have shown rates of coverage above 90% for the populations concerned.

The quality of data in a population-based cancer registry can be judged by various statistical measures. One measure, the proportion of cases identified solely by death certificate, cannot be applied universally across the MECC registries because death certificates in Cyprus do not carry sufficient information to be used as a source for registration. Another such measure, the proportion of cases that are microscopically verified, is shown in Table 1.2 for the various populations and for the major sites and subsites of cancer. Generally speaking, a high proportion is considered to indicate high quality, but proper interpretation should take into account the level of diagnostic facilities available to and used by the population, and the clinical conventions used for diagnosing cancer. For example, a population with an extensive screening program for prostate cancer

using prostate-specific antigen may include individuals whose cancer diagnosis and treatment are based solely on the results of a clinical test, thus leading to a higher proportion of clinically diagnosed prostate cancers. Similarly, in some populations, diagnosis of lung cancer by radiological imaging might be deemed sufficient for diagnosis in some fairly common clinical situations (e.g., advanced tumors in the elderly). In such a population, a very high proportion of histologically or cytologically diagnosed cases would be an indication that clinically diagnosed cases are being missed.

The data in Table 1.2 indicate generally higher rates of microscopic confirmation in Cyprus, Jordan, and the US SEER populations than in Israel and Egypt. The most likely explanation for the lower rate of microscopic confirmation in Egypt is that the medical facilities afforded to that population rely less on histology or cytology and more on clinical investigations for diagnosing malignancy than in other MECC populations. The most likely explanation for the lower rate of microscopic confirmation at the Israel registry is that the full details of the medical record are not always provided by the hospital to the registry. For some cancers in Israel, where the diagnosis may have been made by histology or cytology and the abstractor is not sure which, an unknown category is coded – the same code used for cases where the basis of diagnosis is completely unknown. Because these cases become indistinguishable from cases with diagnoses of unknown origin, they are therefore counted as “not microscopically confirmed.” Now that this problem has been revealed, future coding practice will be revised to avoid this confusion.

Conversely, in some registries and for some cancers, percentages of microscopic confirmation are unrealistically high, which might indicate clinical cases that are missed because persons did not attend hospital or for other reasons.

These observations demonstrate that although the MECC data included in this monograph have reached accepted standards, they

still need to be interpreted with an understanding of their potential weaknesses and idiosyncrasies.

## REGISTRATION PERIOD

In this report, the period covered by each registry differs, in large part due to the age of the registry. The Israel and Jordan registries cover the 1996-2001 period, the Cyprus registry covers 1998-2001, and the Egypt and US SEER registries cover 1999-2001. MECC has determined that these between-registry differences in the reporting period do not cause serious bias in the comparisons of incidence rates in its populations. Such bias could occur only if there were dramatic changes in incidence rates over the short span of 6 years (1996-2001), and there is no such indication.

## STATISTICAL METHODS

The simplest measure of cancer incidence, the *annual crude incidence rate*, is equal to the number of incident cases divided by the person years at risk. However, this measure is greatly influenced by the age distribution of the population, and as explained earlier under “The Registry Populations,” the age distributions in the MECC populations vary widely. Two other statistical methods allow a fair comparison of the incidence rates in different populations when the age distributions differ: (1) annual age-specific incidence rates and (2) annual age-standardized incidence rates.

The definition of the *annual age-specific incidence rate* is simply the annual crude incidence rate within a narrowly defined (usually 5-year) specific age group. When these rates are provided, population incidence rates may be compared within age groups. Comparisons done in this fashion are often informative, but a comparison over the 16 age groups (from 0-4 years to 75+ years) is often cumbersome and arduous.



Table 1.2. Overview and Summary Data: Proportions of Microscopic Confirmation, by Site and Sex, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001\*

| Site                               | Cyprus 1998-2001 |        |        | Israel (Jews) 1996-2001 |        |        | Israel (Arabs) 1996-2001 |        |        | Egypt 1999-2001 |        |        | Jordan 1996-2001 |        |        | US SEER† 1999-2001 |        |        |
|------------------------------------|------------------|--------|--------|-------------------------|--------|--------|--------------------------|--------|--------|-----------------|--------|--------|------------------|--------|--------|--------------------|--------|--------|
|                                    | Total            | Male   | Female | Total                   | Male   | Female | Total                    | Male   | Female | Total           | Male   | Female | Total            | Male   | Female | Total              | Male   | Female |
| All sites                          | 96.2%            | 95.5%  | 96.9%  | 85.3%                   | 83.5%  | 87.0%  | 86.3%                    | 86.0%  | 86.7%  | 81.6%           | 78.4%  | 84.9%  | 98.5%            | 98.4%  | 98.7%  | 95.1%              | 95.2%  | 95.0%  |
| Oral cavity and pharynx            | 97.8%            | 100.0% | 94.3%  | 93.8%                   | 93.6%  | 94.0%  | 95.1%                    | 95.8%  | 93.8%  | 96.4%           | 97.7%  | 94.8%  | 98.4%            | 97.6%  | 100.0% | 98.7%              | 98.8%  | 98.3%  |
| Lip                                | 100.0%           | 100.0% | -      | 96.1%                   | 95.4%  | 96.9%  | 95.3%                    | 96.4%  | 93.3%  | 80.0%           | 100.0% | -      | 98.3%            | 97.7%  | 100.0% | 99.6%              | 99.5%  | 100.0% |
| Tongue                             | 100.0%           | 100.0% | 100.0% | 94.3%                   | 95.5%  | 93.2%  | 100.0%                   | 100.0% | 100.0% | 96.8%           | 97.4%  | 95.8%  | 98.2%            | 97.1%  | 100.0% | 98.9%              | 99.0%  | 98.7%  |
| Salivary gland                     | 94.4%            | 100.0% | 90.9%  | 90.6%                   | 91.1%  | 90.1%  | 81.8%                    | 84.6%  | 77.8%  | 96.4%           | 96.4%  | 96.4%  | 100.0%           | 100.0% | 100.0% | 99.0%              | 99.2%  | 98.7%  |
| Floor of mouth                     | 100.0%           | 100.0% | 0.0%   | 97.0%                   | 100.0% | 91.7%  | -                        | -      | 0.0%   | 100.0%          | -      | -      | 92.9%            | 88.9%  | 100.0% | 99.4%              | 99.4%  | 99.2%  |
| Gum and other mouth                | 100.0%           | 100.0% | 100.0% | 93.0%                   | 94.3%  | 91.6%  | 95.0%                    | 92.3%  | 100.0% | 98.8%           | 100.0% | 97.7%  | 100.0%           | 100.0% | 100.0% | 98.3%              | 98.4%  | 98.1%  |
| Nasopharynx                        | 91.7%            | 100.0% | 80.0%  | 90.6%                   | 90.8%  | 90.1%  | 100.0%                   | 100.0% | 100.0% | 97.2%           | 100.0% | 90.9%  | 98.2%            | 97.5%  | 100.0% | 97.9%              | 99.0%  | 95.6%  |
| Tonsil                             | 100.0%           | 100.0% | -      | 93.9%                   | 91.7%  | 100.0% | 100.0%                   | 100.0% | 0.0%   | 100.0%          | 100.0% | 100.0% | 100.0%           | 100.0% | 100.0% | 99.6%              | 99.7%  | 99.3%  |
| Oropharynx                         | -                | -      | 0.0%   | 90.7%                   | 92.0%  | 88.9%  | 100.0%                   | -      | -      | 100.0%          | -      | 100.0% | 100.0%           | 100.0% | -      | 97.6%              | 98.0%  | 96.8%  |
| Hypopharynx                        | 100.0%           | -      | -      | 91.7%                   | 88.6%  | 100.0% | 100.0%                   | 100.0% | -      | 96.4%           | 100.0% | 91.9%  | 92.9%            | 88.9%  | 100.0% | 99.0%              | 98.9%  | 99.5%  |
| Other oral cavity and pharynx      | 100.0%           | -      | -      | 80.8%                   | 76.5%  | 88.9%  | 100.0%                   | -      | -      | 75.0%           | 57.1%  | 100.0% | -                | -      | -      | 89.1%              | 89.0%  | 89.4%  |
| Digestive system                   | 95.5%            | 96.4%  | 94.5%  | 84.2%                   | 85.2%  | 83.1%  | 86.0%                    | 85.1%  | 87.2%  | 59.7%           | 58.2%  | 62.7%  | 98.5%            | 98.7%  | 98.4%  | 92.9%              | 93.5%  | 92.3%  |
| Esophagus                          | 100.0%           | 100.0% | 100.0% | 85.4%                   | 86.7%  | 83.6%  | 95.0%                    | 100.0% | 83.3%  | 88.3%           | 93.1%  | 80.6%  | 97.9%            | 97.0%  | 100.0% | 96.1%              | 96.8%  | 94.3%  |
| Stomach                            | 99.0%            | 98.2%  | 100.0% | 89.9%                   | 90.5%  | 88.9%  | 93.2%                    | 95.4%  | 89.9%  | 79.6%           | 81.0%  | 77.5%  | 98.8%            | 98.8%  | 98.8%  | 96.8%              | 97.8%  | 95.2%  |
| Small intestine                    | 100.0%           | 100.0% | -      | 94.1%                   | 95.9%  | 91.6%  | 88.5%                    | 86.7%  | 90.9%  | 82.1%           | 75.0%  | 91.7%  | 100.0%           | 100.0% | 100.0% | 98.1%              | 98.6%  | 97.5%  |
| Colon and rectum                   | 99.0%            | 99.7%  | 98.2%  | 91.4%                   | 91.9%  | 90.9%  | 91.5%                    | 92.0%  | 90.9%  | 84.6%           | 84.7%  | 84.5%  | 99.0%            | 99.5%  | 98.5%  | 97.5%              | 98.0%  | 97.0%  |
| Colon excluding rectum             | 98.7%            | 99.6%  | 97.9%  | 90.5%                   | 91.2%  | 89.9%  | 90.8%                    | 90.9%  | 90.7%  | 78.3%           | 78.7%  | 77.8%  | 98.9%            | 99.3%  | 98.4%  | 97.1%              | 97.6%  | 96.7%  |
| Cecum                              | 98.6%            | 100.0% | 97.4%  | 94.8%                   | 94.5%  | 95.1%  | 95.8%                    | 92.3%  | 100.0% | 96.0%           | 92.9%  | 100.0% | 100.0%           | 100.0% | 100.0% | 98.8%              | 99.1%  | 98.6%  |
| Appendix                           | 100.0%           | 100.0% | -      | 98.3%                   | 100.0% | 97.4%  | 75.0%                    | -      | -      | -               | 0.0%   | -      | 100.0%           | 100.0% | 100.0% | 100.0%             | 100.0% | 100.0% |
| Ascending colon                    | 100.0%           | 100.0% | 100.0% | 96.5%                   | 96.3%  | 96.6%  | 100.0%                   | 100.0% | 100.0% | 94.1%           | 100.0% | 83.3%  | 100.0%           | 100.0% | 100.0% | 98.7%              | 98.9%  | 98.6%  |
| Hepatic flexure                    | 100.0%           | 100.0% | 100.0% | 95.7%                   | 97.3%  | 94.4%  | 100.0%                   | 100.0% | 100.0% | 100.0%          | 100.0% | 93.8%  | 100.0%           | 100.0% | 83.3%  | 99.3%              | 99.7%  | 98.9%  |
| Transverse colon                   | 100.0%           | 100.0% | 100.0% | 95.9%                   | 97.0%  | 94.8%  | 93.3%                    | 100.0% | 88.9%  | 85.7%           | 72.7%  | 100.0% | 98.0%            | 95.8%  | 100.0% | 98.9%              | 99.1%  | 98.8%  |
| Splenic flexure                    | 100.0%           | 100.0% | 100.0% | 95.2%                   | 96.8%  | 93.7%  | 85.7%                    | 66.7%  | 100.0% | 100.0%          | 100.0% | 100.0% | 100.0%           | 100.0% | 100.0% | 98.6%              | 98.9%  | 98.2%  |
| Descending colon                   | 100.0%           | 100.0% | 100.0% | 96.1%                   | 96.3%  | 95.9%  | 96.2%                    | 93.8%  | 100.0% | 82.6%           | 78.6%  | 88.9%  | 100.0%           | 100.0% | 100.0% | 98.8%              | 99.2%  | 98.3%  |
| Sigmoid colon                      | 99.4%            | 100.0% | 98.8%  | 95.4%                   | 95.7%  | 95.1%  | 97.3%                    | 96.1%  | 98.3%  | 96.1%           | 93.5%  | 100.0% | 99.6%            | 100.0% | 99.3%  | 99.0%              | 99.1%  | 98.9%  |
| Colon, NOS*                        | 97.4%            | 98.8%  | 96.1%  | 75.4%                   | 77.1%  | 73.7%  | 75.0%                    | 77.1%  | 73.1%  | 60.0%           | 62.7%  | 56.7%  | 98.5%            | 99.1%  | 97.9%  | 63.1%              | 68.2%  | 58.7%  |
| Rectum and junction                | 99.6%            | 100.0% | 99.0%  | 93.9%                   | 93.8%  | 94.0%  | 92.7%                    | 93.8%  | 91.4%  | 96.8%           | 96.6%  | 97.1%  | 99.3%            | 100.0% | 98.6%  | 98.6%              | 98.9%  | 98.1%  |
| Rectosigmoid junction              | 97.8%            | 100.0% | 94.4%  | 95.2%                   | 95.6%  | 94.7%  | 92.3%                    | 95.5%  | 88.2%  | 95.6%           | 96.6%  | 93.8%  | 99.4%            | 100.0% | 98.6%  | 98.9%              | 99.2%  | 98.5%  |
| Rectum                             | 100.0%           | 100.0% | 100.0% | 93.5%                   | 93.1%  | 93.8%  | 92.9%                    | 93.3%  | 92.2%  | 97.3%           | 96.6%  | 98.1%  | 99.3%            | 100.0% | 98.6%  | 98.4%              | 98.8%  | 97.9%  |
| Anus, anal canal, and anorectum    | 100.0%           | 100.0% | 100.0% | 96.0%                   | 96.4%  | 95.5%  | 100.0%                   | 100.0% | 100.0% | 93.5%           | 86.7%  | 100.0% | 100.0%           | 100.0% | 100.0% | 99.5%              | 99.7%  | 99.3%  |
| Liver and intrahepatic bile duct   | 89.9%            | 94.2%  | 76.5%  | 56.4%                   | 59.4%  | 52.3%  | 73.4%                    | 68.8%  | 87.5%  | 40.7%           | 42.3%  | 34.5%  | 97.9%            | 97.9%  | 97.8%  | 71.8%              | 72.6%  | 70.2%  |
| Liver                              | 90.0%            | 93.2%  | 81.3%  | 60.8%                   | 63.3%  | 57.1%  | 72.6%                    | 68.1%  | 86.7%  | 40.5%           | 42.1%  | 34.3%  | 98.0%            | 97.7%  | 98.6%  | 72.0%              | 72.7%  | 70.2%  |
| Intrahepatic bile duct             | 88.9%            | 100.0% | -      | 21.2%                   | 19.6%  | 22.6%  | -                        | -      | -      | 50.0%           | 50.0%  | -      | 96.4%            | 100.0% | 94.1%  | 70.9%              | 71.6%  | 70.1%  |
| Gallbladder                        | 97.6%            | 100.0% | 96.2%  | 79.3%                   | 74.3%  | 80.5%  | 89.7%                    | 75.0%  | 93.5%  | 68.8%           | 62.5%  | 75.0%  | 99.5%            | 98.2%  | 100.0% | 92.4%              | 88.8%  | 93.7%  |
| Other biliary                      | 100.0%           | 100.0% | 100.0% | 70.2%                   | 74.2%  | 66.1%  | 54.8%                    | 52.6%  | 58.3%  | 52.9%           | 51.7%  | 54.5%  | 98.0%            | 96.7%  | 100.0% | 87.5%              | 90.9%  | 83.7%  |
| Pancreas                           | 67.5%            | 74.3%  | 56.8%  | 43.8%                   | 45.6%  | 41.9%  | 58.4%                    | 61.0%  | 52.8%  | 30.2%           | 31.7%  | 28.2%  | 92.9%            | 94.5%  | 90.0%  | 77.1%              | 80.1%  | 74.2%  |
| Retroperitoneum                    | 100.0%           | -      | -      | 83.7%                   | 81.8%  | 85.7%  | 100.0%                   | 100.0% | 100.0% | 91.2%           | 86.7%  | 94.7%  | 100.0%           | 100.0% | 100.0% | 98.7%              | 98.8%  | 98.6%  |
| Peritoneum, omentum, and mesentery | 100.0%           | 0.0%   | 100.0% | 89.2%                   | 95.3%  | 87.2%  | 100.0%                   | -      | 100.0% | 100.0%          | 0.0%   | 100.0% | 96.8%            | 93.3%  | 100.0% | 99.0%              | 100.0% | 98.9%  |

