BARE-BONES LITERATURE REVIEW

Cancer Registration Literature Update (2006-2008)

APOCPC/UICC-ARO Cancer Registration Consortium

Abstract

Using Cancer Registration and Registry as search items with PubMed, a survey of the relevant literature for the years 2006-2008 was performed. A total of 207 abstracts were scanned for core findings and classified under general incidence and mortality, methodology and specific organ headings, these accounting for 27%, 5% and 68% of papers, respectively. Further sub-division into geographical area and country showed 34% from Europe, less than 1% from Africa, 42% from Asia (almost half in the APJCP), 2% from Australasia and the remaining 21% from the Americas. Breast cancer was the most common specific cancer covered, followed by colorectal and childhood, then lung and urinary tract, but clear differences were noted in the focus of different countries, partially reflecting variation in prevalence. The distributions across and within continents point to geographical areas and countries in which assistance might allow a more comprehensive picture of cancer incidence and mortality to be generated, facilitating worldwide efforts for cancer control. Variation within countries also appears to require more emphasis in the future.

Key Words: Cancer registration - incidence and mortality - methodology - specific organs - geographical/ethnic variation

Introduction

This skeleton review was undertaken to provide a very basic coverage of the Medline indexed publications relevant to cancer registration over the past two years. Parts of the Abstracts of the accessed papers were extracted and included under the sections listed below.

General Principles and Methodology

Africa-Nigeria. There is a need for cancer registration centre in the Olabisi Onabanjo University Teaching Hospital and a multicentred, controlled study of breast and other cancers (Abudu et al., 2007).

Americas-Canada. Claims and registry databases overlap with an appreciable proportion of the same individuals. First hospital separation may be considered a proxy for incidence with reference to colorectal cancer since 1995. However, to examine equity across cancer health services utilisation, it is optimal to have access to both hospital and registry files (Brackley et al., 2006).

Americas-USA. Due to poor validity of cancer registry Medicaid status data, caution should be used when interpreting cancer outcomes by insurance type calculated

Table 1. Geographical Sources of Articles on Cancer Registration and Scientific Areas Covered

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<th>Area</th>
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UICC-Asian Regional Office for Cancer Control, apocpccontrol@yahoo.com
from registry payer source data. Linkage of registry data to Medicaid enrollment files represents a more accurate means of identifying Medicaid insurance status (Chan et al., 2006).

**Americas-USA.** Although SEER data have been used extensively in health disparities research, the quality of information concerning race, Hispanic ethnicity, and immigrant status has not been systematically evaluated. The overall agreement was excellent on race, moderate to substantial on Hispanic ethnicity, and low on immigrant status, resulting in under-classification when compared to self-identification (Clegg et al., 2007).

**Americas-USA.** Sexual minority individuals may experience cancer risk disparities, due to lifestyle and reproductive differences compared with heterosexual people. However, cancer registry systems do not routinely collect sexual minority status. Other methods of obtaining such data and comparing cancer rates and risks between sexual minority and heterosexual people are discussed. These include building on existing registry membership with a targeted survey, using existing data sources, and estimating sexual orientation status with related data (Bowen and Boehmer, 2007).

**Americas-USA.** While not as yet used together in practice, comparative indicators are available within the National Health Service in England for performance assessment by Cancer Networks (McCarthy et al., 2008).

**Americas-USA.** The surveillance, epidemiology, and end results (SEER) registry has been used to identify major gaps in survival for older adolescent and young adult (AYA) patients compared with younger children and older adults (Pollock and Birch, 2008).

**Asia-India.** There are also a number of reasons for under-registration of cancer deaths in cancer registries but they nevertheless give a reasonably accurate picture. Many registries collect follow-up information for survival studies, which is also helpful to improve cancer mortality data. Tumour registries also represent important resources for rapid identification of cancer survivors for research studies (Yeole, 2006).

**Asia-Iran.** The adjusted relative age-standardized rate is more accurate than the age-standardized incidence rate for studying cancer incidence trends in registries with incomplete reporting (Fallah and Kharazmi, 2007).

