

# CANCER REGISTRATION IN THE PHILIPPINES

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## History of Cancer Registration in the Philippines

The first attempt at cancer registration in the Philippines was in 1959 when the Philippine Cancer Society tried unsuccessfully to organize a National Cancer Registry. In 1968, the Philippine Cancer Society launched the Central Tumor Registry of the Philippines (CTRP), covering 25 hospitals in Metro Manila and one in Cebu, relying completely on passive notifications.

The Department of Health-Rizal Cancer Registry (DOH-RCR), the first population-based cancer registry in the Philippines, was launched in 1974 as an activity of the Community Cancer Control Program of Rizal. Its catchment area is the original province of Rizal with its 26 municipalities, comprising a land area of 1343 sq. kms. Although twelve of its municipalities were incorporated to the National Capital Region in 1975, the registry maintained the same catchment area. Initially, the DOH-RCR relied solely on passive notifications from physicians and hospitals but it shifted to an active method of data collection in 1980, due to a high degree of underreporting. A retrospective collection of data on cancer cases diagnosed from 1978 onwards was carried out in 69 hospitals in Metro Manila and in Rizal province. Death certificates were reviewed to complete data collection. The 1978-82 data from the DOH-RCR were analyzed at the International Agency for Research on Cancer (IARC), Lyon, France and published in 'Cancer Incidence in Five Continents, Vol. V' in 1987.

In 1983, the CTRP was re-oriented to become the second population-based cancer registry in the Philippines and was renamed as the Philippine Cancer Society-Manila Cancer Registry (PCS-MCR). Its catchment area, a total land area of 266.5 sq. km, include the four cities of Manila, Pasay, Caloocan and Quezon City. In 1984, it began a cooperative effort with the DOH-RCR, and adopting the active method of data collection, covered 72 hospitals and 30 local civil registry offices within the National Capital Region and Rizal province, retrospectively collecting data on cancer cases diagnosed from 1980 onwards. Currently, both registries cover 131 hospitals.

The third population-based registry in the Philippines, the Cebu Cancer Registry (CCR), was founded in February 1988 as an activity of the the RAFI-Eduardo J. Aboitiz Cancer Center (EJACC)). Its catchment area, a land area of 793 sq km., includes the cities of Cebu, Mandaue, and Lapu-lapu and the eight municipalities of Talisay, Minglanilla, Naga, San Fernando, Cordova, Consolacion, Liloan, and Compostela. Using the active method of data collection, the CCR retrospectively gathers information on cancer cases from 1983 onwards from 22 hospitals, 3 laboratories 2 oncology clinics and 11 local civil registry offices. Its ten-year data (1983-1992) has been analyzed with the assistance of the IARC and is being prepared for publication. Details of the data could not be released pending its publication.

The fourth population-based cancer registry in the Philippines, the Davao Cancer Registry (DCR) was initially started in 1991 but was not continued. In 1998, with support from the Andres Soriano Cancer Foundation, the Davao Doctors Hospital, and the PCS-Davao Division, the registry was re-launched, with Davao City as its catchment area, with an estimated land area of 2,211.3 sq. km. Using the active method of data collection, data for 1993-1997 has been completed and are currently being analyzed.

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## Present Status

The Philippines has 7,107 islands with three major geographical regions: Luzon, Visayas and Mindanao. The Rizal and Manila registries are in Central Luzon, the Cebu Cancer Registry is in the Visayas region and the Davao Cancer Registry is in Mindanao (Fig. 1). The population of the Philippines at the 1995 census was 34,584,170 (in males)

and 34,032,366 (in females). The population covered by the four registries are shown in the Table 1 below.

## Incidence Data

### *The 1998 National Estimate*

An estimate of the incidence of cancer in 1998 for the whole country was prepared based on the 1988-1992 data

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**Table 1 Population Covered by the 4 Population-based Cancer Registries**

Region	Registry	Population	% of Region	Land Area (sq. Km.)	Population (per sq. km)
Luzon	Manila	5,075,949	13.2%	266	19046
	Rizal	5,253,415	13.7%	1343	3911
Visayas	Cebu	1,474,603	10.4%	793	1859
Mindanao	Davao	1,006,840	6.2%	2,211	

from the Manila and Rizal registries. The estimated number of new cancer cases was 33,828 in males and 37,628 in females, which corresponds to age standardized rates of 199.5/100,000 in males and 180.6/100,000 in females. The most common cancers in males were: lung (8,474 cases), liver (3,906 cases), colo-rectal (2,690) and prostate (2,026 cases) and in females, these were: breast (9,325 cases), cervix (4,536 cases), lung (2,649), and colorectal (2,348) cancers. Figure 2 shows the estimated number of cases for the 10 leading cancer sites, by sex, in 1998.