Table 1.2 continued

| Site   | Cyprus<br>1998-2001 |        |        | Israel (Jews)<br>1996-2001 |        |        | Israel (Arabs)<br>1996-2001 |        |        | Egypt<br>1999-2001 |        |        | Jordan<br>1996-2001 |        |        | US SEER†<br>1999-2001 |       |        |
|--|---------------------|--------|--------|----------------------------|--------|--------|-----------------------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|-----------------------|-------|--------|
|  | Total               | Male   | Female | Total                      | Male   | Female | Total                       | Male   | Female | Total              | Male   | Female | Total               | Male   | Female | Total                 | Male  | Female |
| Other digestive organs                                   | -                   | -      | 0.0%   | 80.2%                      | 91.2%  | 67.2%  | 81.8%                       | 66.7%  | 100.0% | 80.0%              | 84.6%  | 73.1%  | 100.0%              | 100.0% | 0.0%   | 82.2%                 | 86.8% | 78.0%  |
| Respiratory system                                       | 92.0%               | 91.5%  | 94.4%  | 81.8%                      | 82.7%  | 80.0%  | 85.5%                       | 87.0%  | 76.1%  | 81.7%              | 82.9%  | 78.1%  | 97.6%               | 97.4%  | 98.2%  | 90.5%                 | 91.4% | 89.4%  |
| Nose, nasal cavity,<br>and middle ear                    | 100.0%              | 100.0% | 100.0% | 93.2%                      | 94.6%  | 91.5%  | 90.0%                       | 83.3%  | 100.0% | 96.7%              | 100.0% | 94.1%  | 100.0%              | 100.0% | 100.0% | 98.3%                 | 98.7% | 97.8%  |
| Larynx   | 98.3%               | 100.0% | 83.3%  | 90.2%                      | 91.5%  | 82.3%  | 92.0%                       | 93.2%  | 77.8%  | 91.0%              | 93.2%  | 66.7%  | 98.6%               | 98.5%  | 100.0% | 98.4%                 | 98.6% | 97.7%  |
| Lung and bronchus  | 90.9%               | 90.1%  | 94.5%  | 80.2%                      | 80.7%  | 79.1%  | 84.1%                       | 85.6%  | 74.7%  | 77.2%              | 77.8%  | 75.4%  | 97.2%               | 97.1%  | 97.6%  | 89.9%                 | 90.6% | 89.0%  |
| Pleura   | 100.0%              | 100.0% | -      | 93.6%                      | 94.2%  | 92.6%  | 100.0%                      | 100.0% | 100.0% | 100.0%             | 100.0% | 100.0% | 100.0%              | 100.0% | 100.0% | 95.4%                 | 95.4% | 95.2%  |
| Trachea, mediastinum,<br>and other respiratory<br>organs | 100.0%              | 100.0% | 100.0% | 85.6%                      | 86.3%  | 84.4%  | 87.5%                       | 100.0% | 60.0%  | 83.3%              | 85.7%  | 80.0%  | 95.2%               | 92.9%  | 100.0% | 92.6%                 | 92.8% | 92.2%  |
| Bones and joints   | 92.7%               | 92.9%  | 92.3%  | 87.6%                      | 88.9%  | 85.7%  | 88.6%                       | 92.0%  | 84.2%  | 79.5%              | 83.0%  | 75.0%  | 97.6%               | 98.2%  | 96.6%  | 97.4%                 | 97.6% | 97.2%  |
| Soft tissue including heart                              | 93.0%               | 95.8%  | 89.5%  | 91.0%                      | 92.6%  | 89.0%  | 89.2%                       | 87.7%  | 91.1%  | 94.9%              | 98.3%  | 91.6%  | 99.1%               | 99.2%  | 99.0%  | 98.3%                 | 98.5% | 98.0%  |
| Skin excluding<br>basal and squamous                     | 97.3%               | 100.0% | 95.1%  | 93.1%                      | 93.4%  | 92.7%  | 96.7%                       | 96.2%  | 97.4%  | 100.0%             | 100.0% | 100.0% | 98.3%               | 98.1%  | 98.5%  | 99.0%                 | 98.7% | 99.5%  |
| Melanoma of the skin                                     | 97.9%               | 100.0% | 96.4%  | 93.3%                      | 93.4%  | 93.2%  | 97.7%                       | 96.2%  | 100.0% | 100.0%             | 100.0% | 100.0% | 97.7%               | 95.7%  | 100.0% | 99.6%                 | 99.5% | 99.6%  |
| Other non-epithelial skin                                | 93.3%               | 100.0% | 83.3%  | 92.3%                      | 93.3%  | 90.5%  | 95.7%                       | 96.3%  | 95.0%  | 100.0%             | 100.0% | 100.0% | 98.9%               | 100.0% | 96.2%  | 95.4%                 | 93.9% | 98.6%  |
| Breast   | 98.7%               | 100.0% | 98.7%  | 91.9%                      | 83.3%  | 92.0%  | 92.9%                       | 90.9%  | 92.9%  | 93.5%              | 88.5%  | 93.5%  | 99.4%               | 100.0% | 99.4%  | 98.9%                 | 99.6% | 98.9%  |
| Female genital system                                    | 98.5%               | 0.0%   | 98.5%  | 91.6%                      | 0.0%   | 91.6%  | 88.9%                       | 0.0%   | 88.9%  | 88.7%              | 0.0%   | 88.7%  | 99.2%               | 0.0%   | 99.2%  | 97.3%                 | 0.0%  | 97.3%  |
| Cervix uteri   | 98.6%               | 0.0%   | 98.6%  | 92.6%                      | 0.0%   | 92.6%  | 87.0%                       | 0.0%   | 87.0%  | 99.0%              | 0.0%   | 99.0%  | 99.5%               | 0.0%   | 99.5%  | 98.8%                 | 0.0%  | 98.8%  |
| Corpus and uterus, NOS <sup>‡</sup>                      | 99.6%               | 0.0%   | 99.6%  | 94.7%                      | 0.0%   | 94.7%  | 94.4%                       | 0.0%   | 94.4%  | 83.1%              | 0.0%   | 83.1%  | 99.0%               | 0.0%   | 99.0%  | 98.9%                 | 0.0%  | 98.9%  |
| Corpus uteri   | 99.5%               | 0.0%   | 99.5%  | 97.4%                      | 0.0%   | 97.4%  | 98.6%                       | 0.0%   | 98.6%  | 98.1%              | 0.0%   | 98.1%  | 99.1%               | 0.0%   | 99.1%  | 99.4%                 | 0.0%  | 99.4%  |
| Uterus, NOS <sup>‡</sup>                                 | 100.0%              | 0.0%   | 100.0% | 80.4%                      | 0.0%   | 80.4%  | 69.6%                       | 0.0%   | 69.6%  | 71.4%              | 0.0%   | 71.4%  | 98.9%               | 0.0%   | 98.9%  | 73.2%                 | 0.0%  | 73.2%  |
| Ovary  | 96.5%               | 0.0%   | 96.5%  | 86.4%                      | 0.0%   | 86.4%  | 77.3%                       | 0.0%   | 77.3%  | 85.7%              | 0.0%   | 85.7%  | 99.2%               | 0.0%   | 99.2%  | 93.6%                 | 0.0%  | 93.6%  |
| Vagina   | 100.0%              | 0.0%   | 100.0% | 96.5%                      | 0.0%   | 96.5%  | 100.0%                      | 0.0%   | 100.0% | 100.0%             | 0.0%   | 100.0% | 100.0%              | 0.0%   | 100.0% | 98.3%                 | 0.0%  | 98.3%  |
| Vulva  | 100.0%              | 0.0%   | 100.0% | 91.7%                      | 0.0%   | 91.7%  | 83.3%                       | 0.0%   | 83.3%  | 100.0%             | 0.0%   | 100.0% | 100.0%              | 0.0%   | 100.0% | 98.9%                 | 0.0%  | 98.9%  |
| Other female<br>genital organs                           | 0.0%                | 0.0%   | 0.0%   | 87.4%                      | 0.0%   | 87.4%  | 100.0%                      | 0.0%   | 100.0% | 90.0%              | 0.0%   | 90.0%  | 100.0%              | 0.0%   | 100.0% | 91.5%                 | 0.0%  | 91.5%  |
| Male genital system                                      | 96.0%               | 96.0%  | 0.0%   | 73.2%                      | 73.2%  | 0.0%   | 73.8%                       | 73.8%  | 0.0%   | 73.3%              | 73.3%  | 0.0%   | 98.6%               | 98.6%  | 0.0%   | 97.6%                 | 97.6% | 0.0%   |
| Prostate   | 95.7%               | 95.7%  | 0.0%   | 72.3%                      | 72.3%  | 0.0%   | 71.4%                       | 71.4%  | 0.0%   | 70.6%              | 70.6%  | 0.0%   | 98.6%               | 98.6%  | 0.0%   | 97.5%                 | 97.5% | 0.0%   |
| Testis   | 98.2%               | 98.2%  | 0.0%   | 87.7%                      | 87.7%  | 0.0%   | 86.0%                       | 86.0%  | 0.0%   | 95.2%              | 95.2%  | 0.0%   | 98.5%               | 98.5%  | 0.0%   | 99.6%                 | 99.6% | 0.0%   |
| Penis  | 100.0%              | 100.0% | 0.0%   | 76.5%                      | 76.5%  | 0.0%   | 80.0%                       | 80.0%  | 0.0%   | -                  | -      | 0.0%   | -                   | -      | 0.0%   | 98.6%                 | 98.6% | 0.0%   |
| Other male genital organs                                | -                   | -      | 0.0%   | 100.0%                     | 100.0% | 0.0%   | 0.0%                        | 0.0%   | 0.0%   | -                  | -      | 0.0%   | 100.0%              | 100.0% | 0.0%   | 98.3%                 | 98.3% | 0.0%   |
| Urinary system   | 98.3%               | 98.3%  | 98.3%  | 91.7%                      | 92.2%  | 90.2%  | 91.7%                       | 94.3%  | 81.4%  | 88.3%              | 88.8%  | 86.4%  | 99.5%               | 99.6%  | 99.3%  | 95.9%                 | 96.7% | 94.0%  |
| Urinary bladder  | 99.3%               | 99.2%  | 100.0% | 94.5%                      | 94.5%  | 94.3%  | 95.7%                       | 96.2%  | 92.1%  | 88.7%              | 89.2%  | 86.8%  | 99.9%               | 100.0% | 99.2%  | 98.7%                 | 98.9% | 98.2%  |
| Kidney and renal pelvis                                  | 94.4%               | 93.6%  | 95.7%  | 85.9%                      | 85.8%  | 86.0%  | 82.0%                       | 87.7%  | 72.3%  | 85.4%              | 85.7%  | 84.8%  | 98.6%               | 98.1%  | 99.4%  | 90.8%                 | 92.0% | 88.9%  |
| Ureter   | -                   | -      | -      | 100.0%                     | 100.0% | 100.0% | 100.0%                      | 100.0% | 0.0%   | 100.0%             | 100.0% | -      | 100.0%              | 100.0% | -      | 98.1%                 | 99.0% | 96.8%  |
| Other urinary organs                                     | -                   | -      | -      | 92.6%                      | 97.6%  | 81.1%  | 100.0%                      | -      | -      | 80.0%              | 80.0%  | 0.0%   | 100.0%              | 100.0% | 0.0%   | 98.8%                 | 99.1% | 97.9%  |
| Eye and orbit  | 80.0%               | 66.7%  | 100.0% | 67.8%                      | 66.7%  | 69.1%  | 83.3%                       | 90.0%  | 75.0%  | 90.9%              | 85.7%  | 100.0% | 97.8%               | 97.6%  | 97.9%  | 73.1%                 | 73.4% | 72.8%  |
| Brain and other<br>nervous system                        | 80.0%               | 77.2%  | 83.1%  | 79.1%                      | 80.8%  | 77.0%  | 83.0%                       | 86.1%  | 78.2%  | 65.7%              | 66.1%  | 65.4%  | 94.7%               | 95.9%  | 93.2%  | 87.5%                 | 89.7% | 84.6%  |
| Brain  | 80.2%               | 76.5%  | 84.1%  | 78.9%                      | 80.4%  | 77.1%  | 83.6%                       | 85.3%  | 80.8%  | 62.3%              | 63.4%  | 61.2%  | 94.9%               | 96.0%  | 93.5%  | 87.6%                 | 89.9% | 84.6%  |
| Cranial nerves and other<br>nervous system               | 78.9%               | 81.8%  | 75.0%  | 81.9%                      | 90.7%  | 74.5%  | 72.7%                       | 100.0% | 40.0%  | 85.4%              | 82.6%  | 88.0%  | 92.5%               | 94.3%  | 90.6%  | 84.9%                 | 85.7% | 84.1%  |

Table 1.2 continued

| Site                             | Cyprus<br>1998-2001 |        |        | Israel (Jews)<br>1996-2001 |       |        | Israel (Arabs)<br>1996-2001 |        |        | Egypt<br>1999-2001 |        |        | Jordan<br>1996-2001 |        |        | US SEER†<br>1999-2001 |       |        |
|----------------------------------|---------------------|--------|--------|----------------------------|-------|--------|-----------------------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|-----------------------|-------|--------|
|                                  | Total               | Male   | Female | Total                      | Male  | Female | Total                       | Male   | Female | Total              | Male   | Female | Total               | Male   | Female | Total                 | Male  | Female |
| <b>Endocrine system</b>          | 100.0%              | 100.0% | 100.0% | 92.3%                      | 91.0% | 92.8%  | 91.8%                       | 90.6%  | 92.2%  | 89.5%              | 82.7%  | 94.1%  | 99.7%               | 100.0% | 99.6%  | 99.2%                 | 98.7% | 99.4%  |
| Thyroid                          | 100.0%              | 100.0% | 100.0% | 93.8%                      | 94.3% | 93.6%  | 95.2%                       | 97.8%  | 94.5%  | 92.9%              | 88.9%  | 94.5%  | 100.0%              | 100.0% | 100.0% | 99.5%                 | 99.2% | 99.6%  |
| Other endocrine including thymus | 100.0%              | 100.0% | 100.0% | 76.2%                      | 75.2% | 77.2%  | 66.7%                       | 73.7%  | 54.5%  | 78.3%              | 75.0%  | 90.0%  | 97.7%               | 100.0% | 95.3%  | 95.2%                 | 96.0% | 94.2%  |
| <b>Lymphoma</b>                  | 98.3%               | 98.5%  | 98.2%  | 91.6%                      | 91.7% | 91.4%  | 92.2%                       | 91.9%  | 92.6%  | 93.1%              | 93.8%  | 91.9%  | 99.0%               | 99.3%  | 98.6%  | 97.9%                 | 97.9% | 97.9%  |
| Hodgkin lymphoma                 | 96.4%               | 94.6%  | 97.8%  | 92.9%                      | 92.9% | 92.9%  | 93.4%                       | 91.9%  | 95.5%  | 99.1%              | 98.7%  | 100.0% | 99.2%               | 99.5%  | 98.8%  | 99.2%                 | 99.1% | 99.4%  |
| Hodgkin - Nodal                  | 97.5%               | 94.4%  | 100.0% | 93.0%                      | 93.0% | 93.0%  | 93.8%                       | 91.8%  | 96.9%  | 99.0%              | 98.6%  | 100.0% | 99.2%               | 99.4%  | 98.8%  | 99.2%                 | 99.1% | 99.3%  |
| Hodgkin - Extranodal             | 75.0%               | -      | 66.7%  | 87.5%                      | 90.0% | 83.3%  | 75.0%                       | -      | 66.7%  | 100.0%             | 100.0% | 100.0% | 100.0%              | 100.0% | 100.0% | 98.6%                 | 97.7% | 100.0% |
| Non-Hodgkin lymphoma             | 98.9%               | 99.4%  | 98.3%  | 91.3%                      | 91.5% | 91.2%  | 91.8%                       | 91.9%  | 91.6%  | 91.9%              | 92.7%  | 90.7%  | 98.9%               | 99.2%  | 98.4%  | 97.7%                 | 97.7% | 97.7%  |
| NHL - Nodal                      | 99.0%               | 99.1%  | 98.7%  | 89.9%                      | 89.7% | 90.0%  | 90.4%                       | 90.7%  | 89.9%  | 89.7%              | 91.0%  | 87.7%  | 98.7%               | 99.2%  | 97.9%  | 97.3%                 | 97.5% | 97.0%  |
| NHL - Extranodal                 | 98.8%               | 100.0% | 97.5%  | 96.6%                      | 97.0% | 96.0%  | 96.3%                       | 96.2%  | 96.3%  | 99.2%              | 98.6%  | 100.0% | 99.6%               | 99.4%  | 100.0% | 98.4%                 | 98.0% | 98.9%  |
| Myeloma                          | 98.3%               | 97.0%  | 100.0% | 73.5%                      | 74.8% | 71.9%  | 70.7%                       | 73.3%  | 68.1%  | 100.0%             | 100.0% | 100.0% | 99.3%               | 100.0% | 98.4%  | 91.4%                 | 93.1% | 89.4%  |
| <b>Leukemia</b>                  | 99.1%               | 99.3%  | 98.9%  | 69.1%                      | 71.5% | 66.1%  | 70.2%                       | 75.5%  | 62.4%  | 85.4%              | 85.5%  | 85.3%  | 99.7%               | 99.6%  | 99.8%  | 93.7%                 | 94.7% | 92.3%  |
| Lymphocytic leukemia             | 99.2%               | 98.7%  | 100.0% | 70.8%                      | 74.0% | 66.3%  | 75.2%                       | 83.3%  | 61.2%  | 100.0%             | 100.0% | 100.0% | 99.8%               | 99.8%  | 100.0% | 94.4%                 | 95.5% | 92.8%  |
| Acute lymphocytic leukemia       | 97.9%               | 96.4%  | 100.0% | 75.5%                      | 80.3% | 68.7%  | 74.0%                       | 82.0%  | 59.3%  | 100.0%             | 100.0% | 100.0% | 99.8%               | 99.7%  | 100.0% | 98.4%                 | 98.4% | 98.3%  |
| Chronic lymphocytic leukemia     | 100.0%              | 100.0% | 100.0% | 68.2%                      | 70.6% | 65.2%  | 76.1%                       | 88.0%  | 61.9%  | 100.0%             | 100.0% | 100.0% | 100.0%              | 100.0% | 100.0% | 92.2%                 | 93.9% | 89.7%  |
| Other lymphocytic leukemia       | 100.0%              | 100.0% | -      | 81.8%                      | 83.9% | 75.0%  | 80.0%                       | 77.8%  | -      | 100.0%             | 100.0% | 100.0% | 100.0%              | 100.0% | 100.0% | 97.1%                 | 98.0% | 95.3%  |
| Myeloid and monocytic leukemia   | 98.9%               | 100.0% | 97.5%  | 71.5%                      | 72.5% | 70.4%  | 70.4%                       | 70.8%  | 69.8%  | 99.5%              | 100.0% | 99.1%  | 99.8%               | 100.0% | 99.6%  | 96.0%                 | 96.6% | 95.2%  |
| Acute myeloid leukemia           | 98.3%               | 100.0% | 96.0%  | 70.6%                      | 70.8% | 70.4%  | 64.7%                       | 63.5%  | 66.7%  | 100.0%             | 100.0% | 100.0% | 100.0%              | 100.0% | 100.0% | 96.3%                 | 97.0% | 95.4%  |
| Acute monocytic leukemia         | -                   | -      | 0.0%   | 67.9%                      | 72.2% | 60.0%  | 100.0%                      | 100.0% | -      | -                  | 0.0%   | -      | 100.0%              | 100.0% | 100.0% | 98.6%                 | 98.3% | 99.2%  |
| Chronic myeloid leukemia         | 100.0%              | 100.0% | 100.0% | 75.5%                      | 76.8% | 73.8%  | 80.0%                       | 86.4%  | 73.9%  | 99.0%              | 100.0% | 98.3%  | 99.5%               | 100.0% | 99.0%  | 95.2%                 | 95.7% | 94.4%  |
| Other myeloid/monocytic leukemia | 100.0%              | 100.0% | -      | 62.8%                      | 72.2% | 56.0%  | -                           | -      | 0.0%   | -                  | -      | -      | 100.0%              | 100.0% | 100.0% | 93.7%                 | 93.8% | 93.5%  |
| Other leukemia                   | 100.0%              | 100.0% | 0.0%   | 46.4%                      | 49.0% | 43.2%  | 52.5%                       | 63.2%  | 42.9%  | 21.3%              | 28.1%  | 10.8%  | 98.6%               | 97.8%  | 100.0% | 70.6%                 | 72.2% | 68.9%  |
| Other acute leukemia             | 100.0%              | 100.0% | 0.0%   | 52.8%                      | 54.2% | 50.7%  | 59.1%                       | 60.0%  | 58.3%  | 68.8%              | 76.9%  | 33.3%  | 97.8%               | 96.7%  | 100.0% | 79.9%                 | 82.0% | 78.0%  |
| Aleukemic, subleukemic, and NOS‡ | -                   | -      | 0.0%   | 36.0%                      | 38.8% | 33.3%  | 44.4%                       | 66.7%  | 22.2%  | 11.5%              | 13.6%  | 8.8%   | 100.0%              | 100.0% | 100.0% | 61.6%                 | 63.8% | 59.1%  |
| <b>Miscellaneous</b>             | 87.1%               | 87.1%  | 87.1%  | 69.8%                      | 72.0% | 67.8%  | 76.4%                       | 82.0%  | 68.8%  | 57.5%              | 59.6%  | 54.7%  | 94.4%               | 94.3%  | 94.4%  | 77.5%                 | 79.9% | 75.3%  |

\*The symbols "-" = 1-2 cases; and "[numeral]" (italic) = 0 or 3-15 cases.

†SEER 13 Registries, Public Use Data Set, from data submitted November 2004.

‡NOS indicates "not otherwise specified."

The annual *age-standardized incidence rate (ASR)* combines these age-specific rates into one summary measure, providing a simpler method of comparing the incidence rates in different populations while adjusting for differences in the age distributions. The 2 main methods for calculating the ASR are the *direct* and the *indirect* method. This monograph follows the tradition established by the *Cancer Incidence in Five Continents* publications and uses the direct method. In order to calculate the ASR, one needs to define a standard population age distribution to which the other populations are referred. The standard population age distribution chosen for this monograph is known as the World Standard, and is shown in Table 1.3.

Also shown in Table 1.3 is a sample calculation of the ASR using data on female breast cancer from the Jordan cancer registry. Although the ASR is a very useful summary measure, it does have limitations. For example, a population with an unusually high rate of breast cancer in pre-menopausal women, but a moderate post-menopausal rate, will not usually display a high ASR because post-menopausal rates tend to dominate the value of the age-standardized rate. Therefore, examination of both age-standardized and age-specific rates is advised.

As shown earlier, the MECC registry populations (aside from US SEER) are not very large; consequently, the numbers of cancer cases also are not very large. After subdivision into type of cancer and sex, the numbers of cases in each 5-year age group are in many cases small. Therefore, for each type of cancer, MECC has chosen age groups broader than 5 years to present the age-specific incidence rates. However, when choosing a wider range – e.g., 0-30 years – the problem of age distribution differences between the populations re-emerges. Therefore, the direct age-standardization method has been applied to these broader age groups as well, to ensure comparability of rates across the populations. This method is illustrated in Table 1.4. Although the resulting rates are thus also “age-standardized,” they are called age-specific rates in this monograph because they refer to the incidence rates in a particular age interval.

ASRs are presented throughout this monograph as annual rates per 100,000 persons, with one exception: In Chapter 15, childhood cancer annual rates are per million, to conform to most other publications on childhood cancer incidence rates.