**Asia-Japan.** As of 2007, there were population-based cancer registries in 35 of Japan’s 47 prefectures and in one city. The Research Group for Population-Based Cancer Registration in Japan was organized by Dr. Isaburo Fujimoto, with a grant-in-aid from the National Cancer Research Promotion Program. To promote standardization of the registry process and to improve the quality of registry data, the Japanese Association of Cancer Registries (JACR) was organized in 1992 (Okamoto, 2008).

**Asia-Japan.** To improve completeness of incidence data in Japan, it is planned, first, to establish hospital-based cancer registries at designated cancer-care hospitals. This strategy will be effective in rural areas, where most cancer patients are covered by designated cancer-care hospitals, but in urban areas additional action will be needed (Sobue, 2008).

**Asia-Korea.** In the last 20 years, cancer registries provided not only information on the incidence and characteristics of specific cancers, but also supplied the source of cancer control planning and evaluation and the care of individual cancer patients with survival (Shin, 2008).

**Asia-Pakistan.** A community-based approach is mandatory to allay public concerns over confidentiality and possible use of the registry data. Already, there are hurdles in attaining public approval after the intentions to found a National Cancer Registry were ventilated by the Pakistan Medical Research Council (Akhtar, 2007).

**Europe.** Using data from the Thames and Finnish Cancer Registries we obtained five-year relative survival estimates for 12 cancer sites, excluding DCOs as usual. We then made adjustments to allow for the effects of both the known proportion of DCOs and the estimated proportion of missing cases for each site. This is important when comparing survival estimates between different populations (Robinson et al., 2007).

**Europe-Finland.** Data of the nationwide Finnish Cancer Registry indicate caution is necessary against exclusion of patients with previous cancer diagnosis in comparative analyses of cancer survival (Brenner and Hakulinen, 2007).

**Europe-Germany.** Available long-term survival figures from cancer registries are often outdated and too pessimistic because of delay in availability of cancer registry data and application of cohort-based methods of analysis, which provide estimates for patients diagnosed many years ago. We have developed a model-based period analysis approach aimed to overcome both problems (Brenner and Hakulinen, 2006).

**Europe-Italy.** The registration of cancer deaths in Hamburg is incomplete and the notification of cancer to the Cancer Registry is inadequate. The estimated number of unreported cases is probably greater and cancer as the cause of death is higher than reported in the statistics (Said et al., 2007).

**Europe-Italy.** A comparison with manual registration revealed satisfactory completeness and efficiency of a computerized cancer registration system (Contiero et al., 2007).

**Europe-Italy.** A moderate sensitivity algorithm in the Piedmont Cancer Registry, not intended to replace cancer registration, offers a valuable tool to investigate other aspects of cancer surveillance. This method provides a valid study base for timely monitoring cancer practice and related outcomes, geographic and temporal variations, and costs (Baldi et al., 2008).

**Europe-Italy.** We advocate the need for availability of cancer data and discuss potential opportunities for hospital-based and population-based cancer registries to collaborate in providing these data in low-income countries (Valsecchi and Stelianova-Foucher, 2008).

**Europe-UK.** Most of the British public considers the confidential use of personal, identifiable patient information by the National Cancer Registry for the purposes of public
health research and surveillance not to be an invasion of privacy (Barrett et al., 2006).

**General Incidence and Mortality**

**Europe**

**Denmark.** Our results indicate that migrant women may experience barriers in access to healthcare until cancer diagnosis compared with Danish women (Norredam et al., 2007).

**France.** For breast and prostate cancers, the age-standardised five-year relative survivals were 84% and 77%, respectively. The corresponding results in men and women were 56% versus 38% for colorectal cancer and 12% versus 16% for lung cancer. For most cancer sites, age at diagnosis was a negative prognostic factor but this effect was often limited to the first year after diagnosis (Bossard et al., 2007).

**France.** On average, age-standardized incidence rates of large bowel cancers increased by 1.0% per year in men and 0.8% in women from 1980 to 2000. The most striking increase in incidence was seen for primary liver cancer. A decrease in the incidence of stomach cancer was observed for both sexes and for oesophageal cancer in men by slightly more than 2% (Lepage et al., 2008).