*Regional Variation*

The age-standardized incidence rates (ASR) of cancer for all sites ranged from 174.0 per 100,000 (M) and 160.6 per 100,000 (F) in Rizal to 215.1/100,000 (M) and 195.6/100,000 (F) in Manila.

Lung cancer is the most important malignancy in males as well as for both sexes combined, followed by cancers of the liver, colon-rectum and the prostate. In Cebu, liver cancer is the leading malignancy site for males as well as for both sexes together, followed by cancers of the lung, colon-rectum, leukemia and stomach.

In females, breast cancer, is the most important malignancy, followed by cervix, lung and colon-rectum. In Cebu, breast is also the leading cancer site in females, followed by liver, cervix, lung and colon-rectum (Figure 3).

**Epidemiology of Principal Cancers**

The five leading malignancy sites in the Philippines, namely the lung, breast, cervix and colo-rectum, account for

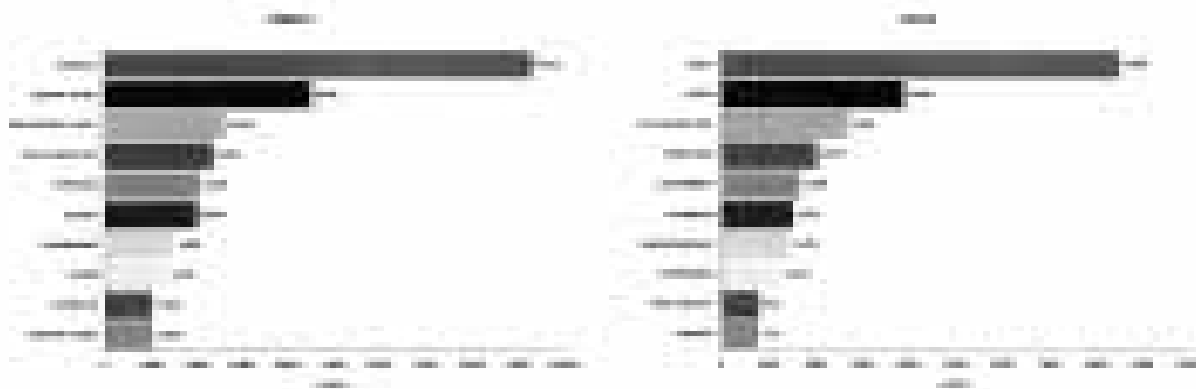


**Figure 1. Cancer Registries in the Philippines**

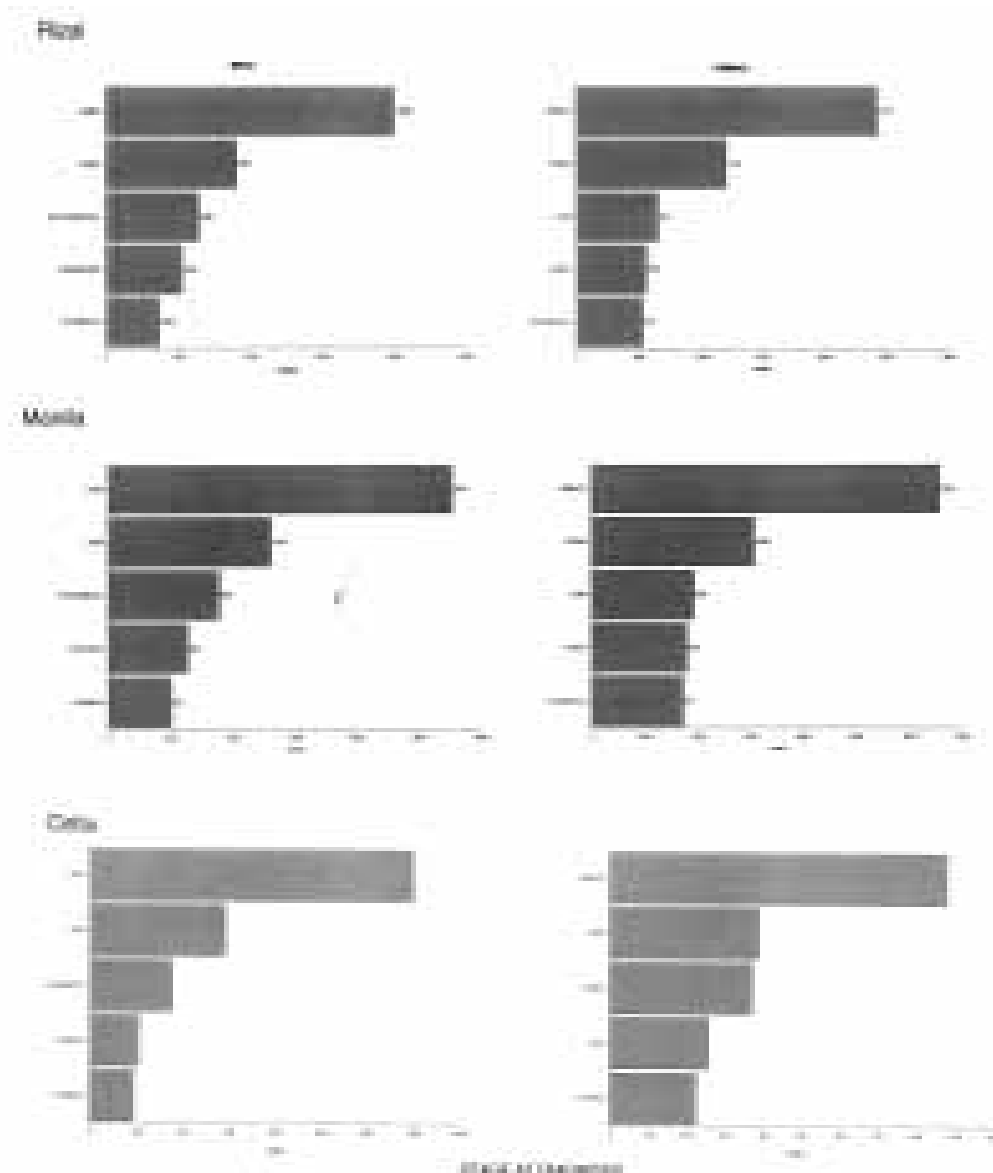
44.8% of cancers in males and 53.7% in females.

*Lung Cancer*

**Incidence:** Lung cancer is the leading cancer site for males as well as for both sexes, with the exception of Cebu where lung cancer ranks second, following liver cancer. It ranks third for females. An estimated 11,123 new cases, 8474 in males and 2,649 cases in females will be seen in 1998, with 9711 deaths expected from lung cancer. In males, the age-standardized incidence rate for lung cancer is highest in Manila (58.7/100,000), followed by Rizal (48.3/100,000) and Cebu. In females, lung cancer ranks