To caution against drawing strong conclusions on the basis of small numbers, MECC adopted the following conventions for tables of rates or percentages: Rates or percentages based on 0 or 3-15 cases

**Table 1.3. Overview and Summary Data: Sample Calculation of Age-Standardized Incidence Rate\* in Jordan, Using the Standard World Distribution**

| Age (y)  | World Population | Jordan Breast Cancer Incidence Rate per 100,000 Women | Expected Cases in World Population |
|----------|------------------|---|------------------------------------|
| X        | $W_x$            | $R_x$   | $E_x = W_x R_x / 10^5$             |
| 0-4 y    | 120,000          | 0   | 0                                  |
| 5-9 y    | 100,000          | 0   | 0                                  |
| 10-14 y  | 90,000           | 0   | 0                                  |
| 15-19 y  | 90,000           | 0.1   | 0.1                                |
| 20-24 y  | 80,000           | 0.8   | 0.6                                |
| 25-29 y  | 80,000           | 5.7   | 4.6                                |
| 30-34 y  | 60,000           | 20.8  | 12.5                               |
| 35-39 y  | 60,000           | 47.1  | 28.3                               |
| 40-44 y  | 60,000           | 73.6  | 44.2                               |
| 45-49 y  | 60,000           | 82.6  | 49.6                               |
| 50-54 y  | 50,000           | 129.3   | 64.6                               |
| 55-59 y  | 40,000           | 114.6   | 45.8                               |
| 60-64 y  | 40,000           | 134.8   | 53.9                               |
| 65-69 y  | 30,000           | 131.1   | 39.3                               |
| 70-74 y  | 20,000           | 103.0   | 20.6                               |
| 75+ y    | 20,000           | 77.6  | 15.5                               |
| All ages | 1,000,000        | 21.2  | 379.6                              |

\*Age-standardized rate =  $\sum E_x / \sum W_x = 379.6 / 1,000,000 = 38.0$  per 100,000.

are italicized, and those based on 1-2 cases are omitted (indicated by a hyphen).

The standard error of an ASR is an expression of the uncertainty of the estimated rate due to sampling variation. It is calculated assuming that the number of cases diagnosed in each year has a Poisson distribution. The standard errors given in this monograph

**Table 1.4. Overview and Summary Data: Calculation of Age-Standardized Incidence Rates for Selected Age Ranges, Using the Standard World Distribution**

| Age     | World Population | Jordan Breast Cancer Incidence Rate per 100,000 | Expected Cases in World Population | Age-Standardized Rate in the Age Range |
|---------|------------------|---|------------------------------------|--|
| X       | $W_x$            | $R_x$   | $E_x = W_x R_x / 10^5$             | $E_x / (W_x / 10^5)$                   |
| 0-4 y   | 120,000          | 0.0   | 0.0                                |  |
| 5-9 y   | 100,000          | 0.0   | 0.0                                |  |
| 10-14 y | 90,000           | 0.0   | 0.0                                |  |
| 15-19 y | 90,000           | 0.1   | 0.1                                |  |
| 20-24 y | 80,000           | 0.8   | 0.6                                |  |
| 25-29 y | 80,000           | 5.7   | 4.6                                |  |
| 30-34 y | 60,000           | 20.8  | 12.5                               |  |
| 35-39 y | 60,000           | 47.1  | 28.3                               |  |
| 0-39 y  | 680,000*         | -   | 47.1*                              | 6.9                                    |
| 40-44 y | 60,000           | 73.6  | 44.2                               |  |
| 45-49 y | 60,000           | 82.6  | 49.6                               |  |
| 40-49 y | 120,000*         | -   | 93.8*                              | 78.2                                   |
| 50-54 y | 50,000           | 129.3   | 64.6                               |  |
| 55-59 y | 40,000           | 114.6   | 45.8                               |  |
| 50-59 y | 90,000*          | -   | 110.4*                             | 122.7                                  |
| 60-64 y | 40,000           | 134.8   | 53.9                               |  |
| 65-69 y | 30,000           | 131.1   | 39.3                               |  |
| 60-69 y | 70,000*          | -   | 93.2*                              | 133.1                                  |
| 70-74 y | 20,000           | 103.0   | 20.6                               |  |
| 75+ y   | 20,000           | 77.6  | 15.5                               |  |
| 70+ y   | 40,000*          | -   | 36.1*                              | 90.2                                   |

\* Obtained by summing over the 5-year age groups within the given age range.

were calculated using the SEER\*Stat package (<http://seer.cancer.gov/seerstat/>) [2].

### SUMMARY TABLES

Table 1.5 displays the numbers of cases registered at each registry over the period covered. Note that the numbers are particularly influenced by the length of the reporting period for each registry. To obtain average annual numbers of cases, the reader is required to divide the numbers for Israel and Jordan by 6, the numbers for Cyprus by 4, and the numbers for Egypt and SEER by 3.

The average annual total numbers of cases in the MECC populations were approximately: US SEER, 325,000; Israeli Jews, 17,500; Egyptians, 3,500; Jordanians, 3,000; Cypriots, 1,500; and Israeli Arabs, 1,000. These numbers are influenced principally by the size of the populations (see Table 1.1). Age distribution is also a strong factor. Thus, although the Cypriot population is fewer in number than the Israeli Arab population, it had more cases of cancer, mainly because it is an older population.

Table 1.6 shows the proportions of all cancer cases that are due to a particular cancer type. This is useful for gaining impressions of the distribution of cancers in different populations, but cannot be used for comparing incidence rates. The table shows similarities and differences. Cancer of the digestive system accounted for about 20% of all cancers; and cancer of the breast, about 33% of female cancers – with relatively little variation across the populations. However, cancer of the male genital system (mostly prostate) accounted for as little as 4% of male cancers in Egypt, compared with 33% in US SEER. As might be expected, the younger populations (Israeli Arabs, Jordanians, and Egyptians) had a greater proportion of leukemias and lymphomas than the older populations (Cypriots, Israeli Jews, and US SEER).

Table 1.5. Overview and Summary Data: Number of Cases, by Site and Sex, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001

| Site                             | Cyprus<br>1998-2001 |       |        | Israel (Jews)<br>1996-2001 |        |        | Israel (Arabs)<br>1996-2001 |       |        | Egypt<br>1999-2001 |       |        | Jordan<br>1996-2001 |       |        | US SEER*<br>1999-2001 |         |         |
|----------------------------------|---------------------|-------|--------|----------------------------|--------|--------|-----------------------------|-------|--------|--------------------|-------|--------|---------------------|-------|--------|-----------------------|---------|---------|
|                                  | Total               | Male  | Female | Total                      | Male   | Female | Total                       | Male  | Female | Total              | Male  | Female | Total               | Male  | Female | Total                 | Male    | Female  |
| All Sites                        | 6,152               | 3,139 | 3,013  | 104,913                    | 49,952 | 54,961 | 5,961                       | 3,210 | 2,751  | 10,455             | 5,284 | 5,171  | 18,261              | 9,242 | 9,019  | 501,182               | 257,009 | 244,173 |
| Oral cavity and pharynx          | 91                  | 56    | 35     | 2,116                      | 1,179  | 937    | 143                         | 95    | 48     | 391                | 219   | 172    | 441                 | 287   | 154    | 11,194                | 7,447   | 3,747   |
| Lip                              | 8                   | 7     | 1      | 904                        | 481    | 423    | 43                          | 28    | 15     | 5                  | 3     | 2      | 58                  | 44    | 14     | 975                   | 751     | 224     |
| Tongue                           | 19                  | 11    | 8      | 265                        | 133    | 132    | 11                          | 8     | 3      | 62                 | 38    | 24     | 55                  | 34    | 21     | 2,773                 | 1,828   | 945     |
| Salivary gland                   | 18                  | 7     | 11     | 299                        | 168    | 131    | 22                          | 13    | 9      | 56                 | 28    | 28     | 75                  | 38    | 37     | 1,300                 | 743     | 557     |
| Floor of mouth                   | 4                   | 4     | 0      | 33                         | 21     | 12     | 2                           | 2     | 0      | 3                  | 2     | 1      | 14                  | 9     | 5      | 774                   | 523     | 251     |
| Gum and other mouth              | 18                  | 11    | 7      | 242                        | 123    | 119    | 20                          | 13    | 7      | 82                 | 38    | 44     | 39                  | 26    | 13     | 1,788                 | 941     | 847     |
| Nasopharynx                      | 12                  | 7     | 5      | 223                        | 152    | 71     | 31                          | 22    | 9      | 72                 | 50    | 22     | 169                 | 118   | 51     | 759                   | 508     | 251     |
| Tonsil                           | 4                   | 3     | 1      | 33                         | 24     | 9      | 3                           | 3     | 0      | 11                 | 5     | 6      | 10                  | 4     | 6      | 1,412                 | 1,113   | 299     |
| Oropharynx                       | 2                   | 2     | 0      | 43                         | 25     | 18     | 3                           | 1     | 2      | 4                  | 1     | 3      | 5                   | 4     | 1      | 339                   | 244     | 95      |
| Hypopharynx                      | 3                   | 2     | 1      | 48                         | 35     | 13     | 5                           | 3     | 2      | 84                 | 47    | 37     | 14                  | 9     | 5      | 807                   | 614     | 193     |
| Other oral cavity and pharynx    | 3                   | 2     | 1      | 26                         | 17     | 9      | 3                           | 2     | 1      | 12                 | 7     | 5      | 2                   | 1     | 1      | 267                   | 182     | 85      |
| Digestive system                 | 1,224               | 661   | 563    | 24,992                     | 12,886 | 12,106 | 1,053                       | 591   | 462    | 2,036              | 1,358 | 678    | 3,356               | 1,868 | 1,488  | 95,525                | 50,563  | 44,962  |
| Esophagus                        | 23                  | 19    | 4      | 665                        | 390    | 275    | 20                          | 14    | 6      | 94                 | 58    | 36     | 144                 | 99    | 45     | 4,826                 | 3,616   | 1,210   |
| Stomach                          | 198                 | 112   | 86     | 3,605                      | 2,169  | 1,436  | 177                         | 108   | 69     | 206                | 126   | 80     | 687                 | 434   | 253    | 9,235                 | 5,541   | 3,694   |
| Small Intestine                  | 12                  | 10    | 2      | 288                        | 169    | 119    | 26                          | 15    | 11     | 28                 | 16    | 12     | 86                  | 56    | 30     | 1,823                 | 954     | 869     |
| Colon and rectum                 | 697                 | 355   | 342    | 15,533                     | 7,805  | 7,728  | 550                         | 287   | 263    | 455                | 261   | 194    | 1,654               | 845   | 809    | 55,480                | 27,892  | 27,588  |
| Colon excluding rectum           | 475                 | 237   | 238    | 11,463                     | 5,627  | 5,836  | 357                         | 175   | 182    | 300                | 174   | 126    | 1,061               | 546   | 515    | 40,008                | 19,161  | 20,847  |
| Cecum                            | 73                  | 34    | 39     | 1,179                      | 542    | 637    | 24                          | 13    | 11     | 25                 | 14    | 11     | 41                  | 22    | 19     | 9,260                 | 3,995   | 5,265   |
| Appendix                         | 6                   | 5     | 1      | 60                         | 21     | 39     | 4                           | 2     | 2      | 2                  | 0     | 2      | 8                   | 5     | 3      | 531                   | 249     | 282     |
| Ascending colon                  | 28                  | 12    | 16     | 1,795                      | 871    | 924    | 60                          | 32    | 28     | 17                 | 11    | 6      | 44                  | 27    | 17     | 6,603                 | 2,971   | 3,632   |
| Hepatic flexure                  | 9                   | 4     | 5      | 327                        | 148    | 179    | 11                          | 4     | 7      | 16                 | 13    | 3      | 16                  | 10    | 6      | 2,284                 | 1,088   | 1,196   |
| Transverse colon                 | 18                  | 10    | 8      | 607                        | 297    | 310    | 15                          | 6     | 9      | 21                 | 11    | 10     | 49                  | 24    | 25     | 3,682                 | 1,670   | 2,012   |
| Splenic flexure                  | 10                  | 5     | 5      | 313                        | 154    | 159    | 7                           | 3     | 4      | 10                 | 5     | 5      | 20                  | 10    | 10     | 1,477                 | 793     | 684     |
| Descending colon                 | 20                  | 12    | 8      | 922                        | 459    | 463    | 26                          | 16    | 10     | 23                 | 14    | 9      | 30                  | 16    | 14     | 2,345                 | 1,217   | 1,128   |
| Sigmoid colon                    | 155                 | 75    | 80     | 3,350                      | 1,713  | 1,637  | 110                         | 51    | 59     | 51                 | 31    | 20     | 253                 | 111   | 142    | 11,831                | 6,256   | 5,575   |
| Colon, NOS†                      | 156                 | 80    | 76     | 2,910                      | 1,422  | 1,488  | 100                         | 48    | 52     | 135                | 75    | 60     | 600                 | 321   | 279    | 1,995                 | 922     | 1,073   |
| Rectum and junction              | 222                 | 118   | 104    | 4,070                      | 2,178  | 1,892  | 193                         | 112   | 81     | 155                | 87    | 68     | 593                 | 299   | 294    | 15,472                | 8,731   | 6,741   |
| Rectosigmoid junction            | 46                  | 28    | 18     | 977                        | 546    | 431    | 39                          | 22    | 17     | 45                 | 29    | 16     | 161                 | 87    | 74     | 4,543                 | 2,487   | 2,056   |
| Rectum                           | 176                 | 90    | 86     | 3,093                      | 1,632  | 1,461  | 154                         | 90    | 64     | 110                | 58    | 52     | 432                 | 212   | 220    | 10,929                | 6,244   | 4,685   |
| Anus, anal canal, and anorectum  | 8                   | 4     | 4      | 224                        | 112    | 112    | 8                           | 5     | 3      | 31                 | 15    | 16     | 52                  | 36    | 16     | 1,487                 | 643     | 844     |
| Liver and intrahepatic bile duct | 69                  | 52    | 17     | 900                        | 525    | 375    | 64                          | 48    | 16     | 848                | 671   | 177    | 233                 | 143   | 90     | 6,581                 | 4,463   | 2,118   |
| Liver                            | 60                  | 44    | 16     | 801                        | 479    | 322    | 62                          | 47    | 15     | 830                | 655   | 175    | 205                 | 132   | 73     | 5,736                 | 4,013   | 1,723   |
| Intrahepatic bile duct           | 9                   | 8     | 1      | 99                         | 46     | 53     | 2                           | 1     | 1      | 18                 | 16    | 2      | 28                  | 11    | 17     | 845                   | 450     | 395     |
| Gallbladder                      | 84                  | 32    | 52     | 363                        | 70     | 293    | 39                          | 8     | 31     | 16                 | 8     | 8      | 182                 | 55    | 127    | 1,281                 | 330     | 951     |
| Other biliary                    | 9                   | 5     | 4      | 325                        | 163    | 162    | 31                          | 19    | 12     | 51                 | 29    | 22     | 49                  | 30    | 19     | 1,665                 | 878     | 787     |
| Pancreas                         | 114                 | 70    | 44     | 2,658                      | 1,306  | 1,352  | 113                         | 77    | 36     | 205                | 120   | 85     | 197                 | 127   | 70     | 11,440                | 5,647   | 5,793   |
| Retroperitoneum                  | 3                   | 1     | 2      | 129                        | 66     | 63     | 8                           | 3     | 5      | 34                 | 15    | 19     | 35                  | 22    | 13     | 466                   | 248     | 218     |



Table 1.5 continued

| Site   | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |       |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |       |        | US SEER*<br>1999-2001 |        |        |
|--|---------------------|------|--------|----------------------------|-------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|-------|--------|-----------------------|--------|--------|
|  | Total               | Male | Female | Total                      | Male  | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male  | Female | Total                 | Male   | Female |
| Peritoneum, omentum, and mesentery                 | 6                   | 0    | 6      | 176                        | 43    | 133    | 6                           | 1    | 5      | 3                  | 0    | 3      | 31                  | 15    | 16     | 723                   | 101    | 622    |
| Other digestive organs                             | 1                   | 1    | 0      | 126                        | 68    | 58     | 11                          | 6    | 5      | 65                 | 39   | 26     | 6                   | 6     | 0      | 518                   | 250    | 268    |
| Respiratory system                                 | 600                 | 493  | 107    | 8,797                      | 5,966 | 2,831  | 855                         | 738  | 117    | 706                | 537  | 169    | 1,797               | 1,518 | 279    | 69,363                | 39,393 | 29,970 |
| Nose, nasal cavity, and middle ear                 | 9                   | 6    | 3      | 133                        | 74    | 59     | 10                          | 6    | 4      | 30                 | 13   | 17     | 42                  | 22    | 20     | 712                   | 399    | 313    |
| Larynx   | 59                  | 53   | 6      | 886                        | 756   | 130    | 112                         | 103  | 9      | 145                | 133  | 12     | 365                 | 335   | 30     | 3,927                 | 3,107  | 820    |
| Lung and bronchus                                  | 514                 | 423  | 91     | 7,402                      | 4,892 | 2,510  | 706                         | 611  | 95     | 496                | 370  | 126    | 1,336               | 1,128 | 208    | 63,559                | 34,973 | 28,586 |
| Pleura   | 8                   | 6    | 2      | 188                        | 120   | 68     | 11                          | 7    | 4      | 23                 | 14   | 9      | 33                  | 19    | 14     | 949                   | 762    | 187    |
| Trachea, mediastinum, and other respiratory organs | 10                  | 5    | 5      | 188                        | 124   | 64     | 16                          | 11   | 5      | 12                 | 7    | 5      | 21                  | 14    | 7      | 216                   | 152    | 64     |
| Bones and joints                                   | 41                  | 28   | 13     | 403                        | 235   | 168    | 44                          | 25   | 19     | 156                | 88   | 68     | 287                 | 171   | 116    | 955                   | 534    | 421    |
| Soft tissue including heart                        | 43                  | 24   | 19     | 910                        | 510   | 400    | 102                         | 57   | 45     | 236                | 117  | 119    | 228                 | 131   | 97     | 3,236                 | 1,830  | 1,406  |
| Skin excluding basal and squamous                  | 110                 | 49   | 61     | 4,808                      | 2,578 | 2,230  | 91                          | 53   | 38     | 49                 | 31   | 18     | 175                 | 108   | 67     | 22,112                | 12,761 | 9,351  |
| Melanoma of the skin                               | 95                  | 40   | 55     | 3,698                      | 1,845 | 1,853  | 44                          | 26   | 18     | 22                 | 11   | 11     | 87                  | 46    | 41     | 19,235                | 10,810 | 8,425  |
| Other non-epithelial skin                          | 15                  | 9    | 6      | 1,110                      | 733   | 377    | 47                          | 27   | 20     | 27                 | 20   | 7      | 88                  | 62    | 26     | 2,877                 | 1,951  | 926    |
| Breast   | 1,076               | 10   | 1,066  | 17,528                     | 203   | 17,325 | 773                         | 11   | 762    | 1,971              | 26   | 1,945  | 2,975               | 45    | 2,930  | 79,368                | 566    | 78,802 |
| Female genital system                              | 469                 | 0    | 469    | 5,783                      | 0     | 5,783  | 305                         | 0    | 305    | 470                | 0    | 470    | 1,028               | 0     | 1,028  | 29,838                | 0      | 29,838 |
| Cervix uteri                                       | 70                  | 0    | 70     | 922                        | 0     | 922    | 54                          | 0    | 54     | 96                 | 0    | 96     | 194                 | 0     | 194    | 5,284                 | 0      | 5,284  |
| Corpus and uterus, NOS†                            | 225                 | 0    | 225    | 2,645                      | 0     | 2,645  | 161                         | 0    | 161    | 124                | 0    | 124    | 405                 | 0     | 405    | 14,129                | 0      | 14,129 |
| Corpus uteri                                       | 218                 | 0    | 218    | 2,227                      | 0     | 2,227  | 138                         | 0    | 138    | 54                 | 0    | 54     | 217                 | 0     | 217    | 13,849                | 0      | 13,849 |
| Uterus, NOS†                                       | 7                   | 0    | 7      | 418                        | 0     | 418    | 23                          | 0    | 23     | 70                 | 0    | 70     | 188                 | 0     | 188    | 280                   | 0      | 280    |
| Ovary  | 143                 | 0    | 143    | 1,749                      | 0     | 1,749  | 75                          | 0    | 75     | 210                | 0    | 210    | 372                 | 0     | 372    | 8,233                 | 0      | 8,233  |
| Vagina   | 6                   | 0    | 6      | 86                         | 0     | 86     | 5                           | 0    | 5      | 6                  | 0    | 6      | 14                  | 0     | 14     | 419                   | 0      | 419    |
| Vulva  | 25                  | 0    | 25     | 254                        | 0     | 254    | 6                           | 0    | 6      | 24                 | 0    | 24     | 23                  | 0     | 23     | 1,351                 | 0      | 1,351  |
| Other female genital organs                        | 0                   | 0    | 0      | 127                        | 0     | 127    | 4                           | 0    | 4      | 10                 | 0    | 10     | 20                  | 0     | 20     | 422                   | 0      | 422    |
| Male genital system                                | 799                 | 799  | 0      | 9,321                      | 9,321 | 0      | 324                         | 324  | 0      | 217                | 217  | 0      | 896                 | 896   | 0      | 84,094                | 84,094 | 0      |
| Prostate   | 727                 | 727  | 0      | 8,735                      | 8,735 | 0      | 269                         | 269  | 0      | 194                | 194  | 0      | 693                 | 693   | 0      | 80,331                | 80,331 | 0      |
| Testis   | 55                  | 55   | 0      | 554                        | 554   | 0      | 50                          | 50   | 0      | 21                 | 21   | 0      | 194                 | 194   | 0      | 3,224                 | 3,224  | 0      |
| Penis  | 15                  | 15   | 0      | 17                         | 17    | 0      | 5                           | 5    | 0      | 1                  | 1    | 0      | 1                   | 1     | 0      | 367                   | 367    | 0      |
| Other male genital organs                          | 2                   | 2    | 0      | 15                         | 15    | 0      | 0                           | 0    | 0      | 1                  | 1    | 0      | 8                   | 8     | 0      | 172                   | 172    | 0      |
| Urinary system                                     | 588                 | 467  | 121    | 9,596                      | 7,114 | 2,482  | 434                         | 348  | 86     | 1,239              | 967  | 272    | 1,467               | 1,187 | 280    | 34,619                | 24,080 | 10,539 |
| Urinary bladder                                    | 460                 | 387  | 73     | 6,215                      | 4,991 | 1,224  | 299                         | 261  | 38     | 1,057              | 852  | 205    | 1,038               | 915   | 123    | 21,355                | 15,893 | 5,462  |
| Kidney and renal pelvis                            | 124                 | 78   | 46     | 3,152                      | 1,967 | 1,185  | 128                         | 81   | 47     | 171                | 105  | 66     | 418                 | 262   | 156    | 12,409                | 7,650  | 4,759  |
| Ureter   | 2                   | 1    | 1      | 108                        | 72    | 36     | 4                           | 4    | 0      | 6                  | 5    | 1      | 8                   | 7     | 1      | 529                   | 308    | 221    |
| Other urinary organs                               | 2                   | 1    | 1      | 121                        | 84    | 37     | 3                           | 2    | 1      | 5                  | 5    | 0      | 3                   | 3     | 0      | 326                   | 229    | 97     |
| Eye and orbit                                      | 10                  | 6    | 4      | 143                        | 75    | 68     | 18                          | 10   | 8      | 22                 | 14   | 8      | 89                  | 41    | 48     | 811                   | 447    | 364    |