**Germany.** Survival comparison between Germany and the US suggests similarities for the majority of cancer sites, but long-term prognosis to be better in the US, in the breast and prostate cancer cases probably due to more intensive screening activities (Gondos et al., 2007). **Italy.** Overall cancer mortality was decreasing in both sexes in Umbria and this favourable trend will probably continue and further improve since population screening against breast, cervix, and large bowel cancers were recently introduced. Besides gastric cancer, tobacco-related cancers and prostate cancer mainly contributed to mortality reduction in males, whereas breast cancer mainly contributed to declining mortality in females (Stracci et al., 2007).

**Italy.** Clear geographical variability in mortality and morbidity levels still exists across the country, but the historical North-to-South gap appears smaller than in the past (Grande et al., 2007c).

**Italy.** Historically, South had a lower cancer risk than the Center and North. After 2000 this epidemiological picture disappeared and the incidence and mortality rates in the Center are reaching those of the North. Also the weight of various cancer sites on all cancers has changed in Italy in the last decades. Lung cancer is still the most frequent cancer in the male population in the South, while in the Center-North it has been surpassed by prostate cancer and colorectal cancer (Baili et al., 2007).

**Italy.** Incidence and mortality trends are estimated to decline during the entire period 1970-2010, with different slopes between northern-central and southern regions (Inghelmann et al., 2007b).

**Italy.** The proportion of cancer survivors in 2010 is expected to be about 4% in women and 3% in men, about twice the values attained in 1990. The highest dynamics was observed for prostate cancer, with a three-fold increase just in the 1995-2005 period (from 212 to 623 per 100,000), whereas in absolute terms breast cancer presented the highest levels (De Angelis et al., 2007).

**Netherlands.** The incidence of cervical and stomach cancer (for both sexes) decreased, being higher in the cities than in the rural areas during all periods and contrasting the trends in colorectal and breast cancer. The relative increase in incidence of lung cancer among females was highest in the rural north, but the incidence remained higher in the cities of the mid-west Netherlands. For males, there was a marked decrease in lung cancer incidence across the country since 1991. Incidence of melanoma increased, rates being twice as high in the coastal area than in the cities. Prostate cancer maps largely replicated the known history of PSA-testing in the Netherlands. Time-space cancer incidence patterns gave insight into effects of changes in exposure to risk determinants and early detection. The maps illustrate marked potential for cancer prevention at the national and regional level (Siesling et al., 2008).

**Scandinavia.** The incidence of most major cancer types appears to have been quite different in a northern Russian population than in Norway. The incidence among women was relatively low, except for stomach cancer. Among men, the incidence of stomach, lung, oesophagus, larynx, liver and pancreas cancer was markedly higher in Archangel than in Norway, while the incidence of cancer in the prostate, colon, bladder, testicle and melanoma was markedly lower (Vaktskjold et al., 2007).

**Scandinavia.** There is large variation in incidence of cancers of the gastrointestinal tract by social class in Finland. Cancers of the esophagus, stomach, cardia, gallbladder and pancreas were most common among persons belonging to a low social class. Cancers of the small intestine in males only, colon in both genders, and rectum in females were most common in the higher social classes. Although much of the observed social class differences probably could be explained by known etiological factors such as diet, physical exercise, alcohol consumption, smoking and exogenous hormone use, part of the variation is apparently attributable to largely unknown factors (Weiderpass and Pukkala, 2006).

**Scandinavia.** Mean annual declines in prostate cancer mortality of 1.9% and 1.8% were observed from 1996 to 2004 in Finland and Norway, respectively. During the same period, mortality rates leveled off in Iceland and Sweden but continued to increase in Denmark (Kvale et al., 2007).

**UK.** The number of new cancer cases per year is predicted to increase by 33%, from 224,000 in 2001 to 299,000 cases in 2020, mainly due to the anticipated effects of population growth and ageing; cancer patients in 2020 will be older than today’s cancer population (Møller et al., 2007).

**UK.** Statistically significant differences from the reference group included: higher mortality from all cancers combined, lung and colorectal cancer among people born in Scotland and Ireland, lower mortality for all cancers combined, lung, breast and prostate cancer among people
born in Bangladesh (except for lung cancer in men), India, Pakistan or China/Hong Kong, lower lung cancer mortality among people born in West Africa or the West Indies, higher breast cancer mortality among women born in West Africa and higher prostate cancer mortality among men born in West Africa or the West Indies (Wild et al., 2006).