third for both the Manila and Rizal registries with ASR of 16.8/100,000 and 12.9/100,000 respectively. In Cebu, lung cancer in females ranks as the fourth leading site. The pattern of increasing age-specific rates with increasing age was common in all groups, with the highest increase in males aged 45 years and older. The most frequent histological type is squamous cell carcinoma (40.6%) in males and adenocarcinoma (38.9%) in females. (Figure 4)



**Figure 2. Leading Cancers in the Philippines (1998 Estimates)**



**Figure 3. Leading Malignancy Sites, By Registry**

The majority of lung cancers, particularly the squamous cell carcinoma and the small cell lung cancers are related to smoking and these morphological types are more common among males. The high incidence of lung cancer in females in the Philippines is attributed to an increasing number of females who smoke. In 1989, Lung Cancer of the Philippines conducted a national smoking surveillance study and revealed 46.52% smokers in a population of 5505. Of the adult population, 53.6% were smoker. Of these 64.17% were males and 18.75% were females.

**Survival:** The 5-year relative survival rate for lung cancer is very low (7% for males and 7.9% in females) and this is attributed to an advanced stage of the disease at diagnosis.

**Breast Cancer**

**Incidence:** Breast cancer is the leading cancer site in females, the second in importance, considering both sexes combined. In 1998, it was estimated that there would be 9,325 new breast cancer cases (43.4 / 100,000 ASR). Age-specific incidence rate increases rapidly with age after age 30. (Figure 5).