Table 1.5 continued

| Site   | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |       |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |       |        | US SEER*<br>1999-2001 |        |        |
|--|---------------------|------|--------|----------------------------|-------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|-------|--------|-----------------------|--------|--------|
|  | Total               | Male | Female | Total                      | Male  | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male  | Female | Total                 | Male   | Female |
| <b>Brain and other nervous system</b>          | 150                 | 79   | 71     | 1,690                      | 939   | 751    | 200                         | 122  | 78     | 324                | 165  | 159    | 875                 | 506   | 369    | 7,060                 | 3,964  | 3,096  |
| <b>Brain</b>                                   | 131                 | 68   | 63     | 1,596                      | 896   | 700    | 189                         | 116  | 73     | 276                | 142  | 134    | 808                 | 471   | 337    | 6,611                 | 3,761  | 2,850  |
| <b>Cranial nerves and other nervous system</b> | 19                  | 11   | 8      | 94                         | 43    | 51     | 11                          | 6    | 5      | 48                 | 23   | 25     | 67                  | 35    | 32     | 449                   | 203    | 246    |
| <b>Endocrine system</b>                        | 189                 | 44   | 145    | 2,618                      | 659   | 1,959  | 257                         | 64   | 193    | 200                | 81   | 119    | 705                 | 217   | 488    | 9,371                 | 2,527  | 6,844  |
| <b>Thyroid</b>                                 | 179                 | 40   | 139    | 2,404                      | 546   | 1,858  | 227                         | 45   | 182    | 154                | 45   | 109    | 617                 | 172   | 445    | 8,684                 | 2,152  | 6,532  |
| <b>Other endocrine including thymus</b>        | 10                  | 4    | 6      | 214                        | 113   | 101    | 30                          | 19   | 11     | 46                 | 36   | 10     | 88                  | 45    | 43     | 687                   | 375    | 312    |
| <b>Lymphoma</b>                                | 357                 | 194  | 163    | 6,638                      | 3,371 | 3,267  | 615                         | 346  | 269    | 1,316              | 820  | 496    | 1,733               | 1,042 | 691    | 23,698                | 12,913 | 10,785 |
| <b>Hodgkin lymphoma</b>                        | 83                  | 37   | 46     | 1,030                      | 521   | 509    | 166                         | 99   | 67     | 218                | 151  | 67     | 639                 | 383   | 256    | 3,099                 | 1,706  | 1,393  |
| <b>Hodgkin - Nodal</b>                         | 79                  | 36   | 43     | 1,014                      | 511   | 503    | 162                         | 98   | 64     | 210                | 147  | 63     | 605                 | 359   | 246    | 3,027                 | 1,663  | 1,364  |
| <b>Hodgkin - Extranodal</b>                    | 4                   | 1    | 3      | 16                         | 10    | 6      | 4                           | 1    | 3      | 8                  | 4    | 4      | 34                  | 24    | 10     | 72                    | 43     | 29     |
| <b>Non-Hodgkin lymphoma</b>                    | 274                 | 157  | 117    | 5,608                      | 2,850 | 2,758  | 449                         | 247  | 202    | 1,098              | 669  | 429    | 1,094               | 659   | 435    | 20,599                | 11,207 | 9,392  |
| <b>NHL - Nodal</b>                             | 191                 | 114  | 77     | 4,385                      | 2,155 | 2,230  | 342                         | 194  | 148    | 848                | 523  | 325    | 829                 | 496   | 333    | 13,712                | 7,494  | 6,218  |
| <b>NHL - Extranodal</b>                        | 83                  | 43   | 40     | 1,223                      | 695   | 528    | 107                         | 53   | 54     | 250                | 146  | 104    | 265                 | 163   | 102    | 6,887                 | 3,713  | 3,174  |
| <b>Myeloma</b>                                 | 58                  | 33   | 25     | 1,338                      | 711   | 627    | 92                          | 45   | 47     | 68                 | 47   | 21     | 268                 | 143   | 125    | 5,849                 | 3,125  | 2,724  |
| <b>Leukemia</b>                                | 223                 | 134  | 89     | 3,220                      | 1,790 | 1,430  | 325                         | 192  | 133    | 515                | 283  | 232    | 1,354               | 782   | 572    | 13,178                | 7,528  | 5,650  |
| <b>Lymphocytic leukemia</b>                    | 127                 | 78   | 49     | 1,728                      | 1,001 | 727    | 133                         | 84   | 49     | 218                | 131  | 87     | 662                 | 403   | 259    | 5,981                 | 3,570  | 2,411  |
| <b>Acute lymphocytic leukemia</b>              | 48                  | 28   | 20     | 322                        | 188   | 134    | 77                          | 50   | 27     | 122                | 69   | 53     | 486                 | 294   | 192    | 1,721                 | 945    | 776    |
| <b>Chronic lymphocytic leukemia</b>            | 68                  | 41   | 27     | 1,252                      | 695   | 557    | 46                          | 25   | 21     | 87                 | 56   | 31     | 144                 | 89    | 55     | 3,769                 | 2,283  | 1,486  |
| <b>Other lymphocytic leukemia</b>              | 11                  | 9    | 2      | 154                        | 118   | 36     | 10                          | 9    | 1      | 9                  | 6    | 3      | 32                  | 20    | 12     | 491                   | 342    | 149    |
| <b>Myeloid and monocytic leukemia</b>          | 92                  | 52   | 40     | 1,229                      | 644   | 585    | 152                         | 89   | 63     | 203                | 95   | 108    | 553                 | 290   | 263    | 6,382                 | 3,545  | 2,837  |
| <b>Acute myeloid leukemia</b>                  | 60                  | 35   | 25     | 840                        | 431   | 409    | 102                         | 63   | 39     | 98                 | 52   | 46     | 308                 | 169   | 139    | 4,139                 | 2,242  | 1,897  |
| <b>Acute monocytic leukemia</b>                | 1                   | 1    | 0      | 28                         | 18    | 10     | 4                           | 3    | 1      | 2                  | 0    | 2      | 29                  | 15    | 14     | 290                   | 172    | 118    |
| <b>Chronic myeloid leukemia</b>                | 26                  | 12   | 14     | 318                        | 177   | 141    | 45                          | 22   | 23     | 101                | 42   | 59     | 194                 | 95    | 99     | 1,795                 | 1,050  | 745    |
| <b>Other myeloid/monocytic leukemia</b>        | 5                   | 4    | 1      | 43                         | 18    | 25     | 1                           | 1    | 0      | 2                  | 1    | 1      | 22                  | 11    | 11     | 158                   | 81     | 77     |
| <b>Other leukemia</b>                          | 4                   | 4    | 0      | 263                        | 145   | 118    | 40                          | 19   | 21     | 94                 | 57   | 37     | 139                 | 89    | 50     | 815                   | 413    | 402    |
| <b>Other acute leukemia</b>                    | 3                   | 3    | 0      | 163                        | 96    | 67     | 22                          | 10   | 12     | 16                 | 13   | 3      | 92                  | 60    | 32     | 398                   | 189    | 209    |
| <b>Aleukemic, subleukemic, and NOS†</b>        | 1                   | 1    | 0      | 100                        | 49    | 51     | 18                          | 9    | 9      | 78                 | 44   | 34     | 47                  | 29    | 18     | 417                   | 224    | 193    |
| <b>Miscellaneous</b>                           | 124                 | 62   | 62     | 5,012                      | 2,415 | 2,597  | 330                         | 189  | 141    | 539                | 314  | 225    | 587                 | 300   | 287    | 10,911                | 5,237  | 5,674  |

\*SEER 13 Registries, Public Use Data Set, from data submitted November 2004.

†NOS indicates "not otherwise specified."

Table 1.6. Overview and Summary Data: Number and Proportions of Cases, by Site and Sex, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001\*

| Site                                    | Cyprus<br>1998-2001 |       |        | Israel (Jews)<br>1996-2001 |        |        | Israel (Arabs)<br>1996-2001 |       |        | Egypt<br>1999-2001 |       |        | Jordan<br>1996-2001 |       |        | US SEER†<br>1999-2001 |         |         |
|---|---------------------|-------|--------|----------------------------|--------|--------|-----------------------------|-------|--------|--------------------|-------|--------|---------------------|-------|--------|-----------------------|---------|---------|
|   | Total               | Male  | Female | Total                      | Male   | Female | Total                       | Male  | Female | Total              | Male  | Female | Total               | Male  | Female | Total                 | Male    | Female  |
| <b>Total cases</b>                      | 6,152               | 3,139 | 3,013  | 104,913                    | 49,952 | 54,961 | 5,961                       | 3,210 | 2,751  | 10,455             | 5,284 | 5,171  | 18,261              | 9,242 | 9,019  | 501,182               | 257,009 | 244,173 |
| <b>Oral cavity and pharynx</b>          | 1.5%                | 1.8%  | 1.2%   | 2.0%                       | 2.4%   | 1.7%   | 2.4%                        | 3.0%  | 1.7%   | 3.7%               | 4.1%  | 3.3%   | 2.4%                | 3.1%  | 1.7%   | 2.2%                  | 2.9%    | 1.5%    |
| Lip                                     | 0.1%                | 0.2%  | -      | 0.9%                       | 1.0%   | 0.8%   | 0.7%                        | 0.9%  | 0.5%   | 0.0%               | 0.1%  | -      | 0.3%                | 0.5%  | 0.2%   | 0.2%                  | 0.3%    | 0.1%    |
| Tongue                                  | 0.3%                | 0.4%  | 0.3%   | 0.3%                       | 0.3%   | 0.2%   | 0.2%                        | 0.3%  | 0.1%   | 0.6%               | 0.7%  | 0.5%   | 0.3%                | 0.4%  | 0.2%   | 0.6%                  | 0.7%    | 0.4%    |
| Salivary gland                          | 0.3%                | 0.2%  | 0.4%   | 0.3%                       | 0.3%   | 0.2%   | 0.4%                        | 0.4%  | 0.3%   | 0.5%               | 0.5%  | 0.5%   | 0.4%                | 0.4%  | 0.4%   | 0.3%                  | 0.3%    | 0.2%    |
| Floor of mouth                          | 0.1%                | 0.1%  | 0.0%   | 0.0%                       | 0.0%   | 0.0%   | -                           | -     | 0.0%   | 0.0%               | -     | -      | 0.1%                | 0.1%  | 0.1%   | 0.2%                  | 0.2%    | 0.1%    |
| Gum and other mouth                     | 0.3%                | 0.4%  | 0.2%   | 0.2%                       | 0.2%   | 0.2%   | 0.3%                        | 0.4%  | 0.3%   | 0.8%               | 0.7%  | 0.9%   | 0.2%                | 0.3%  | 0.1%   | 0.4%                  | 0.4%    | 0.3%    |
| Nasopharynx                             | 0.2%                | 0.2%  | 0.2%   | 0.2%                       | 0.3%   | 0.1%   | 0.5%                        | 0.7%  | 0.3%   | 0.7%               | 0.9%  | 0.4%   | 0.9%                | 1.3%  | 0.6%   | 0.2%                  | 0.2%    | 0.1%    |
| Tonsil                                  | 0.1%                | 0.1%  | -      | 0.0%                       | 0.0%   | 0.0%   | 0.1%                        | 0.1%  | 0.0%   | 0.1%               | 0.1%  | 0.1%   | 0.1%                | 0.0%  | 0.1%   | 0.3%                  | 0.4%    | 0.1%    |
| Oropharynx                              | -                   | -     | 0.0%   | 0.0%                       | 0.1%   | 0.0%   | 0.1%                        | -     | -      | 0.0%               | -     | 0.1%   | 0.0%                | 0.0%  | -      | 0.1%                  | 0.1%    | 0.0%    |
| Hypopharynx                             | 0.0%                | -     | -      | 0.0%                       | 0.1%   | 0.0%   | 0.1%                        | 0.1%  | -      | 0.8%               | 0.9%  | 0.7%   | 0.1%                | 0.1%  | 0.1%   | 0.2%                  | 0.2%    | 0.1%    |
| Other oral cavity and pharynx           | 0.0%                | -     | -      | 0.0%                       | 0.0%   | 0.0%   | 0.1%                        | -     | -      | 0.1%               | 0.1%  | 0.1%   | -                   | -     | -      | 0.1%                  | 0.1%    | 0.0%    |
| <b>Digestive system</b>                 | 19.9%               | 21.1% | 18.7%  | 23.8%                      | 25.8%  | 22.0%  | 17.7%                       | 18.4% | 16.8%  | 19.5%              | 25.7% | 13.1%  | 18.4%               | 20.2% | 16.5%  | 19.1%                 | 19.7%   | 18.4%   |
| Esophagus                               | 0.4%                | 0.6%  | 0.1%   | 0.6%                       | 0.8%   | 0.5%   | 0.3%                        | 0.4%  | 0.2%   | 0.9%               | 1.1%  | 0.7%   | 0.8%                | 1.1%  | 0.5%   | 1.0%                  | 1.4%    | 0.5%    |
| Stomach                                 | 3.2%                | 3.6%  | 2.9%   | 3.4%                       | 4.3%   | 2.6%   | 3.0%                        | 3.4%  | 2.5%   | 2.0%               | 2.4%  | 1.5%   | 3.8%                | 4.7%  | 2.8%   | 1.8%                  | 2.2%    | 1.5%    |
| Small intestine                         | 0.2%                | 0.3%  | -      | 0.3%                       | 0.3%   | 0.2%   | 0.4%                        | 0.5%  | 0.4%   | 0.3%               | 0.3%  | 0.2%   | 0.5%                | 0.6%  | 0.3%   | 0.4%                  | 0.4%    | 0.4%    |
| Colon and rectum                        | 11.3%               | 11.3% | 11.4%  | 14.8%                      | 15.6%  | 14.1%  | 9.2%                        | 8.9%  | 9.6%   | 4.4%               | 4.9%  | 3.8%   | 9.1%                | 9.1%  | 9.0%   | 11.1%                 | 10.9%   | 11.3%   |
| Colon excluding rectum                  | 7.7%                | 7.6%  | 7.9%   | 10.9%                      | 11.3%  | 10.6%  | 6.0%                        | 5.5%  | 6.6%   | 2.9%               | 3.3%  | 2.4%   | 5.8%                | 5.9%  | 5.7%   | 8.0%                  | 7.5%    | 8.5%    |
| Cecum                                   | 1.2%                | 1.1%  | 1.3%   | 1.1%                       | 1.1%   | 1.2%   | 0.4%                        | 0.4%  | 0.4%   | 0.2%               | 0.3%  | 0.2%   | 0.2%                | 0.2%  | 0.2%   | 1.8%                  | 1.6%    | 2.2%    |
| Appendix                                | 0.1%                | 0.2%  | -      | 0.1%                       | 0.0%   | 0.1%   | 0.1%                        | -     | -      | -                  | 0.0%  | -      | 0.0%                | 0.1%  | 0.0%   | 0.1%                  | 0.1%    | 0.1%    |
| Ascending colon                         | 0.5%                | 0.4%  | 0.5%   | 1.7%                       | 1.7%   | 1.7%   | 1.0%                        | 1.0%  | 1.0%   | 0.2%               | 0.2%  | 0.1%   | 0.2%                | 0.3%  | 0.2%   | 1.3%                  | 1.2%    | 1.5%    |
| Hepatic flexure                         | 0.1%                | 0.1%  | 0.2%   | 0.3%                       | 0.3%   | 0.3%   | 0.2%                        | 0.1%  | 0.3%   | 0.2%               | 0.2%  | 0.1%   | 0.1%                | 0.1%  | 0.1%   | 0.5%                  | 0.4%    | 0.5%    |
| Transverse colon                        | 0.3%                | 0.3%  | 0.3%   | 0.6%                       | 0.6%   | 0.6%   | 0.3%                        | 0.2%  | 0.3%   | 0.2%               | 0.2%  | 0.2%   | 0.3%                | 0.3%  | 0.3%   | 0.7%                  | 0.7%    | 0.8%    |
| Splenic flexure                         | 0.2%                | 0.2%  | 0.2%   | 0.3%                       | 0.3%   | 0.3%   | 0.1%                        | 0.1%  | 0.1%   | 0.1%               | 0.1%  | 0.1%   | 0.1%                | 0.1%  | 0.1%   | 0.3%                  | 0.3%    | 0.3%    |
| Descending colon                        | 0.3%                | 0.4%  | 0.3%   | 0.9%                       | 0.9%   | 0.8%   | 0.4%                        | 0.5%  | 0.4%   | 0.2%               | 0.3%  | 0.2%   | 0.2%                | 0.2%  | 0.2%   | 0.5%                  | 0.5%    | 0.5%    |
| Sigmoid colon                           | 2.5%                | 2.4%  | 2.7%   | 3.2%                       | 3.4%   | 3.0%   | 1.8%                        | 1.6%  | 2.1%   | 0.5%               | 0.6%  | 0.4%   | 1.4%                | 1.2%  | 1.6%   | 2.4%                  | 2.4%    | 2.3%    |
| Colon, NOS‡                             | 2.5%                | 2.5%  | 2.5%   | 2.8%                       | 2.8%   | 2.7%   | 1.7%                        | 1.5%  | 1.9%   | 1.3%               | 1.4%  | 1.2%   | 3.3%                | 3.5%  | 3.1%   | 0.4%                  | 0.4%    | 0.4%    |
| Rectum and junction                     | 3.6%                | 3.8%  | 3.5%   | 3.9%                       | 4.4%   | 3.4%   | 3.2%                        | 3.5%  | 2.9%   | 1.5%               | 1.6%  | 1.3%   | 3.2%                | 3.2%  | 3.3%   | 3.1%                  | 3.4%    | 2.8%    |
| Rectosigmoid junction                   | 0.7%                | 0.9%  | 0.6%   | 0.9%                       | 1.1%   | 0.8%   | 0.7%                        | 0.7%  | 0.6%   | 0.4%               | 0.5%  | 0.3%   | 0.9%                | 0.9%  | 0.8%   | 0.9%                  | 1.0%    | 0.8%    |
| Rectum                                  | 2.9%                | 2.9%  | 2.9%   | 2.9%                       | 3.3%   | 2.7%   | 2.6%                        | 2.8%  | 2.3%   | 1.1%               | 1.1%  | 1.0%   | 2.4%                | 2.3%  | 2.4%   | 2.2%                  | 2.4%    | 1.9%    |
| Anus, anal canal, and anorectum         | 0.1%                | 0.1%  | 0.1%   | 0.2%                       | 0.2%   | 0.2%   | 0.1%                        | 0.2%  | 0.1%   | 0.3%               | 0.3%  | 0.3%   | 0.3%                | 0.4%  | 0.2%   | 0.3%                  | 0.3%    | 0.3%    |
| <b>Liver and intrahepatic bile duct</b> | 1.1%                | 1.7%  | 0.6%   | 0.9%                       | 1.1%   | 0.7%   | 1.1%                        | 1.5%  | 0.6%   | 8.1%               | 12.7% | 3.4%   | 1.3%                | 1.5%  | 1.0%   | 1.3%                  | 1.7%    | 0.9%    |
| Liver                                   | 1.0%                | 1.4%  | 0.5%   | 0.8%                       | 1.0%   | 0.6%   | 1.0%                        | 1.5%  | 0.5%   | 7.9%               | 12.4% | 3.4%   | 1.1%                | 1.4%  | 0.8%   | 1.1%                  | 1.6%    | 0.7%    |
| Intrahepatic bile duct                  | 0.1%                | 0.3%  | -      | 0.1%                       | 0.1%   | 0.1%   | -                           | -     | -      | 0.2%               | 0.3%  | -      | 0.2%                | 0.1%  | 0.2%   | 0.2%                  | 0.2%    | 0.2%    |
| Gallbladder                             | 1.4%                | 1.0%  | 1.7%   | 0.3%                       | 0.1%   | 0.5%   | 0.7%                        | 0.3%  | 1.1%   | 0.2%               | 0.2%  | 0.2%   | 1.0%                | 0.6%  | 1.4%   | 0.3%                  | 0.1%    | 0.4%    |
| Other biliary                           | 0.1%                | 0.2%  | 0.1%   | 0.3%                       | 0.3%   | 0.3%   | 0.5%                        | 0.6%  | 0.4%   | 0.5%               | 0.5%  | 0.4%   | 0.3%                | 0.3%  | 0.2%   | 0.3%                  | 0.3%    | 0.3%    |
| Pancreas                                | 1.9%                | 2.2%  | 1.5%   | 2.5%                       | 2.6%   | 2.5%   | 1.9%                        | 2.4%  | 1.3%   | 2.0%               | 2.3%  | 1.6%   | 1.1%                | 1.4%  | 0.8%   | 2.3%                  | 2.2%    | 2.4%    |
| Retroperitoneum                         | 0.0%                | -     | -      | 0.1%                       | 0.1%   | 0.1%   | 0.1%                        | 0.1%  | 0.2%   | 0.3%               | 0.3%  | 0.4%   | 0.2%                | 0.2%  | 0.1%   | 0.1%                  | 0.1%    | 0.1%    |
| Peritoneum, omentum, and mesentery      | 0.1%                | 0.0%  | 0.2%   | 0.2%                       | 0.1%   | 0.2%   | 0.1%                        | -     | 0.2%   | 0.0%               | 0.0%  | 0.1%   | 0.2%                | 0.2%  | 0.2%   | 0.1%                  | 0.0%    | 0.3%    |
| Other digestive organs                  | -                   | -     | 0.0%   | 0.1%                       | 0.1%   | 0.1%   | 0.2%                        | 0.2%  | 0.2%   | 0.6%               | 0.7%  | 0.5%   | 0.0%                | 0.1%  | 0.0%   | 0.1%                  | 0.1%    | 0.1%    |