Arab Countries

Bahrain. Compared to other Gulf countries, had higher incidence rates for cancers of the lung, prostate, colorectum, bladder, kidney, pancreas and leukemia among males and for cancers of the breast, lung, bladder, thyroid, uterus and ovary among females (Alsayyad and Hamadeh, 2007).

Iraq. The results show no major variation in the annual incidence rates of cancer in different areas of Basrah governorate (Habib et al., 2007).

Libya. In eastern the world age-standardized incidence rate for all sites combined (except nonmelanoma skin) were 118 per 100,000 for men and 95 per 100,000 for women. The most frequently diagnosed malignancies in males were lung cancer (19%) and colorectal cancer (10%), followed by cancers of the head and neck (9%) and bladder (9%). Among females, they were breast cancer (26%), cancer of the colon and rectum (9%), uterus (7%) and non-Hodgkin lymphoma (5%). Our study confirms that cancer incidence is much lower than in western countries. Moreover, observed patterns indicate that the incidences of many cancers, including those of the lung, breast, colon, rectum and bladder are quite different from previous estimates based on the data available from the neighboring countries (El Mistiri et al., 2007).

Qatar. Cancer is an important public health problem in with increase in incidence with age. Incidence rates of all cancers were higher across all age groups of women compared to men. Lung cancer was the most frequent cancer diagnosed in men and breast cancer in women (Bener et al., 2008).

Western and Central Asia

Azerbaijan. Vital statistics data were used to calculate annual crude cancer incidence and mortality rates for selected cancers and regions in Azerbaijan for the years 1980-2000. Poisson regression analysis of age- and sex-specific data from 1995-2000 demonstrates an increased risk for selected cancers in Sumgayit relative to the rest of the country, as measured by adjusted rate ratios [aRR (95% CI)]: larynx 1.39 (1.04, 1.85), lung 1.67 (1.44, 1.92), bladder 2.49 (1.93, 3.22), and all sites 1.51 (1.43, 1.58). Sumgayit appears to suffer from an increased cancer burden; poor data quality and suspected underreporting, however, prevent accurate estimates of incidence or mortality rates. Construction of a modern cancer registry would be prerequisite to more detailed examinations of cancer rates in the country (Andrucho et al., 2006).

Commonwealth of Independent States. Standardized indices of cancer incidence were the highest in Belarus (312.5 per tens of thousand in men and 217.6 per tens of thousand in women), Russia (270.8 per tens of thousand and 196.8 per tens of thousand), and Kazakhstan (234.0 per tens of thousand and 171.4 per tens of thousand), lower in Armenia (201.3 per tens of thousand and 143.2 per tens of thousand) and Moldova (185 per tens of thousand and 162.2 per tens of thousand), and minimal in Azerbaydzhan (85.6 per tens of thousand and 73.5 per tens of thousand) (Davydov and Aksel, 2007).

Iran. East Azerbaijan, Gastric cancer was the most common GI tract cancer with an annual ASR of 21.3 per 10(5) for males and 8.2 for females. The annual ASRs for esophagus and colorectal cancers were 9.4 and 6 in males and 7.1 and 9.2 in females (Hossein Somi et al., 2006).

Turkey. Field cancerization in the epithelium, theory of a common clonal origin, or the screening effect might account for the relatively frequent association of different urogenital tumors. The association of the tumors of breast-ovary might be related to an endocrine effect (Kilciksiz et al., 2007).

South Asia

Bangladesh. The top five cancers found in both sexes were breast cancer (19.2%), female genital organ cancer (17.7%), GIT cancer (13.5%), head & neck cancer (12.2%) and respiratory tract cancer (7.9%). Breast cancer and GIT cancer ranked top among females and males respectively (Talukder et al., 2007a).

Bangladesh. Histopathology based cancer pattern, top five sites of cancer, irrespective of sex, were of stomach, uterine cervix, colo-rectum, lymph nodes and breast. According to decreasing order of frequency, in the males, the top five cancers were of stomach, lymph node, oesophagus, urinary bladder and colo-rectum. In the female groups these were of uterine cervix, breast, ovary, colo-rectum and stomach (Talukder et al., 2007b).