**Survival:** In the DOH-RCR, survival at 5 years is only 45.6% which is at the lower end of the range observed in developing countries. In the PCS-MCR, the observed 10-year survival rate was 32%. Poor survival is attributed to an advanced stage of the disease at time of diagnosis which is due to lack of awareness, fear of being diagnosed with cancer, and poor utilization of existing health facilities. (Fig. 6)

**Liver Cancer**

**Incidence:** Primary liver carcinoma is the second most important cancer site, in males, and the third for both sexes combined. An estimated 5,249 new cases, with 3906 cases (ASR of 21.2) in males and 1,343 cases (ASR of 7.3 per 100,000) in females will be seen in 1998. Liver cancer is noted to be most frequent in Southern Philippines, particularly in Cebu, where liver cancer is the leading malignancy site in males, as well as for both sexes combined, and the second in rank among females. Incidence rates increase at age 40. The predominant morphologic type is the hepatocellular carcinoma. Cholangiocarcinoma is relatively uncommon.(Fig. 4) Increased risk of liver cancer has been associated with increased prevalence of Hepatitis B carrier state and prolonged exposures to aflatoxins and heavy alcohol consumption. Mass immunization against hepatitis B virus in infants has been started in 1992 as one of the primary prevention measures being implemented by the Philippine Cancer Control Program.

**Survival:** In the DOH-RCR, survival at 5 years is 12.5%. Poor survival is attributed to an advanced stage of the disease at diagnosis.

**Cervix Cancer**

**Incidence:** Cervical cancer is the second most common cancer in females and the most common cancer of the female genital tract. It was estimated that 4,536 new cervical cancer cases would be diagnosed in 1998 (ASR = 20.3/100,000). In Cebu, cervical cancer ranks as the third most common malignancy in females, following liver and breast cancers. Increased risk for cervical cancer has been largely attributed to HPV infection. There is a 9.2% HPV positivity among normal cervixes of Filipino women. Screening through Papanicolaou smears can detect pre-cancerous lesions of the cervix such as CIN, which could be treated before they become invasive cancers.

**Survival:** Survival at 5 years is only 29%, which is at the lower end of the range observed in developing countries. Poor survival may be attributed to an advanced stage of the

disease at time of diagnosis (Fig. 6), incomplete treatment, as well as inadequate supportive care due to financial constraints. \_

**Cancer of the Colon-rectum**

**Incidence:** It was estimated that in 1998 there would be 4,748 new colorectal cancer cases, with 2690 cases in males (ASR 16.7/100,000) and 2058 cases in females (ASR 13/100,000)

**Survival:** The 5-year relative survival rate for colon cancer was 46.8% in males and 34.8% in females while that of cancer of the rectum was 21.1% in males and 26.3% in females.

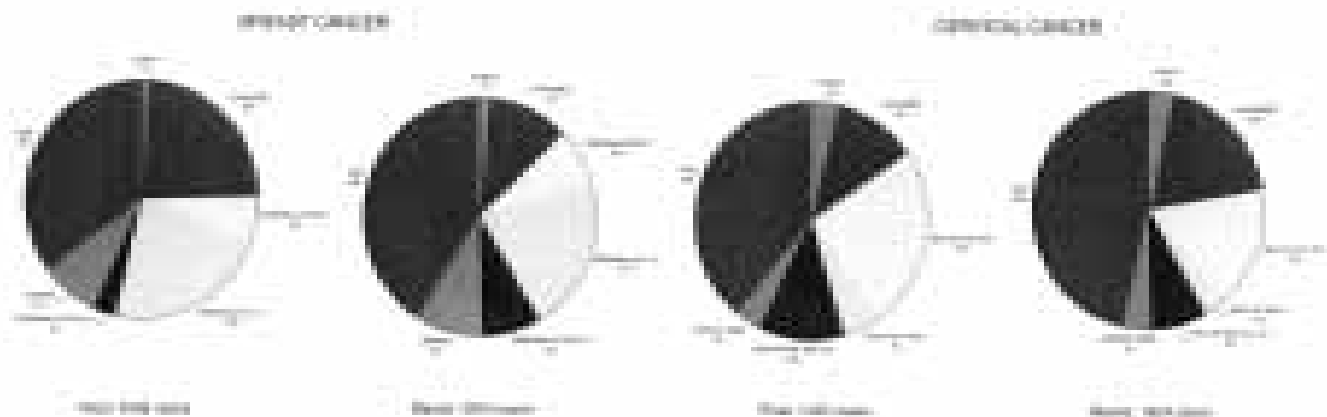
**Research Studies**

The registries have been involved in a variety of studies in the epidemiology and prevention of cancer including the following:

- 1) Breast Cancer Screening Project in the Philippines: The DOH-RCR and PCS-MCR have been involved in the Breast Cancer Screening Project, with the DOH-RCR being tasked to undertake the Long Term Follow-up of the Project.
- 2) The DOH-RCR has also been involved in Cervical Cancer Screening Project of the Philippine Cancer Control Program.
- 3) Incidence data
- 4) Childhood cancer
- 5) Survival studies

**National Policy**

Cancer is reportable by legislation but this is not being strictly implemented. The data generated by the Rizal and Manila registries are used as the basis for most cancer prevention programs and activities of the Dept of Health.