Table 1.6. continued

| Site  | Cyprus<br>1998-2001 |       |        | Israel (Jews)<br>1996-2001 |       |        | Israel (Arabs)<br>1996-2001 |       |        | Egypt<br>1999-2001 |       |        | Jordan<br>1996-2001 |       |        | US SEER <sup>†</sup><br>1999-2001 |       |        |
|---|---------------------|-------|--------|----------------------------|-------|--------|-----------------------------|-------|--------|--------------------|-------|--------|---------------------|-------|--------|-----------------------------------|-------|--------|
|   | Total               | Male  | Female | Total                      | Male  | Female | Total                       | Male  | Female | Total              | Male  | Female | Total               | Male  | Female | Total                             | Male  | Female |
| <b>Respiratory system</b>                             | 9.8%                | 15.7% | 3.6%   | 8.4%                       | 11.9% | 5.2%   | 14.3%                       | 23.0% | 4.3%   | 6.8%               | 10.2% | 3.3%   | 9.8%                | 16.4% | 3.1%   | 13.8%                             | 15.3% | 12.3%  |
| Nose, nasal cavity,<br>and middle ear                 | 0.1%                | 0.2%  | 0.1%   | 0.1%                       | 0.1%  | 0.1%   | 0.2%                        | 0.2%  | 0.1%   | 0.3%               | 0.2%  | 0.3%   | 0.2%                | 0.2%  | 0.2%   | 0.1%                              | 0.2%  | 0.1%   |
| Larynx  | 1.0%                | 1.7%  | 0.2%   | 0.8%                       | 1.5%  | 0.2%   | 1.9%                        | 3.2%  | 0.3%   | 1.4%               | 2.5%  | 0.2%   | 2.0%                | 3.6%  | 0.3%   | 0.8%                              | 1.2%  | 0.3%   |
| Lung and bronchus                                     | 8.4%                | 13.5% | 3.0%   | 7.1%                       | 9.8%  | 4.6%   | 11.8%                       | 19.0% | 3.5%   | 4.7%               | 7.0%  | 2.4%   | 7.3%                | 12.2% | 2.3%   | 12.7%                             | 13.6% | 11.7%  |
| Pleura  | 0.1%                | 0.2%  | -      | 0.2%                       | 0.2%  | 0.1%   | 0.2%                        | 0.2%  | 0.1%   | 0.2%               | 0.3%  | 0.2%   | 0.2%                | 0.2%  | 0.2%   | 0.2%                              | 0.3%  | 0.1%   |
| Trachea, mediastinum, and<br>other respiratory organs | 0.2%                | 0.2%  | 0.2%   | 0.2%                       | 0.2%  | 0.1%   | 0.3%                        | 0.3%  | 0.2%   | 0.1%               | 0.1%  | 0.1%   | 0.1%                | 0.2%  | 0.1%   | 0.0%                              | 0.1%  | 0.0%   |
| Bones and joints                                      | 0.7%                | 0.9%  | 0.4%   | 0.4%                       | 0.5%  | 0.3%   | 0.7%                        | 0.8%  | 0.7%   | 1.5%               | 1.7%  | 1.3%   | 1.6%                | 1.9%  | 1.3%   | 0.2%                              | 0.2%  | 0.2%   |
| Soft tissue including heart                           | 0.7%                | 0.8%  | 0.6%   | 0.9%                       | 1.0%  | 0.7%   | 1.7%                        | 1.8%  | 1.6%   | 2.3%               | 2.2%  | 2.3%   | 1.2%                | 1.4%  | 1.1%   | 0.6%                              | 0.7%  | 0.6%   |
| Skin excluding<br>basal and squamous                  | 1.8%                | 1.6%  | 2.0%   | 4.6%                       | 5.2%  | 4.1%   | 1.5%                        | 1.7%  | 1.4%   | 0.5%               | 0.6%  | 0.3%   | 1.0%                | 1.2%  | 0.7%   | 4.4%                              | 5.0%  | 3.8%   |
| Melanoma of the skin                                  | 1.5%                | 1.3%  | 1.8%   | 3.5%                       | 3.7%  | 3.4%   | 0.7%                        | 0.8%  | 0.7%   | 0.2%               | 0.2%  | 0.2%   | 0.5%                | 0.5%  | 0.5%   | 3.8%                              | 4.2%  | 3.5%   |
| Other non-epithelial skin                             | 0.2%                | 0.3%  | 0.2%   | 1.1%                       | 1.5%  | 0.7%   | 0.8%                        | 0.8%  | 0.7%   | 0.3%               | 0.4%  | 0.1%   | 0.5%                | 0.7%  | 0.3%   | 0.6%                              | 0.8%  | 0.4%   |
| Breast  | 17.5%               | 0.3%  | 35.4%  | 16.7%                      | 0.4%  | 31.5%  | 13.0%                       | 0.3%  | 27.7%  | 18.9%              | 0.5%  | 37.6%  | 16.3%               | 0.5%  | 32.5%  | 15.8%                             | 0.2%  | 32.3%  |
| Female genital system                                 | 7.6%                | 0.0%  | 15.6%  | 5.5%                       | 0.0%  | 10.5%  | 5.1%                        | 0.0%  | 11.1%  | 4.5%               | 0.0%  | 9.1%   | 5.6%                | 0.0%  | 11.4%  | 6.0%                              | 0.0%  | 12.2%  |
| Cervix uteri  | 1.1%                | 0.0%  | 2.3%   | 0.9%                       | 0.0%  | 1.7%   | 0.9%                        | 0.0%  | 2.0%   | 0.9%               | 0.0%  | 1.9%   | 1.1%                | 0.0%  | 2.2%   | 1.1%                              | 0.0%  | 2.2%   |
| Corpus and uterus, NOS <sup>‡</sup>                   | 3.7%                | 0.0%  | 7.5%   | 2.5%                       | 0.0%  | 4.8%   | 2.7%                        | 0.0%  | 5.9%   | 1.2%               | 0.0%  | 2.4%   | 2.2%                | 0.0%  | 4.5%   | 2.8%                              | 0.0%  | 5.8%   |
| Corpus uteri  | 3.5%                | 0.0%  | 7.2%   | 2.1%                       | 0.0%  | 4.1%   | 2.3%                        | 0.0%  | 5.0%   | 0.5%               | 0.0%  | 1.0%   | 1.2%                | 0.0%  | 2.4%   | 2.8%                              | 0.0%  | 5.7%   |
| Uterus, NOS <sup>‡</sup>                              | 0.1%                | 0.0%  | 0.2%   | 0.4%                       | 0.0%  | 0.8%   | 0.4%                        | 0.0%  | 0.8%   | 0.7%               | 0.0%  | 1.4%   | 1.0%                | 0.0%  | 2.1%   | 0.1%                              | 0.0%  | 0.1%   |
| Ovary   | 2.3%                | 0.0%  | 4.7%   | 1.7%                       | 0.0%  | 3.2%   | 1.3%                        | 0.0%  | 2.7%   | 2.0%               | 0.0%  | 4.1%   | 2.0%                | 0.0%  | 4.1%   | 1.6%                              | 0.0%  | 3.4%   |
| Vagina  | 0.1%                | 0.0%  | 0.2%   | 0.1%                       | 0.0%  | 0.2%   | 0.1%                        | 0.0%  | 0.2%   | 0.1%               | 0.0%  | 0.1%   | 0.1%                | 0.0%  | 0.2%   | 0.1%                              | 0.0%  | 0.2%   |
| Vulva   | 0.4%                | 0.0%  | 0.8%   | 0.2%                       | 0.0%  | 0.5%   | 0.1%                        | 0.0%  | 0.2%   | 0.2%               | 0.0%  | 0.5%   | 0.1%                | 0.0%  | 0.3%   | 0.3%                              | 0.0%  | 0.6%   |
| Other female<br>genital organs                        | 0.0%                | 0.0%  | 0.0%   | 0.1%                       | 0.0%  | 0.2%   | 0.1%                        | 0.0%  | 0.1%   | 0.1%               | 0.0%  | 0.2%   | 0.1%                | 0.0%  | 0.2%   | 0.1%                              | 0.0%  | 0.2%   |
| Male genital system                                   | 13.0%               | 25.5% | 0.0%   | 8.9%                       | 18.7% | 0.0%   | 5.4%                        | 10.1% | 0.0%   | 2.1%               | 4.1%  | 0.0%   | 4.9%                | 9.7%  | 0.0%   | 16.8%                             | 32.7% | 0.0%   |
| Prostate  | 11.8%               | 23.2% | 0.0%   | 8.3%                       | 17.5% | 0.0%   | 4.5%                        | 8.4%  | 0.0%   | 1.9%               | 3.7%  | 0.0%   | 3.8%                | 7.5%  | 0.0%   | 16.0%                             | 31.3% | 0.0%   |
| Testis  | 0.9%                | 1.8%  | 0.0%   | 0.5%                       | 1.1%  | 0.0%   | 0.8%                        | 1.6%  | 0.0%   | 0.2%               | 0.4%  | 0.0%   | 1.1%                | 2.1%  | 0.0%   | 0.6%                              | 1.3%  | 0.0%   |
| Penis   | 0.2%                | 0.5%  | 0.0%   | 0.0%                       | 0.0%  | 0.0%   | 0.1%                        | 0.2%  | 0.0%   | -                  | -     | 0.0%   | -                   | -     | 0.0%   | 0.1%                              | 0.1%  | 0.0%   |
| Other male genital organs                             | -                   | -     | 0.0%   | 0.0%                       | 0.0%  | 0.0%   | 0.0%                        | 0.0%  | 0.0%   | -                  | -     | 0.0%   | 0.0%                | 0.1%  | 0.0%   | 0.0%                              | 0.1%  | 0.0%   |
| Urinary system  | 9.6%                | 14.9% | 4.0%   | 9.1%                       | 14.2% | 4.5%   | 7.3%                        | 10.8% | 3.1%   | 11.9%              | 18.3% | 5.3%   | 8.0%                | 12.8% | 3.1%   | 6.9%                              | 9.4%  | 4.3%   |
| Urinary bladder                                       | 7.5%                | 12.3% | 2.4%   | 5.9%                       | 10.0% | 2.2%   | 5.0%                        | 8.1%  | 1.4%   | 10.1%              | 16.1% | 4.0%   | 5.7%                | 9.9%  | 1.4%   | 4.3%                              | 6.2%  | 2.2%   |
| Kidney and renal pelvis                               | 2.0%                | 2.5%  | 1.5%   | 3.0%                       | 3.9%  | 2.2%   | 2.1%                        | 2.5%  | 1.7%   | 1.6%               | 2.0%  | 1.3%   | 2.3%                | 2.8%  | 1.7%   | 2.5%                              | 3.0%  | 2.0%   |
| Ureter  | -                   | -     | -      | 0.1%                       | 0.1%  | 0.1%   | 0.1%                        | 0.1%  | 0.0%   | 0.1%               | 0.1%  | -      | 0.0%                | 0.1%  | -      | 0.1%                              | 0.1%  | 0.1%   |
| Other urinary organs                                  | -                   | -     | -      | 0.1%                       | 0.2%  | 0.1%   | 0.1%                        | -     | -      | 0.0%               | 0.1%  | 0.0%   | 0.0%                | 0.0%  | 0.0%   | 0.1%                              | 0.1%  | 0.0%   |
| Eye and orbit   | 0.2%                | 0.2%  | 0.1%   | 0.1%                       | 0.2%  | 0.1%   | 0.3%                        | 0.3%  | 0.3%   | 0.2%               | 0.3%  | 0.2%   | 0.5%                | 0.4%  | 0.5%   | 0.2%                              | 0.2%  | 0.2%   |
| Brain and other<br>nervous system                     | 2.4%                | 2.5%  | 2.4%   | 1.6%                       | 1.9%  | 1.4%   | 3.4%                        | 3.8%  | 2.8%   | 3.1%               | 3.1%  | 3.1%   | 4.8%                | 5.5%  | 4.1%   | 1.4%                              | 1.5%  | 1.3%   |
| Brain   | 2.1%                | 2.2%  | 2.1%   | 1.5%                       | 1.8%  | 1.3%   | 3.2%                        | 3.6%  | 2.7%   | 2.6%               | 2.7%  | 2.6%   | 4.4%                | 5.1%  | 3.7%   | 1.3%                              | 1.5%  | 1.2%   |
| Cranial nerves and other<br>nervous system            | 0.3%                | 0.4%  | 0.3%   | 0.1%                       | 0.1%  | 0.1%   | 0.2%                        | 0.2%  | 0.2%   | 0.5%               | 0.4%  | 0.5%   | 0.4%                | 0.4%  | 0.4%   | 0.1%                              | 0.1%  | 0.1%   |