India. The lifetime risk among Indian females for the10 cancer sites ranged from 0.02 to 3.3% and from 0.04 to 2.4% for the years 1982 and 2000 respectively; whereas among males, it ranged from 0.04 to 0.89% and from 0.05 to 0.95% respectively (Satyanarayana and Asthana, 2008).

India. Cancer incidence rate in Kerala was only 80% of urban rates than seen in Urban Metropolis in India. The pattern of site distribution has shown that GI, breast and cervix cancers are the predominant cancers. Oral cavity cancers also show a high frequency. Thyroid cancer has a higher incidence rate in Kerala compared to other areas (Jayalekshmi et al., 2006).

India. Variations in environmental exposures such as tobacco use, diet and infection, as well as better health care access and knowledge may explain some of the observed incidence differences in South Indian cancer rates in different countries of residence (Rastogi et al., 2008).

India. In Mumbai, considerable variation was observed in the incidence of cancer of various sites in both the sexes, professing different religious faiths within this population
(Yeole et al., 2006).

India. The lifetime risk among females for the 10 cancer sites ranged from 0.02 to 3.3% and from 0.04 to 2.4% for the years 1982 and 2000 respectively; whereas among males, it ranged from 0.04 to 0.89% and from 0.05 to 0.95% respectively. Significant and higher rates of positive trends in lifetime cancer risks for breast cancer among females and for NHL among both sexes were observed (Satyanarayana and Asthana, 2008).

Nepal. In males the leading cancer sites were lung (22.2%), larynx (9.8%) and stomach (9%) and those for females was lung (20%), cervix (19.7%) and breast (7.8%) (Binu et al., 2007).

Pakistan. Farmers accounted for 43.8% of cancers, the second most effected people being housewives with 33.8% then children/students at third place with 12.8%. Cancers in laborers and other people like government employees, businessman and shopkeepers were less often found (Zeb et al., 2006).

Pakistan. The increasing trend of cancer in Dir province is alarming and leading cancers were lymph/blood, and cancers of the digestive system, skin and breast (Zeb et al., 2008).

Pakistan. In Larkana, the most common malignancies in males were lymphoma, oral cavity, prostate, liver, and urinary bladder. Cancers in females were breast, oral cavity, lymphoma, skin and thyroid (Bhurgri et al., 2006).

South-East Asia

Singapore. Remarkable differences were seen in the age-specific incidence rates by ethnic groups. After age 49, the incidence rates for the Chinese and Malays leveled off whereas it continued to rise in the Indians (Sim et al., 2006).

Malaysia. The registry of the Oncology Departmental in Sarawak General Hospital showed that 79% of nasopharyngeal, 77% of breast and 70% of cervix cancer patients were diagnosed at an advanced stage (stages III and IV) for year 1993. Hence, a low cost Early Cancer Surveillance Program was started in 1994. Breast cancer in stage III and IV was reduced to 35% (1998) and cervical cancer to 26% (1998). No reduction was observed for Our findings confirm the need for a simple and complementary downstaging approach (Devi et al., 2007).

Thailand. During the past decade, colorectal and breast cancers showed a statistical significant increasing trend, while the trend was generally stable for cancer of other sites. The number of new cancer cases of all sites is expected to be approximately 125,000 by the year 2008, compared with 81,000 in 1999 (Sriplung et al., 2006).

Viet Nam. Among both males and females, liver cancer was ranked in the first most common (31.04% and 19.91%), followed by lung cancer (26.69% and 18.21%) and stomach (14.42% and 14.26%). Among females, cervix and other female genital cancers were ranked in the four most common (Ngoan et al., 2007a).

Viet Nam. Males and females combined, for all cancer sites, 1-year, 2-year, 3-year, 4-year and 5-year observed and relative survival rates were 23.8%-23.9%, 8.5%-8.5%, 3.8%-3.8%, 2.6%-2.6%, 1.7%-1.7%, respectively. The highest one-year relative cancer survival rate was seen in the capital, Hanoi city (49.8%), followed by Hue city in the central area (24.7%), and the lowest in Phu Tho, north-semi-highland (21.8%) (Ngoan et al., 2007b).