**Figure 6. Stage at Diagnosis and Metastatic Involvement**

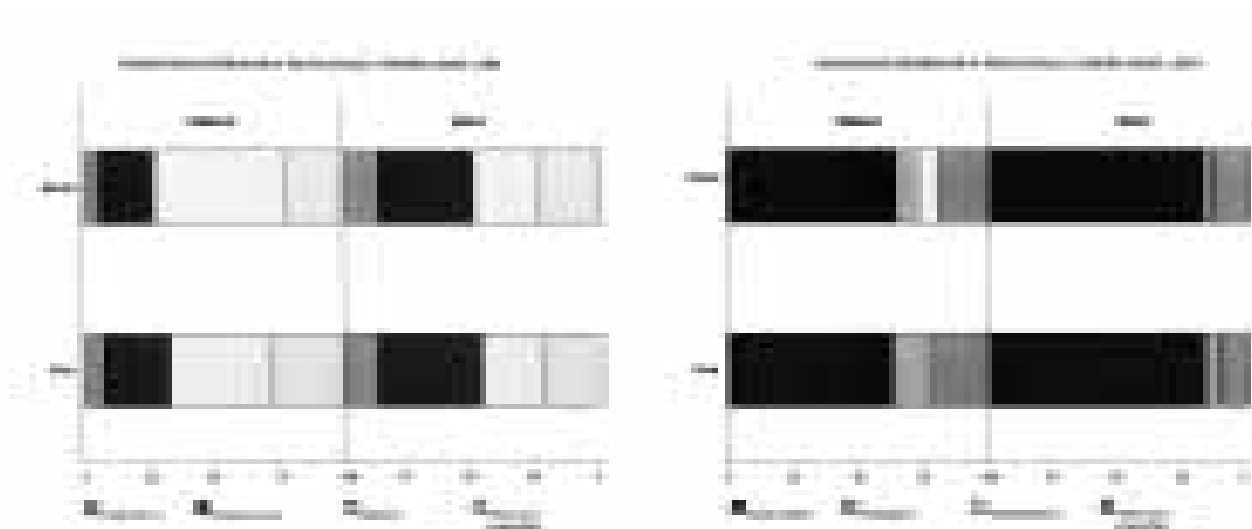


Figure 4. Cancer Types on a Histopathological Basis

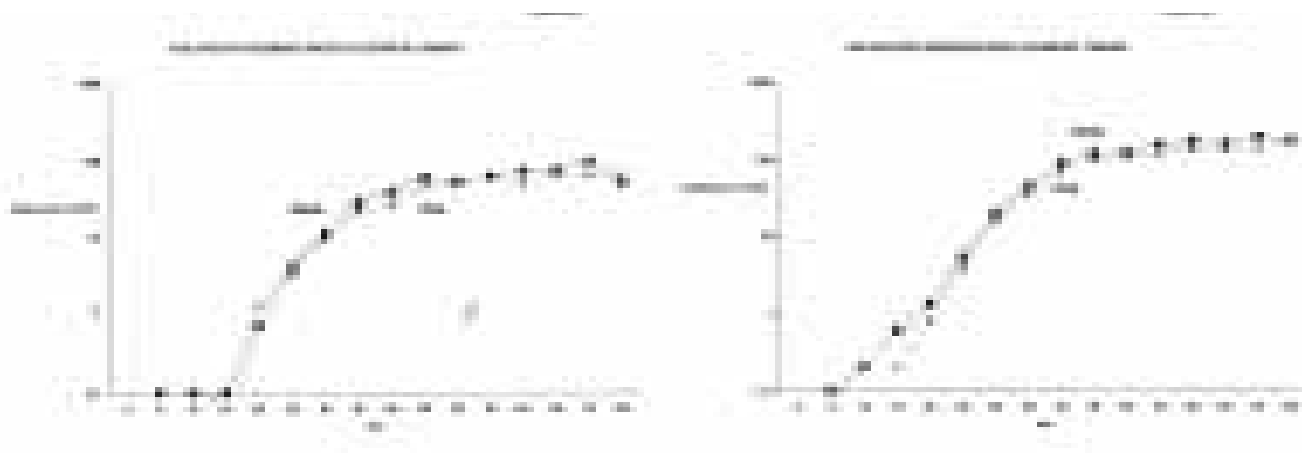


Figure 5. Age-specific Incidence Rates of Cervical and Breast Cancers

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