Table 1.6. continued

| Site                                    | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |       |        | Egypt<br>1999-2001 |       |        | Jordan<br>1996-2001 |       |        | US SEER†<br>1999-2001 |      |        |
|---|---------------------|------|--------|----------------------------|------|--------|-----------------------------|-------|--------|--------------------|-------|--------|---------------------|-------|--------|-----------------------|------|--------|
|   | Total               | Male | Female | Total                      | Male | Female | Total                       | Male  | Female | Total              | Male  | Female | Total               | Male  | Female | Total                 | Male | Female |
| <b>Endocrine system</b>                 | 3.1%                | 1.4% | 4.8%   | 2.5%                       | 1.3% | 3.6%   | 4.3%                        | 2.0%  | 7.0%   | 1.9%               | 1.5%  | 2.3%   | 3.9%                | 2.3%  | 5.4%   | 1.9%                  | 1.0% | 2.8%   |
| Thyroid                                 | 2.9%                | 1.3% | 4.6%   | 2.3%                       | 1.1% | 3.4%   | 3.8%                        | 1.4%  | 6.6%   | 1.5%               | 0.9%  | 2.1%   | 3.4%                | 1.9%  | 4.9%   | 1.7%                  | 0.8% | 2.7%   |
| Other endocrine including thymus        | 0.2%                | 0.1% | 0.2%   | 0.2%                       | 0.2% | 0.2%   | 0.5%                        | 0.6%  | 0.4%   | 0.4%               | 0.7%  | 0.2%   | 0.5%                | 0.5%  | 0.5%   | 0.1%                  | 0.1% | 0.1%   |
| <b>Lymphoma</b>                         | 5.8%                | 6.2% | 5.4%   | 6.3%                       | 6.7% | 5.9%   | 10.3%                       | 10.8% | 9.8%   | 12.6%              | 15.5% | 9.6%   | 9.5%                | 11.3% | 7.7%   | 4.7%                  | 5.0% | 4.4%   |
| Hodgkin lymphoma                        | 1.4%                | 1.2% | 1.5%   | 1.0%                       | 1.0% | 0.9%   | 2.8%                        | 3.1%  | 2.4%   | 2.1%               | 2.9%  | 1.3%   | 3.5%                | 4.1%  | 2.8%   | 0.6%                  | 0.7% | 0.6%   |
| Hodgkin - Nodal                         | 1.3%                | 1.1% | 1.4%   | 1.0%                       | 1.0% | 0.9%   | 2.7%                        | 3.1%  | 2.3%   | 2.0%               | 2.8%  | 1.2%   | 3.3%                | 3.9%  | 2.7%   | 0.6%                  | 0.6% | 0.6%   |
| Hodgkin - Extranodal                    | 0.1%                | -    | 0.1%   | 0.0%                       | 0.0% | 0.0%   | 0.1%                        | -     | 0.1%   | 0.1%               | 0.1%  | 0.1%   | 0.2%                | 0.3%  | 0.1%   | 0.0%                  | 0.0% | 0.0%   |
| Non-Hodgkin lymphoma                    | 4.5%                | 5.0% | 3.9%   | 5.3%                       | 5.7% | 5.0%   | 7.5%                        | 7.7%  | 7.3%   | 10.5%              | 12.7% | 8.3%   | 6.0%                | 7.1%  | 4.8%   | 4.1%                  | 4.4% | 3.8%   |
| NHL - Nodal                             | 3.1%                | 3.6% | 2.6%   | 4.2%                       | 4.3% | 4.1%   | 5.7%                        | 6.0%  | 5.4%   | 8.1%               | 9.9%  | 6.3%   | 4.5%                | 5.4%  | 3.7%   | 2.7%                  | 2.9% | 2.5%   |
| NHL - Extranodal                        | 1.4%                | 1.4% | 1.3%   | 1.2%                       | 1.4% | 1.0%   | 1.8%                        | 1.7%  | 2.0%   | 2.4%               | 2.8%  | 2.0%   | 1.5%                | 1.8%  | 1.1%   | 1.4%                  | 1.4% | 1.3%   |
| <b>Myeloma</b>                          | 0.9%                | 1.1% | 0.8%   | 1.3%                       | 1.4% | 1.1%   | 1.5%                        | 1.4%  | 1.7%   | 0.7%               | 0.9%  | 0.4%   | 1.5%                | 1.5%  | 1.4%   | 1.2%                  | 1.2% | 1.1%   |
| <b>Leukemia</b>                         | 3.6%                | 4.3% | 3.0%   | 3.1%                       | 3.6% | 2.6%   | 5.5%                        | 6.0%  | 4.8%   | 4.9%               | 5.4%  | 4.5%   | 7.4%                | 8.5%  | 6.3%   | 2.6%                  | 2.9% | 2.3%   |
| Lymphocytic leukemia                    | 2.1%                | 2.5% | 1.6%   | 1.6%                       | 2.0% | 1.3%   | 2.2%                        | 2.6%  | 1.8%   | 2.1%               | 2.5%  | 1.7%   | 3.6%                | 4.4%  | 2.9%   | 1.2%                  | 1.4% | 1.0%   |
| Acute lymphocytic leukemia              | 0.8%                | 0.9% | 0.7%   | 0.3%                       | 0.4% | 0.2%   | 1.3%                        | 1.6%  | 1.0%   | 1.2%               | 1.3%  | 1.0%   | 2.7%                | 3.2%  | 2.1%   | 0.3%                  | 0.4% | 0.3%   |
| Chronic lymphocytic leukemia            | 1.1%                | 1.3% | 0.9%   | 1.2%                       | 1.4% | 1.0%   | 0.8%                        | 0.8%  | 0.8%   | 0.8%               | 1.1%  | 0.6%   | 0.8%                | 1.0%  | 0.6%   | 0.8%                  | 0.9% | 0.6%   |
| Other lymphocytic leukemia              | 0.2%                | 0.3% | -      | 0.1%                       | 0.2% | 0.1%   | 0.2%                        | 0.3%  | -      | 0.1%               | 0.1%  | 0.1%   | 0.2%                | 0.2%  | 0.1%   | 0.1%                  | 0.1% | 0.1%   |
| Myeloid and monocytic leukemia          | 1.5%                | 1.7% | 1.3%   | 1.2%                       | 1.3% | 1.1%   | 2.6%                        | 2.8%  | 2.3%   | 1.9%               | 1.8%  | 2.1%   | 3.0%                | 3.1%  | 2.9%   | 1.3%                  | 1.4% | 1.2%   |
| Acute myeloid Leukemia                  | 1.0%                | 1.1% | 0.8%   | 0.8%                       | 0.9% | 0.7%   | 1.7%                        | 2.0%  | 1.4%   | 0.9%               | 1.0%  | 0.9%   | 1.7%                | 1.8%  | 1.5%   | 0.8%                  | 0.9% | 0.8%   |
| Acute monocytic leukemia                | -                   | -    | 0.0%   | 0.0%                       | 0.0% | 0.0%   | 0.1%                        | 0.1%  | -      | -                  | 0.0%  | -      | 0.2%                | 0.2%  | 0.2%   | 0.1%                  | 0.1% | 0.0%   |
| Chronic myeloid leukemia                | 0.4%                | 0.4% | 0.5%   | 0.3%                       | 0.4% | 0.3%   | 0.8%                        | 0.7%  | 0.8%   | 1.0%               | 0.8%  | 1.1%   | 1.1%                | 1.0%  | 1.1%   | 0.4%                  | 0.4% | 0.3%   |
| Other myeloid/monocytic leukemia        | 0.1%                | 0.1% | -      | 0.0%                       | 0.0% | 0.0%   | -                           | -     | 0.0%   | -                  | -     | -      | 0.1%                | 0.1%  | 0.1%   | 0.0%                  | 0.0% | 0.0%   |
| Other leukemia                          | 0.1%                | 0.1% | 0.0%   | 0.3%                       | 0.3% | 0.2%   | 0.7%                        | 0.6%  | 0.8%   | 0.9%               | 1.1%  | 0.7%   | 0.8%                | 1.0%  | 0.6%   | 0.2%                  | 0.2% | 0.2%   |
| Other acute leukemia                    | 0.0%                | 0.1% | 0.0%   | 0.2%                       | 0.2% | 0.1%   | 0.4%                        | 0.3%  | 0.4%   | 0.2%               | 0.2%  | 0.1%   | 0.5%                | 0.7%  | 0.4%   | 0.1%                  | 0.1% | 0.1%   |
| <b>Aleukemic, Subleukemic, and NOS‡</b> | -                   | -    | 0.0%   | 0.1%                       | 0.1% | 0.1%   | 0.3%                        | 0.3%  | 0.3%   | 0.7%               | 0.8%  | 0.7%   | 0.3%                | 0.3%  | 0.2%   | 0.1%                  | 0.1% | 0.1%   |
| <b>Miscellaneous</b>                    | 2.0%                | 2.0% | 2.1%   | 4.8%                       | 4.8% | 4.7%   | 5.5%                        | 5.9%  | 5.1%   | 5.2%               | 5.9%  | 4.4%   | 3.2%                | 3.2%  | 3.2%   | 2.2%                  | 2.0% | 2.3%   |

\*The symbols "-" = 1-2 cases; "[numeral]" (italics) = 0 or 3-15 cases.

†SEER 13 Registries, Public Use Data Set, from data submitted November 2004.

‡NOS indicates "not otherwise specified."

Table 1.7 shows the ASRs for different cancer types. Two populations, US SEER (318.6) and Israeli Jews (274.4), had substantially higher rates overall, compared with the others. The Cypriot (164.2), Israeli Arab (149.8), and Egyptian (143.0) populations had intermediate rates, while the Jordanian rates (113.3) were the lowest. This same pattern is seen for both males and females.

Comparison of the ASRs across populations for different cancers does not always conform to the overall pattern seen for “all sites.” The results for specific sites and types of cancer are reviewed in detail in the remainder of this monograph.

Table 1.8 presents the standard errors of the estimated rates that are shown in Table 1.7. These standard errors may be used to judge the limits of uncertainty in an estimated rate. For example, Table 1.7 shows that the ASR of cancer of the oral cavity and pharynx among females in Cyprus is 1.9, and Table 1.8 shows that its standard error is 0.3. Approximate 95% confidence limits for this rate are therefore given by  $1.9 \pm 2 \times 0.3 = (1.3, 2.5)$ . In other words, the true rate is very

likely to lie between 1.3 and 2.5. As the numbers of cases underlying the estimated rate increase, the standard error becomes smaller relative to the rate. Thus the ASR of breast cancer among Israeli Jewish females is 93.1, and its standard error is 0.7 (less than 1% of the estimate), so that the 95% confidence limits are approximately (91.7, 94.5), meaning that the rate is quite precisely estimated.

The main source of the data presented in the following chapters is the MECC Joint Cancer Registration Project. Other sources that are used for comparative purposes are *Cancer Incidence in Five Continents [3]* and GLOBOCAN [4]. The data from the former publication are derived from well-established population-based registries and include a wide range of countries, but are not available for all the world’s populations. Data from the latter publication are based on a variety of sources, including population-based registries, hospital-based registries, and population-based mortality records. Although GLOBOCAN’s data provide wider coverage than *Cancer Incidence in Five Continents*, they are necessarily less reliable than data based on population-based registry data alone.



Table 1.7. Overview and Summary Data: Age-Standardized Incidence Rates,\* by Site and Sex, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001†

| Site                                  | Cyprus<br>1998-2001 |       |        | Israel (Jews)<br>1996-2001 |       |        | Israel (Arabs)<br>1996-2001 |       |        | Egypt<br>1999-2001 |       |        | Jordan<br>1996-2001 |       |        | US SEER‡<br>1999-2001 |       |        |
|---------------------------------------|---------------------|-------|--------|----------------------------|-------|--------|-----------------------------|-------|--------|--------------------|-------|--------|---------------------|-------|--------|-----------------------|-------|--------|
|                                       | Total               | Male  | Female | Total                      | Male  | Female | Total                       | Male  | Female | Total              | Male  | Female | Total               | Male  | Female | Total                 | Male  | Female |
| All Sites                             | 164.2               | 173.3 | 159.4  | 274.4                      | 282.6 | 272.1  | 149.8                       | 175.7 | 128.7  | 143.0              | 152.6 | 135.0  | 113.3               | 115.2 | 112.2  | 318.6                 | 363.8 | 285.9  |
| Oral cavity and pharynx               | 2.5                 | 3.1   | 1.9    | 5.5                        | 6.9   | 4.3    | 3.5                         | 4.8   | 2.3    | 5.5                | 6.4   | 4.6    | 2.7                 | 3.5   | 1.8    | 7.4                   | 10.9  | 4.3    |
| Lip                                   | 0.2                 | 0.4   | -      | 2.3                        | 2.7   | 2.0    | 1.1                         | 1.5   | 0.7    | 0.1                | 0.1   | -      | 0.4                 | 0.6   | 0.2    | 0.6                   | 1.0   | 0.2    |
| Tongue                                | 0.5                 | 0.6   | 0.4    | 0.7                        | 0.8   | 0.6    | 0.3                         | 0.4   | 0.1    | 0.9                | 1.1   | 0.7    | 0.4                 | 0.5   | 0.3    | 1.8                   | 2.7   | 1.1    |
| Salivary gland                        | 0.5                 | 0.3   | 0.6    | 0.7                        | 0.9   | 0.6    | 0.5                         | 0.6   | 0.4    | 0.8                | 0.8   | 0.8    | 0.4                 | 0.5   | 0.4    | 0.8                   | 1.0   | 0.7    |
| Floor of mouth                        | 0.1                 | 0.3   | 0.0    | 0.1                        | 0.1   | 0.1    | -                           | -     | 0.0    | 0.0                | -     | -      | 0.1                 | 0.1   | 0.1    | 0.5                   | 0.8   | 0.3    |
| Gum and other mouth                   | 0.5                 | 0.6   | 0.3    | 0.6                        | 0.8   | 0.5    | 0.5                         | 0.7   | 0.3    | 1.2                | 1.2   | 1.2    | 0.2                 | 0.3   | 0.2    | 1.1                   | 1.4   | 0.9    |
| Nasopharynx                           | 0.4                 | 0.4   | 0.3    | 0.7                        | 1.0   | 0.4    | 0.7                         | 1.0   | 0.5    | 0.9                | 1.4   | 0.5    | 0.9                 | 1.2   | 0.5    | 0.5                   | 0.8   | 0.3    |
| Tonsil                                | 0.1                 | 0.2   | -      | 0.1                        | 0.1   | 0.1    | 0.1                         | 0.1   | 0.2    | 0.1                | 0.1   | 0.2    | 0.1                 | 0.0   | 0.1    | 1.0                   | 1.7   | 0.4    |
| Oropharynx                            | -                   | -     | 0.0    | 0.1                        | 0.2   | 0.1    | 0.1                         | -     | -      | 0.0                | -     | 0.1    | 0.0                 | 0.1   | -      | 0.2                   | 0.4   | 0.1    |
| Hypopharynx                           | 0.1                 | -     | -      | 0.1                        | 0.2   | 0.1    | 0.1                         | 0.2   | -      | 1.2                | 1.4   | 1.0    | 0.1                 | 0.1   | 0.1    | 0.6                   | 0.9   | 0.2    |
| Other oral cavity<br>and pharynx      | 0.1                 | -     | -      | 0.1                        | 0.1   | 0.0    | 0.1                         | -     | -      | 0.2                | 0.2   | 0.1    | -                   | -     | -      | 0.2                   | 0.3   | 0.1    |
| Digestive system                      | 30.1                | 35.1  | 25.8   | 59.2                       | 69.4  | 51.3   | 28.9                        | 34.9  | 23.6   | 29.4               | 40.1  | 18.9   | 23.3                | 25.7  | 20.9   | 56.1                  | 69.1  | 45.4   |
| Esophagus                             | 0.6                 | 1.0   | 0.2    | 1.5                        | 2.1   | 1.0    | 0.6                         | 0.9   | 0.3    | 1.4                | 1.7   | 1.0    | 1.1                 | 1.5   | 0.7    | 3.0                   | 5.1   | 1.2    |
| Stomach                               | 4.9                 | 5.9   | 4.1    | 8.5                        | 11.7  | 6.0    | 4.6                         | 6.0   | 3.4    | 2.9                | 3.6   | 2.2    | 4.8                 | 6.0   | 3.5    | 5.3                   | 7.4   | 3.6    |
| Small intestine                       | 0.3                 | 0.5   | -      | 0.7                        | 1.0   | 0.5    | 0.7                         | 0.8   | 0.6    | 0.4                | 0.5   | 0.3    | 0.6                 | 0.8   | 0.4    | 1.2                   | 1.3   | 1.0    |
| Colon and rectum                      | 17.3                | 19.0  | 16.0   | 36.9                       | 41.7  | 33.3   | 15.2                        | 17.3  | 13.6   | 6.0                | 6.9   | 5.1    | 11.3                | 11.5  | 11.2   | 32.0                  | 37.7  | 27.4   |
| Colon excluding rectum                | 11.9                | 12.7  | 11.2   | 26.7                       | 29.6  | 24.7   | 9.9                         | 10.5  | 9.4    | 3.9                | 4.6   | 3.3    | 7.4                 | 7.6   | 7.2    | 22.5                  | 25.5  | 20.0   |
| Cecum                                 | 1.8                 | 1.8   | 1.9    | 2.6                        | 2.7   | 2.4    | 0.7                         | 0.8   | 0.6    | 0.3                | 0.4   | 0.3    | 0.3                 | 0.3   | 0.3    | 5.0                   | 5.2   | 4.8    |
| Appendix                              | 0.2                 | 0.3   | -      | 0.2                        | 0.1   | 0.2    | 0.1                         | -     | -      | -                  | 0.0   | -      | 0.0                 | 0.1   | 0.0    | 0.4                   | 0.4   | 0.4    |
| Ascending colon                       | 0.6                 | 0.6   | 0.6    | 4.0                        | 4.4   | 3.8    | 1.7                         | 1.8   | 1.5    | 0.2                | 0.3   | 0.2    | 0.3                 | 0.4   | 0.2    | 3.5                   | 3.8   | 3.3    |
| Hepatic flexure                       | 0.2                 | 0.2   | 0.3    | 0.8                        | 0.8   | 0.7    | 0.3                         | 0.3   | 0.4    | 0.2                | 0.3   | 0.1    | 0.1                 | 0.1   | 0.1    | 1.2                   | 1.4   | 1.1    |
| Transverse colon                      | 0.5                 | 0.5   | 0.4    | 1.4                        | 1.6   | 1.3    | 0.4                         | 0.3   | 0.5    | 0.3                | 0.3   | 0.2    | 0.3                 | 0.3   | 0.3    | 2.0                   | 2.2   | 1.8    |
| Splenic flexure                       | 0.2                 | 0.3   | 0.2    | 0.8                        | 0.8   | 0.7    | 0.2                         | 0.2   | 0.2    | 0.1                | 0.1   | 0.1    | 0.1                 | 0.1   | 0.1    | 0.9                   | 1.1   | 0.7    |
| Descending colon                      | 0.5                 | 0.7   | 0.4    | 2.2                        | 2.5   | 2.0    | 0.7                         | 1.0   | 0.5    | 0.3                | 0.3   | 0.2    | 0.2                 | 0.2   | 0.2    | 1.4                   | 1.7   | 1.2    |
| Sigmoid colon                         | 3.9                 | 4.1   | 3.8    | 8.1                        | 9.2   | 7.3    | 3.0                         | 3.2   | 2.9    | 0.6                | 0.7   | 0.5    | 1.8                 | 1.6   | 2.0    | 7.1                   | 8.7   | 5.9    |
| Colon, NOS <sup>§</sup>               | 3.9                 | 4.3   | 3.6    | 6.7                        | 7.4   | 6.2    | 2.7                         | 2.8   | 2.6    | 1.9                | 2.1   | 1.6    | 4.1                 | 4.5   | 3.8    | 1.0                   | 1.2   | 0.9    |
| Rectum and junction                   | 5.4                 | 6.3   | 4.8    | 10.1                       | 12.1  | 8.6    | 5.4                         | 6.8   | 4.2    | 2.0                | 2.3   | 1.8    | 3.9                 | 3.9   | 4.0    | 9.6                   | 12.3  | 7.3    |
| Rectosigmoid junction                 | 1.2                 | 1.6   | 0.8    | 2.4                        | 3.0   | 2.0    | 1.1                         | 1.4   | 0.8    | 0.6                | 0.7   | 0.4    | 1.1                 | 1.1   | 1.0    | 2.8                   | 3.5   | 2.2    |
| Rectum                                | 4.3                 | 4.7   | 4.0    | 7.7                        | 9.1   | 6.6    | 4.3                         | 5.4   | 3.4    | 1.5                | 1.6   | 1.4    | 2.9                 | 2.8   | 3.0    | 6.8                   | 8.8   | 5.1    |
| Anus, anal canal,<br>and anorectum    | 0.2                 | 0.2   | 0.2    | 0.6                        | 0.6   | 0.5    | 0.2                         | 0.2   | 0.1    | 0.4                | 0.4   | 0.5    | 0.4                 | 0.5   | 0.2    | 1.0                   | 0.9   | 1.0    |
| Liver and intrahepatic<br>bile duct   | 1.7                 | 2.8   | 0.8    | 2.2                        | 3.0   | 1.6    | 1.6                         | 2.7   | 0.6    | 12.8               | 20.6  | 5.2    | 1.6                 | 1.9   | 1.3    | 4.2                   | 6.4   | 2.4    |
| Liver                                 | 1.5                 | 2.4   | 0.8    | 2.0                        | 2.7   | 1.4    | 1.5                         | 2.6   | 0.6    | 12.5               | 20.1  | 5.2    | 1.4                 | 1.7   | 1.0    | 3.8                   | 5.8   | 2.0    |
| Intrahepatic bile duct                | 0.2                 | 0.4   | -      | 0.2                        | 0.2   | 0.2    | -                           | -     | -      | 0.3                | 0.5   | -      | 0.2                 | 0.1   | 0.3    | 0.5                   | 0.6   | 0.4    |
| Gallbladder                           | 1.8                 | 1.5   | 2.2    | 0.8                        | 0.4   | 1.2    | 1.2                         | 0.6   | 1.8    | 0.2                | 0.2   | 0.2    | 1.4                 | 0.8   | 1.9    | 0.7                   | 0.4   | 1.0    |
| Other biliary                         | 0.2                 | 0.3   | 0.2    | 0.8                        | 0.9   | 0.7    | 0.9                         | 1.2   | 0.7    | 0.8                | 1.0   | 0.6    | 0.3                 | 0.4   | 0.3    | 0.9                   | 1.2   | 0.8    |
| Pancreas                              | 2.7                 | 3.8   | 1.7    | 6.1                        | 7.1   | 5.3    | 3.3                         | 4.8   | 1.9    | 3.2                | 3.7   | 2.5    | 1.5                 | 1.8   | 1.0    | 6.6                   | 7.7   | 5.7    |
| Retroperitoneum                       | 0.1                 | -     | -      | 0.4                        | 0.4   | 0.3    | 0.1                         | 0.1   | 0.1    | 0.4                | 0.4   | 0.4    | 0.2                 | 0.3   | 0.1    | 0.3                   | 0.4   | 0.3    |
| Peritoneum, omentum,<br>and mesentery | 0.1                 | 0.0   | 0.3    | 0.5                        | 0.3   | 0.7    | 0.2                         | -     | 0.2    | 0.0                | 0.0   | 0.1    | 0.2                 | 0.2   | 0.2    | 0.5                   | 0.2   | 0.8    |
| Other digestive organs                | -                   | -     | 0.0    | 0.3                        | 0.4   | 0.2    | 0.3                         | 0.3   | 0.2    | 0.9                | 1.1   | 0.7    | 0.0                 | 0.1   | 0.0    | 0.3                   | 0.3   | 0.2    |

Table 1.7. continued

| Site  | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |      |        | US SEER <sup>†</sup><br>1999-2001 |       |        |
|---|---------------------|------|--------|----------------------------|------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|------|--------|-----------------------------------|-------|--------|
|   | Total               | Male | Female | Total                      | Male | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male | Female | Total                             | Male  | Female |
| Respiratory system                                    | 15.8                | 27.6 | 5.4    | 22.8                       | 34.9 | 13.0   | 24.4                        | 45.4 | 5.9    | 10.8               | 17.0 | 4.9    | 13.1                | 21.9 | 4.0    | 43.1                              | 55.0  | 33.6   |
| Nose, nasal cavity,<br>and middle ear                 | 0.2                 | 0.3  | 0.2    | 0.3                        | 0.4  | 0.3    | 0.3                         | 0.3  | 0.2    | 0.4                | 0.3  | 0.5    | 0.3                 | 0.3  | 0.2    | 0.5                               | 0.6   | 0.4    |
| Larynx  | 1.6                 | 3.0  | 0.2    | 2.4                        | 4.6  | 0.6    | 3.1                         | 6.0  | 0.5    | 2.2                | 4.2  | 0.3    | 2.7                 | 4.8  | 0.4    | 2.7                               | 4.6   | 1.0    |
| Lung and bronchus                                     | 13.4                | 23.4 | 4.7    | 19.0                       | 28.4 | 11.4   | 20.4                        | 38.0 | 4.8    | 7.7                | 11.9 | 3.7    | 9.9                 | 16.4 | 3.1    | 39.2                              | 48.6  | 31.9   |
| Pleura  | 0.2                 | 0.4  | -      | 0.5                        | 0.7  | 0.3    | 0.3                         | 0.5  | 0.2    | 0.3                | 0.4  | 0.3    | 0.2                 | 0.2  | 0.2    | 0.5                               | 1.0   | 0.2    |
| Trachea, mediastinum, and other<br>respiratory organs | 0.4                 | 0.4  | 0.3    | 0.6                        | 0.8  | 0.4    | 0.4                         | 0.6  | 0.2    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.2  | 0.1    | 0.2                               | 0.3   | 0.1    |
| Bones and joints                                      | 1.4                 | 2.0  | 0.8    | 1.3                        | 1.6  | 1.0    | 0.8                         | 0.9  | 0.7    | 1.5                | 1.7  | 1.4    | 1.1                 | 1.2  | 0.9    | 0.8                               | 0.9   | 0.7    |
| Soft tissue including heart                           | 1.3                 | 1.4  | 1.2    | 2.7                        | 3.2  | 2.2    | 2.0                         | 2.3  | 1.7    | 2.8                | 3.0  | 2.7    | 1.1                 | 1.3  | 1.0    | 2.3                               | 2.8   | 1.9    |
| Skin excluding<br>basal and squamous                  | 2.9                 | 2.8  | 3.0    | 13.4                       | 15.4 | 11.8   | 2.1                         | 2.8  | 1.6    | 0.7                | 0.9  | 0.4    | 1.1                 | 1.3  | 0.9    | 14.5                              | 17.8  | 11.9   |
| Melanoma of the skin                                  | 2.6                 | 2.4  | 2.7    | 10.8                       | 11.6 | 10.2   | 1.0                         | 1.3  | 0.8    | 0.3                | 0.3  | 0.3    | 0.5                 | 0.6  | 0.5    | 12.7                              | 15.2  | 10.9   |
| Other non-epithelial skin                             | 0.4                 | 0.5  | 0.3    | 2.6                        | 3.9  | 1.7    | 1.1                         | 1.6  | 0.8    | 0.4                | 0.7  | 0.2    | 0.5                 | 0.8  | 0.3    | 1.8                               | 2.6   | 1.0    |
| Breast  | 30.2                | 0.6  | 57.7   | 50.3                       | 1.1  | 93.1   | 19.2                        | 0.6  | 36.7   | 25.1               | 0.8  | 49.6   | 18.7                | 0.6  | 38.0   | 51.9                              | 0.8   | 97.2   |
| Female genital system                                 | 12.9                | 0.0  | 24.6   | 16.4                       | 0.0  | 30.5   | 8.1                         | 0.0  | 15.5   | 6.4                | 0.0  | 12.7   | 6.6                 | 0.0  | 13.7   | 19.6                              | 0.0   | 37.1   |
| Cervix uteri  | 1.9                 | 0.0  | 3.7    | 2.8                        | 0.0  | 5.3    | 1.3                         | 0.0  | 2.5    | 1.3                | 0.0  | 2.7    | 1.3                 | 0.0  | 2.6    | 3.6                               | 0.0   | 7.0    |
| Corpus and uterus, NOS <sup>§</sup>                   | 6.2                 | 0.0  | 11.8   | 7.4                        | 0.0  | 13.8   | 4.5                         | 0.0  | 8.7    | 1.8                | 0.0  | 3.5    | 2.8                 | 0.0  | 5.8    | 9.4                               | 0.0   | 17.6   |
| Corpus uteri  | 6.0                 | 0.0  | 11.5   | 6.3                        | 0.0  | 11.6   | 4.0                         | 0.0  | 7.5    | 0.8                | 0.0  | 1.6    | 1.5                 | 0.0  | 3.1    | 9.2                               | 0.0   | 17.3   |
| Uterus, NOS <sup>§</sup>                              | 0.2                 | 0.0  | 0.4    | 1.2                        | 0.0  | 2.2    | 0.6                         | 0.0  | 1.1    | 1.0                | 0.0  | 1.9    | 1.3                 | 0.0  | 2.6    | 0.2                               | 0.0   | 0.3    |
| Ovary   | 4.0                 | 0.0  | 7.7    | 5.0                        | 0.0  | 9.4    | 1.9                         | 0.0  | 3.6    | 2.7                | 0.0  | 5.4    | 2.2                 | 0.0  | 4.6    | 5.3                               | 0.0   | 10.0   |
| Vagina  | 0.2                 | 0.0  | 0.3    | 0.2                        | 0.0  | 0.4    | 0.1                         | 0.0  | 0.2    | 0.1                | 0.0  | 0.2    | 0.1                 | 0.0  | 0.2    | 0.3                               | 0.0   | 0.5    |
| Vulva   | 0.6                 | 0.0  | 1.1    | 0.6                        | 0.0  | 1.0    | 0.2                         | 0.0  | 0.3    | 0.4                | 0.0  | 0.8    | 0.2                 | 0.0  | 0.4    | 0.8                               | 0.0   | 1.4    |
| Other female<br>genital organs                        | 0.0                 | 0.0  | 0.0    | 0.3                        | 0.0  | 0.6    | 0.1                         | 0.0  | 0.2    | 0.1                | 0.0  | 0.2    | 0.1                 | 0.0  | 0.3    | 0.3                               | 0.0   | 0.5    |
| Male genital system                                   | 18.7                | 40.9 | 0.0    | 22.7                       | 51.0 | 0.0    | 9.2                         | 20.1 | 0.0    | 3.8                | 8.0  | 0.0    | 6.4                 | 12.7 | 0.0    | 55.7                              | 122.6 | 0.0    |
| Prostate  | 16.4                | 36.1 | 0.0    | 20.7                       | 47.1 | 0.0    | 8.4                         | 18.4 | 0.0    | 3.6                | 7.5  | 0.0    | 5.6                 | 11.2 | 0.0    | 52.9                              | 116.9 | 0.0    |
| Testis  | 1.9                 | 3.9  | 0.0    | 1.9                        | 3.8  | 0.0    | 0.7                         | 1.4  | 0.0    | 0.2                | 0.5  | 0.0    | 0.7                 | 1.4  | 0.0    | 2.5                               | 4.9   | 0.0    |
| Penis   | 0.3                 | 0.7  | 0.0    | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.3  | 0.0    | -                  | -    | 0.0    | -                   | -    | 0.0    | 0.2                               | 0.5   | 0.0    |
| Other male genital organs                             | -                   | -    | 0.0    | 0.0                        | 0.1  | 0.0    | 0.0                         | 0.0  | 0.0    | -                  | -    | 0.0    | 0.0                 | 0.1  | 0.0    | 0.1                               | 0.2   | 0.0    |
| Urinary system  | 14.9                | 25.2 | 6.2    | 24.1                       | 40.1 | 11.2   | 11.9                        | 20.7 | 4.3    | 19.2               | 30.8 | 8.0    | 10.4                | 16.7 | 3.8    | 20.9                              | 32.7  | 11.5   |
| Urinary bladder                                       | 11.2                | 20.5 | 3.3    | 15.1                       | 27.5 | 5.1    | 8.6                         | 16.0 | 2.1    | 16.6               | 27.5 | 6.3    | 7.6                 | 13.2 | 1.8    | 12.2                              | 20.9  | 5.5    |
| Kidney and renal pelvis                               | 3.6                 | 4.6  | 2.8    | 8.5                        | 11.8 | 5.8    | 3.1                         | 4.3  | 2.2    | 2.4                | 3.0  | 1.7    | 2.7                 | 3.4  | 1.9    | 8.2                               | 11.1  | 5.7    |
| Ureter  | -                   | -    | -      | 0.3                        | 0.4  | 0.2    | 0.1                         | 0.2  | 0.0    | 0.1                | 0.2  | -      | 0.1                 | 0.1  | -      | 0.3                               | 0.4   | 0.2    |
| Other urinary organs                                  | -                   | -    | -      | 0.3                        | 0.4  | 0.2    | 0.1                         | -    | -      | 0.1                | 0.2  | 0.0    | 0.0                 | 0.1  | 0.0    | 0.2                               | 0.3   | 0.1    |
| Eye and orbit   | 0.3                 | 0.3  | 0.2    | 0.4                        | 0.5  | 0.4    | 0.3                         | 0.4  | 0.3    | 0.3                | 0.4  | 0.2    | 0.4                 | 0.3  | 0.4    | 0.6                               | 0.7   | 0.5    |
| Brain and other<br>nervous system                     | 4.9                 | 5.2  | 4.6    | 5.2                        | 6.1  | 4.3    | 3.9                         | 4.8  | 3.0    | 3.7                | 3.8  | 3.5    | 4.0                 | 4.4  | 3.6    | 5.2                               | 6.2   | 4.4    |
| Brain   | 4.1                 | 4.3  | 4.0    | 4.9                        | 5.8  | 4.0    | 3.6                         | 4.6  | 2.8    | 3.2                | 3.3  | 3.0    | 3.7                 | 4.1  | 3.3    | 4.9                               | 5.8   | 4.0    |
| Cranial nerves and other<br>nervous system            | 0.8                 | 0.9  | 0.6    | 0.3                        | 0.3  | 0.3    | 0.2                         | 0.2  | 0.2    | 0.5                | 0.5  | 0.5    | 0.3                 | 0.3  | 0.3    | 0.4                               | 0.3   | 0.4    |

Table 1.7. continued

| Site   | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |      |        | US SEER <sup>‡</sup><br>1999-2001 |      |        |
|--|---------------------|------|--------|----------------------------|------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|------|--------|-----------------------------------|------|--------|
|  | Total               | Male | Female | Total                      | Male | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male | Female | Total                             | Male | Female |
| Endocrine system                             | 6.1                 | 2.9  | 9.1    | 8.2                        | 4.2  | 11.8   | 4.6                         | 2.4  | 6.8    | 2.5                | 2.0  | 2.9    | 3.4                 | 2.1  | 4.8    | 6.8                               | 3.8  | 9.7    |
| Thyroid                                      | 5.6                 | 2.6  | 8.6    | 7.5                        | 3.5  | 11.2   | 4.1                         | 1.8  | 6.5    | 2.0                | 1.2  | 2.7    | 3.0                 | 1.7  | 4.5    | 6.2                               | 3.2  | 9.2    |
| Other endocrine including thymus             | 0.4                 | 0.4  | 0.5    | 0.7                        | 0.8  | 0.7    | 0.5                         | 0.6  | 0.3    | 0.5                | 0.9  | 0.2    | 0.4                 | 0.4  | 0.4    | 0.6                               | 0.7  | 0.5    |
| Lymphoma                                     | 10.6                | 12.1 | 9.3    | 18.6                       | 20.6 | 16.9   | 12.9                        | 14.4 | 11.4   | 16.3               | 20.0 | 12.6   | 8.9                 | 10.3 | 7.4    | 15.3                              | 18.3 | 12.6   |
| Hodgkin lymphoma                             | 3.0                 | 2.7  | 3.3    | 3.4                        | 3.5  | 3.3    | 2.7                         | 3.0  | 2.3    | 2.1                | 2.9  | 1.4    | 2.5                 | 3.0  | 2.0    | 2.4                               | 2.7  | 2.2    |
| Hodgkin - Nodal                              | 2.9                 | 2.6  | 3.1    | 3.4                        | 3.5  | 3.3    | 2.6                         | 3.0  | 2.2    | 2.1                | 2.8  | 1.3    | 2.4                 | 2.8  | 1.9    | 2.3                               | 2.6  | 2.1    |
| Hodgkin - Extranodal                         | 0.1                 | -    | 0.2    | 0.1                        | 0.1  | 0.0    | 0.1                         | -    | 0.1    | 0.1                | 0.1  | 0.1    | 0.2                 | 0.2  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Non-Hodgkin lymphoma                         | 7.6                 | 9.4  | 6.0    | 15.2                       | 17.1 | 13.6   | 10.2                        | 11.4 | 9.1    | 14.2               | 17.1 | 11.3   | 6.4                 | 7.3  | 5.4    | 12.9                              | 15.7 | 10.5   |
| NHL - Nodal                                  | 5.3                 | 6.8  | 4.0    | 11.8                       | 12.8 | 10.9   | 7.9                         | 8.8  | 6.9    | 11.0               | 13.4 | 8.5    | 4.8                 | 5.5  | 4.1    | 8.6                               | 10.5 | 6.9    |
| NHL - Extranodal                             | 2.3                 | 2.6  | 1.9    | 3.4                        | 4.2  | 2.7    | 2.4                         | 2.6  | 2.2    | 3.2                | 3.7  | 2.7    | 1.6                 | 1.8  | 1.3    | 4.3                               | 5.2  | 3.6    |
| Myeloma                                      | 1.6                 | 2.0  | 1.3    | 3.3                        | 4.0  | 2.8    | 2.7                         | 2.7  | 2.6    | 1.0                | 1.4  | 0.6    | 2.0                 | 2.0  | 1.9    | 3.5                               | 4.3  | 2.9    |
| Leukemia                                     | 6.9                 | 8.5  | 5.5    | 8.6                        | 10.5 | 6.9    | 6.4                         | 7.8  | 5.1    | 6.0                | 6.7  | 5.3    | 6.3                 | 7.1  | 5.5    | 8.8                               | 11.0 | 6.9    |
| Lymphocytic leukemia                         | 4.1                 | 5.1  | 3.2    | 4.6                        | 5.9  | 3.4    | 2.6                         | 3.3  | 1.9    | 2.6                | 3.2  | 2.0    | 2.9                 | 3.4  | 2.2    | 4.3                               | 5.5  | 3.2    |
| Acute lymphocytic leukemia                   | 2.0                 | 2.1  | 1.9    | 1.2                        | 1.4  | 1.0    | 1.0                         | 1.3  | 0.7    | 1.1                | 1.3  | 1.0    | 1.6                 | 1.9  | 1.3    | 1.8                               | 2.0  | 1.6    |
| Chronic lymphocytic leukemia                 | 1.8                 | 2.4  | 1.2    | 3.0                        | 3.8  | 2.3    | 1.3                         | 1.5  | 1.2    | 1.3                | 1.7  | 0.9    | 1.1                 | 1.3  | 0.8    | 2.2                               | 3.1  | 1.4    |
| Other lymphocytic leukemia                   | 0.3                 | 0.6  | -      | 0.4                        | 0.7  | 0.2    | 0.3                         | 0.5  | -      | 0.1                | 0.2  | 0.1    | 0.2                 | 0.2  | 0.1    | 0.3                               | 0.5  | 0.2    |
| Myeloid and monocytic leukemia               | 2.7                 | 3.1  | 2.3    | 3.4                        | 3.8  | 3.0    | 3.1                         | 3.8  | 2.5    | 2.3                | 2.2  | 2.4    | 2.7                 | 2.8  | 2.7    | 4.1                               | 5.0  | 3.3    |
| Acute myeloid leukemia                       | 1.8                 | 2.1  | 1.5    | 2.3                        | 2.5  | 2.1    | 2.1                         | 2.7  | 1.5    | 1.1                | 1.1  | 1.0    | 1.4                 | 1.5  | 1.3    | 2.7                               | 3.2  | 2.2    |
| Acute monocytic leukemia                     | -                   | -    | 0.0    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | -      | -                  | 0.0  | -      | 0.1                 | 0.1  | 0.2    | 0.2                               | 0.2  | 0.2    |
| Chronic myeloid leukemia                     | 0.7                 | 0.6  | 0.7    | 0.9                        | 1.0  | 0.8    | 0.9                         | 0.9  | 0.9    | 1.2                | 1.0  | 1.3    | 1.1                 | 1.1  | 1.1    | 1.1                               | 1.4  | 0.8    |
| Other myeloid/monocytic leukemia             | 0.1                 | 0.2  | -      | 0.1                        | 0.1  | 0.1    | -                           | -    | 0.0    | -                  | -    | -      | 0.1                 | 0.1  | 0.1    | 0.1                               | 0.1  | 0.1    |
| Other leukemia                               | 0.1                 | 0.3  | 0.0    | 0.6                        | 0.8  | 0.5    | 0.7                         | 0.7  | 0.7    | 1.1                | 1.3  | 0.9    | 0.7                 | 0.9  | 0.5    | 0.4                               | 0.5  | 0.4    |
| Other acute leukemia                         | 0.1                 | 0.2  | 0.0    | 0.4                        | 0.5  | 0.3    | 0.4                         | 0.3  | 0.4    | 0.1                | 0.2  | 0.1    | 0.5                 | 0.6  | 0.3    | 0.2                               | 0.2  | 0.2    |
| Aleukemic, subleukemic, and NOS <sup>§</sup> | -                   | -    | 0.0    | 0.2                        | 0.3  | 0.2    | 0.3                         | 0.3  | 0.3    | 1.0                | 1.1  | 0.8    | 0.2                 | 0.3  | 0.2    | 0.2                               | 0.3  | 0.2    |
| Miscellaneous                                | 3.1                 | 3.5  | 2.7    | 11.7                       | 13.1 | 10.5   | 8.9                         | 10.6 | 7.3    | 8.0                | 9.5  | 6.6    | 3.8                 | 3.9  | 3.7    | 6.1                               | 7.0  | 5.4    |

\*Rates are per 100,000 and are age-standardized to the World Standard Million.  
 †The symbols "-" = 1-2 cases; and "[numeral]" (italic) = 0 or 3-15 cases.  
 ‡SEER 13 Registries, Public Use Data Set, from data submitted November 2004.  
 §NOS indicates "not otherwise specified."

Table 1.8. Overview and Summary Data: Standard Errors of the Age-Standardized Incidence Rates\* Shown in Table 1.7, by Site and Sex, in Cyprus, Israel (Jews and Arabs), Egypt, Jordan, and US SEER – 1996-2001†

| Site                             | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |      |        | US SEER <sup>‡</sup><br>1999-2001 |      |        |
|----------------------------------|---------------------|------|--------|----------------------------|------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|------|--------|-----------------------------------|------|--------|
|                                  | Total               | Male | Female | Total                      | Male | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male | Female | Total                             | Male | Female |
| All Sites                        | 2.2                 | 3.2  | 3.0    | 0.9                        | 1.3  | 1.2    | 2.0                         | 3.3  | 2.6    | 1.5                | 2.2  | 1.9    | 0.9                 | 1.3  | 1.2    | 0.5                               | 0.8  | 0.6    |
| Oral cavity and pharynx          | 0.3                 | 0.4  | 0.3    | 0.1                        | 0.2  | 0.2    | 0.3                         | 0.5  | 0.3    | 0.3                | 0.4  | 0.4    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Lip                              | 0.1                 | 0.1  | -      | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.3  | 0.2    | 0.0                | 0.1  | -      | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Tongue                           | 0.1                 | 0.2  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.1    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Salivary gland                   | 0.1                 | 0.1  | 0.2    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Floor of mouth                   | 0.1                 | 0.1  | 0.0    | 0.0                        | 0.0  | 0.0    | -                           | -    | 0.0    | 0.0                | -    | -      | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Gum and other mouth              | 0.1                 | 0.2  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.1    | 0.1                | 0.2  | 0.2    | 0.0                 | 0.1  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Nasopharynx                      | 0.1                 | 0.2  | 0.1    | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Tonsil                           | 0.1                 | 0.1  | -      | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | 0.0    | 0.0                | 0.1  | 0.1    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.1  | 0.0    |
| Oropharynx                       | -                   | -    | 0.0    | 0.0                        | 0.0  | 0.0    | 0.0                         | -    | -      | 0.0                | -    | 0.0    | 0.0                 | 0.0  | -      | 0.0                               | 0.0  | 0.0    |
| Hypopharynx                      | 0.1                 | -    | -      | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | -      | 0.1                | 0.2  | 0.2    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Other oral cavity and pharynx    | 0.0                 | -    | -      | 0.0                        | 0.0  | 0.0    | 0.0                         | -    | -      | 0.0                | 0.1  | 0.1    | -                   | -    | -      | 0.0                               | 0.0  | 0.0    |
| Digestive system                 | 0.9                 | 1.4  | 1.2    | 0.4                        | 0.6  | 0.5    | 0.9                         | 1.5  | 1.1    | 0.7                | 1.1  | 0.7    | 0.4                 | 0.6  | 0.6    | 0.2                               | 0.3  | 0.2    |
| Esophagus                        | 0.1                 | 0.2  | 0.1    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.1    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Stomach                          | 0.4                 | 0.6  | 0.5    | 0.2                        | 0.3  | 0.2    | 0.4                         | 0.6  | 0.4    | 0.2                | 0.3  | 0.2    | 0.2                 | 0.3  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Small intestine                  | 0.1                 | 0.2  | -      | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Colon and rectum                 | 0.7                 | 1.0  | 0.9    | 0.3                        | 0.5  | 0.4    | 0.7                         | 1.1  | 0.9    | 0.3                | 0.4  | 0.4    | 0.3                 | 0.4  | 0.4    | 0.1                               | 0.2  | 0.2    |
| Colon excluding rectum           | 0.6                 | 0.9  | 0.8    | 0.3                        | 0.4  | 0.4    | 0.5                         | 0.8  | 0.7    | 0.2                | 0.4  | 0.3    | 0.2                 | 0.3  | 0.3    | 0.1                               | 0.2  | 0.2    |
| Cecum                            | 0.2                 | 0.3  | 0.3    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.1                               | 0.1  | 0.1    |
| Appendix                         | 0.1                 | 0.1  | -      | 0.0                        | 0.0  | 0.0    | 0.1                         | -    | -      | -                  | 0.0  | -      | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Ascending colon                  | 0.1                 | 0.2  | 0.2    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.3  | 0.3    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Hepatic flexure                  | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.0    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Transverse colon                 | 0.1                 | 0.2  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.2    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Splenic flexure                  | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.1    | 0.0                | 0.1  | 0.1    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Descending colon                 | 0.1                 | 0.2  | 0.1    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.3  | 0.2    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Sigmoid colon                    | 0.3                 | 0.5  | 0.4    | 0.2                        | 0.2  | 0.2    | 0.3                         | 0.5  | 0.4    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Colon, NOS <sup>§</sup>          | 0.3                 | 0.5  | 0.4    | 0.1                        | 0.2  | 0.2    | 0.3                         | 0.4  | 0.4    | 0.2                | 0.3  | 0.2    | 0.2                 | 0.3  | 0.2    | 0.0                               | 0.0  | 0.0    |
| Rectum and rectosigmoid junction | 0.4                 | 0.6  | 0.5    | 0.2                        | 0.3  | 0.2    | 0.4                         | 0.7  | 0.5    | 0.2                | 0.3  | 0.2    | 0.2                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Rectosigmoid junction            | 0.2                 | 0.3  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.3  | 0.2    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Rectum                           | 0.3                 | 0.5  | 0.5    | 0.1                        | 0.2  | 0.2    | 0.4                         | 0.6  | 0.4    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Anus, anal canal, and anorectum  | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Liver and intrahepatic bile duct | 0.2                 | 0.4  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.4  | 0.2    | 0.4                | 0.8  | 0.4    | 0.1                 | 0.2  | 0.1    | 0.1                               | 0.1  | 0.1    |
| Liver                            | 0.2                 | 0.4  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.4  | 0.2    | 0.4                | 0.8  | 0.4    | 0.1                 | 0.2  | 0.1    | 0.1                               | 0.1  | 0.1    |
| Intrahepatic bile duct           | 0.1                 | 0.1  | -      | 0.0                        | 0.0  | 0.0    | -                           | -    | -      | 0.1                | 0.1  | -      | 0.0                 | 0.0  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Gallbladder                      | 0.2                 | 0.3  | 0.3    | 0.0                        | 0.0  | 0.1    | 0.2                         | 0.2  | 0.3    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.1  | 0.2    | 0.0                               | 0.0  | 0.0    |
| Other biliary                    | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.2                         | 0.3  | 0.2    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Pancreas                         | 0.3                 | 0.5  | 0.3    | 0.1                        | 0.2  | 0.2    | 0.3                         | 0.6  | 0.3    | 0.2                | 0.4  | 0.3    | 0.1                 | 0.2  | 0.1    | 0.1                               | 0.1  | 0.1    |
| Retroperitoneum                  | 0.0                 | -    | -      | 0.0                        | 0.1  | 0.0    | 0.0                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.0    | 0.0                               | 0.0  | 0.0    |

Table 1.8. continued

| Site   | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |      |        | US SEER <sup>2</sup><br>1999-2001 |      |        |
|--|---------------------|------|--------|----------------------------|------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|------|--------|-----------------------------------|------|--------|
|  | Total               | Male | Female | Total                      | Male | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male | Female | Total                             | Male | Female |
| Peritoneum, omentum, and mesentery                 | 0.1                 | 0.0  | 0.1    | 0.0                        | 0.0  | 0.1    | 0.1                         | -    | 0.1    | 0.0                | 0.0  | 0.1    | 0.0                 | 0.0  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Other digestive organs                             | -                   | -    | 0.0    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.2  | 0.1    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Respiratory system                                 | 0.7                 | 1.3  | 0.5    | 0.3                        | 0.5  | 0.3    | 0.9                         | 1.7  | 0.6    | 0.4                | 0.8  | 0.4    | 0.3                 | 0.6  | 0.2    | 0.2                               | 0.3  | 0.2    |
| Nose, nasal cavity, and middle ear                 | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Larynx   | 0.2                 | 0.4  | 0.1    | 0.1                        | 0.2  | 0.1    | 0.3                         | 0.6  | 0.2    | 0.2                | 0.4  | 0.1    | 0.1                 | 0.3  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Lung and bronchus                                  | 0.6                 | 1.2  | 0.5    | 0.2                        | 0.4  | 0.2    | 0.8                         | 1.6  | 0.5    | 0.4                | 0.6  | 0.3    | 0.3                 | 0.5  | 0.2    | 0.2                               | 0.3  | 0.2    |
| Pleura   | 0.1                 | 0.1  | -      | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.2  | 0.1    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Trachea, mediastinum, and other respiratory organs | 0.1                 | 0.2  | 0.1    | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.2  | 0.1    | 0.0                | 0.1  | 0.0    | 0.0                 | 0.1  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Bones and joints                                   | 0.2                 | 0.4  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Soft tissue including heart                        | 0.2                 | 0.3  | 0.3    | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.3  | 0.3    | 0.2                | 0.3  | 0.3    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Skin excluding basal and squamous                  | 0.3                 | 0.4  | 0.4    | 0.2                        | 0.3  | 0.3    | 0.2                         | 0.4  | 0.3    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.1                               | 0.2  | 0.1    |
| Melanoma of the skin                               | 0.3                 | 0.4  | 0.4    | 0.2                        | 0.3  | 0.2    | 0.2                         | 0.3  | 0.2    | 0.1                | 0.1  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.1                               | 0.2  | 0.1    |
| Other non-epithelial skin                          | 0.1                 | 0.2  | 0.1    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.3  | 0.2    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Breast   | 0.9                 | 0.2  | 1.8    | 0.4                        | 0.1  | 0.7    | 0.7                         | 0.2  | 1.4    | 0.6                | 0.2  | 1.2    | 0.4                 | 0.1  | 0.7    | 0.2                               | 0.0  | 0.4    |
| Female genital system                              | 0.6                 | 0.0  | 1.2    | 0.2                        | 0.0  | 0.4    | 0.5                         | 0.0  | 0.9    | 0.3                | 0.0  | 0.6    | 0.2                 | 0.0  | 0.4    | 0.1                               | 0.0  | 0.2    |
| Cervix uteri                                       | 0.2                 | 0.0  | 0.5    | 0.1                        | 0.0  | 0.2    | 0.2                         | 0.0  | 0.4    | 0.1                | 0.0  | 0.3    | 0.1                 | 0.0  | 0.2    | 0.1                               | 0.0  | 0.1    |
| Corpus and uterus, NOS <sup>s</sup>                | 0.4                 | 0.0  | 0.8    | 0.2                        | 0.0  | 0.3    | 0.4                         | 0.0  | 0.7    | 0.2                | 0.0  | 0.3    | 0.1                 | 0.0  | 0.3    | 0.1                               | 0.0  | 0.2    |
| Corpus uteri                                       | 0.4                 | 0.0  | 0.8    | 0.1                        | 0.0  | 0.3    | 0.3                         | 0.0  | 0.7    | 0.1                | 0.0  | 0.2    | 0.1                 | 0.0  | 0.2    | 0.1                               | 0.0  | 0.2    |
| Uterus, NOS <sup>s</sup>                           | 0.1                 | 0.0  | 0.1    | 0.1                        | 0.0  | 0.1    | 0.1                         | 0.0  | 0.2    | 0.1                | 0.0  | 0.2    | 0.1                 | 0.0  | 0.2    | 0.0                               | 0.0  | 0.0    |
| Ovary  | 0.3                 | 0.0  | 0.7    | 0.1                        | 0.0  | 0.2    | 0.2                         | 0.0  | 0.4    | 0.2                | 0.0  | 0.4    | 0.1                 | 0.0  | 0.3    | 0.1                               | 0.0  | 0.1    |
| Vagina   | 0.1                 | 0.0  | 0.1    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.0  | 0.1    | 0.0                | 0.0  | 0.1    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Vulva  | 0.1                 | 0.0  | 0.2    | 0.0                        | 0.0  | 0.1    | 0.1                         | 0.0  | 0.1    | 0.1                | 0.0  | 0.2    | 0.0                 | 0.0  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Other female genital organs                        | 0.0                 | 0.0  | 0.0    | 0.0                        | 0.0  | 0.1    | 0.1                         | 0.0  | 0.1    | 0.0                | 0.1  | 0.0    | 0.0                 | 0.0  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Male genital system                                | 0.7                 | 1.5  | 0.0    | 0.3                        | 0.6  | 0.0    | 0.5                         | 1.2  | 0.0    | 0.3                | 0.6  | 0.0    | 0.2                 | 0.4  | 0.0    | 0.2                               | 0.4  | 0.0    |
| Prostate   | 0.6                 | 1.4  | 0.0    | 0.2                        | 0.5  | 0.0    | 0.5                         | 1.1  | 0.0    | 0.3                | 0.5  | 0.0    | 0.2                 | 0.4  | 0.0    | 0.2                               | 0.4  | 0.0    |
| Testis   | 0.3                 | 0.5  | 0.0    | 0.1                        | 0.2  | 0.0    | 0.1                         | 0.2  | 0.0    | 0.1                | 0.1  | 0.0    | 0.1                 | 0.1  | 0.0    | 0.0                               | 0.1  | 0.0    |
| Penis  | 0.1                 | 0.2  | 0.0    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | 0.0    | -                  | -    | 0.0    | -                   | -    | 0.0    | 0.0                               | 0.0  | 0.0    |
| Other male genital organs                          | -                   | -    | 0.0    | 0.0                        | 0.0  | 0.0    | 0.0                         | 0.0  | 0.0    | -                  | -    | 0.0    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Urinary system                                     | 0.6                 | 1.2  | 0.6    | 0.3                        | 0.5  | 0.2    | 0.6                         | 1.1  | 0.5    | 0.6                | 1.0  | 0.5    | 0.3                 | 0.5  | 0.2    | 0.1                               | 0.2  | 0.1    |
| Urinary bladder                                    | 0.5                 | 1.1  | 0.4    | 0.2                        | 0.4  | 0.2    | 0.5                         | 1.0  | 0.3    | 0.5                | 1.0  | 0.4    | 0.2                 | 0.4  | 0.2    | 0.1                               | 0.2  | 0.1    |
| Kidney and renal pelvis                            | 0.3                 | 0.5  | 0.4    | 0.2                        | 0.3  | 0.2    | 0.3                         | 0.5  | 0.3    | 0.2                | 0.3  | 0.2    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Ureter   | -                   | -    | -      | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.1  | 0.0    | 0.0                | 0.1  | -      | 0.0                 | 0.0  | -      | 0.0                               | 0.0  | 0.0    |
| Other urinary organs                               | -                   | -    | -      | 0.0                        | 0.1  | 0.0    | 0.1                         | -    | -      | 0.0                | 0.1  | 0.0    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Eye and orbit                                      | 0.1                 | 0.1  | 0.1    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |

Table 1.8. continued

| Site   | Cyprus<br>1998-2001 |      |        | Israel (Jews)<br>1996-2001 |      |        | Israel (Arabs)<br>1996-2001 |      |        | Egypt<br>1999-2001 |      |        | Jordan<br>1996-2001 |      |        | US SEER <sup>‡</sup><br>1999-2001 |      |        |
|--|---------------------|------|--------|----------------------------|------|--------|-----------------------------|------|--------|--------------------|------|--------|---------------------|------|--------|-----------------------------------|------|--------|
|  | Total               | Male | Female | Total                      | Male | Female | Total                       | Male | Female | Total              | Male | Female | Total               | Male | Female | Total                             | Male | Female |
| <b>Brain and other nervous system</b>        | 0.4                 | 0.6  | 0.6    | 0.1                        | 0.2  | 0.2    | 0.3                         | 0.5  | 0.4    | 0.2                | 0.3  | 0.3    | 0.2                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Brain  | 0.4                 | 0.5  | 0.5    | 0.1                        | 0.2  | 0.2    | 0.3                         | 0.5  | 0.4    | 0.2                | 0.3  | 0.3    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Cranial nerves and other nervous system      | 0.2                 | 0.3  | 0.2    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| <b>Endocrine system</b>                      | 0.5                 | 0.5  | 0.8    | 0.2                        | 0.2  | 0.3    | 0.3                         | 0.3  | 0.5    | 0.2                | 0.2  | 0.3    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Thyroid                                      | 0.4                 | 0.4  | 0.7    | 0.2                        | 0.2  | 0.3    | 0.3                         | 0.3  | 0.5    | 0.2                | 0.2  | 0.3    | 0.1                 | 0.1  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Other endocrine including thymus             | 0.1                 | 0.2  | 0.2    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.2  | 0.1    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| <b>Lymphoma</b>                              | 0.6                 | 0.9  | 0.8    | 0.2                        | 0.4  | 0.3    | 0.6                         | 0.9  | 0.7    | 0.5                | 0.7  | 0.6    | 0.2                 | 0.4  | 0.3    | 0.1                               | 0.2  | 0.1    |
| Hodgkin lymphoma                             | 0.3                 | 0.5  | 0.5    | 0.1                        | 0.2  | 0.2    | 0.2                         | 0.3  | 0.3    | 0.2                | 0.3  | 0.2    | 0.1                 | 0.2  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Hodgkin - Nodal                              | 0.3                 | 0.4  | 0.5    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.3  | 0.3    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.2  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Hodgkin - Extranodal                         | 0.1                 | -    | 0.1    | 0.0                        | 0.0  | 0.0    | 0.0                         | -    | 0.1    | 0.0                | 0.0  | 0.0    | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Non-Hodgkin lymphoma                         | 0.5                 | 0.8  | 0.6    | 0.2                        | 0.3  | 0.3    | 0.5                         | 0.8  | 0.7    | 0.4                | 0.7  | 0.6    | 0.2                 | 0.3  | 0.3    | 0.1                               | 0.2  | 0.1    |
| NHL - Nodal                                  | 0.4                 | 0.7  | 0.5    | 0.2                        | 0.3  | 0.2    | 0.5                         | 0.7  | 0.6    | 0.4                | 0.6  | 0.5    | 0.2                 | 0.3  | 0.2    | 0.1                               | 0.1  | 0.1    |
| NHL - Extranodal                             | 0.3                 | 0.4  | 0.3    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.4  | 0.3    | 0.2                | 0.3  | 0.3    | 0.1                 | 0.2  | 0.1    | 0.1                               | 0.1  | 0.1    |
| <b>Myeloma</b>                               | 0.2                 | 0.4  | 0.3    | 0.1                        | 0.2  | 0.1    | 0.3                         | 0.4  | 0.4    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.2  | 0.2    | 0.0                               | 0.1  | 0.1    |
| Leukemia                                     | 0.5                 | 0.8  | 0.6    | 0.2                        | 0.3  | 0.2    | 0.4                         | 0.6  | 0.5    | 0.3                | 0.4  | 0.4    | 0.2                 | 0.3  | 0.3    | 0.1                               | 0.1  | 0.1    |
| Lymphocytic leukemia                         | 0.4                 | 0.6  | 0.5    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.4  | 0.3    | 0.2                | 0.3  | 0.2    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Acute lymphocytic leukemia                   | 0.3                 | 0.4  | 0.4    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.1    | 0.1                | 0.2  | 0.1    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Chronic lymphocytic leukemia                 | 0.2                 | 0.4  | 0.2    | 0.1                        | 0.2  | 0.1    | 0.2                         | 0.3  | 0.3    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.0    |
| Other lymphocytic leukemia                   | 0.1                 | 0.2  | -      | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.2  | -      | 0.0                | 0.1  | 0.1    | 0.0                 | 0.1  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Myeloid and monocytic leukemia               | 0.3                 | 0.5  | 0.4    | 0.1                        | 0.2  | 0.1    | 0.3                         | 0.4  | 0.3    | 0.2                | 0.2  | 0.2    | 0.1                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |
| Acute myeloid leukemia                       | 0.2                 | 0.4  | 0.3    | 0.1                        | 0.1  | 0.1    | 0.2                         | 0.4  | 0.3    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.1  | 0.1    |
| Acute monocytic leukemia                     | -                   | -    | 0.0    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | -      | -                  | 0.0  | -      | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Chronic myeloid leukemia                     | 0.1                 | 0.2  | 0.2    | 0.1                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Other myeloid/monocytic leukemia             | 0.1                 | 0.1  | -      | 0.0                        | 0.0  | 0.0    | -                           | -    | 0.0    | -                  | -    | -      | 0.0                 | 0.0  | 0.0    | 0.0                               | 0.0  | 0.0    |
| Other leukemia                               | 0.1                 | 0.1  | 0.0    | 0.0                        | 0.1  | 0.1    | 0.1                         | 0.2  | 0.2    | 0.1                | 0.2  | 0.2    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Other acute leukemia                         | 0.1                 | 0.1  | 0.0    | 0.0                        | 0.1  | 0.0    | 0.1                         | 0.1  | 0.1    | 0.0                | 0.1  | 0.0    | 0.1                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Aleukemic, subleukemic, and NOS <sup>§</sup> | -                   | -    | 0.0    | 0.0                        | 0.0  | 0.0    | 0.1                         | 0.1  | 0.1    | 0.1                | 0.2  | 0.2    | 0.0                 | 0.1  | 0.1    | 0.0                               | 0.0  | 0.0    |
| Miscellaneous                                | 0.3                 | 0.5  | 0.4    | 0.2                        | 0.3  | 0.2    | 0.5                         | 0.8  | 0.6    | 0.4                | 0.6  | 0.5    | 0.2                 | 0.2  | 0.2    | 0.1                               | 0.1  | 0.1    |

\*Rates are per 100,000 and are age-standardized to the World Standard Million.  
 †The symbols "-" = 1-2 cases; and "[numeral]" (italic) = 0 or 3-15 cases.  
 ‡SEER 13 Registries, Public Use Data Set, from data submitted November 2004.  
 §NOS indicates "not otherwise specified."



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