North-East Asia

China. Monitoring of cancer incidence rates through population-based cancer registration in 34 years did help to show the burden and patterns of main cancer sites and time trends, which provides some references to future aetiological study, and policy making on cancer control in Qidong (Chen et al., 2007).

China. In Nanao Island, incidence rates of esophagus, liver, lung, breast, nasopharyngeal, and colon/rectum cancers showed increasing trends during the period from 1995 to 2004. Astounding the EC ASR were 72-150/100,000 among males and 26-64/100,000 among females (Su et al., 2007).

Japan. Projected 1-year cancer prevalence for all sites would increase from 209,971 to 367,354 for men and from 164,622 to 275,776 for women, that 2-3-year prevalence would increase from 288,284 to 508,731 for men and from 255,684 to 418,630 for women, that 4-5-year prevalence would increase from 216,834 to 379,461 in men and from 211,764 to 342,031 in women, and that 5-year prevalence would increase from 715,089 to 1,255,546 in men and from 632,070 to 1,036,437 in women (Tabata et al., 2008).

Japan. Surgical volume of the hospitals did not affect the 10-year survival rate significantly, except for the very low-volume hospitals in Osaka, Japan (Nomura et al., 2006). two decades, there has been a significant increasing trend for cancer mortality lung, liver breast, in Kaifeng county, of Henan Province, esophagus decrease (Cui et al., 2007).


Korea. In males, the five-year relative survival rate for all cancers was 32.5% during 1993-1997 and was 37.8% during 1998-2002. In females, the values for all cancers were 53.7% during 1993-1997 and 57.0% during 1998-2002. The largest improvement in survival was shown in prostate cancer in males and breast and stomach cancer in females (Jung et al., 2007).

Korea. The age gradient in cancer prognosis seems to have widened between 1997 and 2002, a finding that requires further study of prognostic factors, including stage at diagnosis. Period analysis accurately estimates survival rates, especially for cancers with better prognosis (Yim et al., 2008).

Australasia

Australia. Mortality rates were 66% higher for males and 59% higher for females for Aboriginal people compared with non-Indigenous people. Mortality from lung cancer was 50% and 100% higher than for NSW non-Indigenous males and females respectively. The high mortality rate from
cervical cancer in Aboriginal females is contrary to the trends in the general population since the introduction of free population-based screening. Combination of later diagnoses and perhaps poorer treatment outcomes as well as being diagnosed with poorer prognosis cancers is occurring in Aboriginal people of NSW (Supramaniam et al., 2007).

**Australia.** Results suggested that overall cancer mortality rose slightly over the past century, with a small decrease in more recent years. The male and female cancer mortality rates diverged over time (Freak-Poli et al., 2007).

**Australia.** Aboriginal patient had poorer expected 5- and 10-year survival compared with South Australian non-Aboriginal patients, and even poorer actual 5- and 10-year survival than expected. The differences between the expected and actual cancer site distributions reflect the disparities in risk factor prevalence for largely preventable cancers and the survival results reflect the multitude of obstacles confronting Aboriginal patients with cancer compared with non-Aboriginal cancer patients (Cottrell et al., 2007).

**Guam.** Chamorros had high age-adjusted mortality rates for mouth and pharynx (15.5 vs. 2.7 [corrected] U.S.), nasopharynx (9.1 vs. 0.2 U.S.), lung and bronchus (66.9 vs. 54.9 U.S.), colon-rectum-anus (28.6 vs. 19.7 U.S.), breast (32.0 vs. 28.0 U.S.) and prostate cancer (40.9 vs. 27.9 U.S.);

2. Chamorros (6.4 vs. 2.5 U.S.) and Micronesians (6.3) had high and nearly identical age-adjusted mortality rates for cancer of the mouth and pharynx when nasopharyngeal cancers were excluded; 3. Micronesians had the highest mortality rate for liver cancer over all ethnicities documented (43.5 vs. 4.9 U.S.);

4. Asians had the highest mortality rates for pancreatic (12.5 vs. 10.5 U.S.) and cervical cancer (8.5 vs. 2.6 U.S.);

5. Caucasians had the highest mortality rates for leukemia (19.9 vs. 7.5 U.S.) and Non-Hodgkin’s lymphoma (17.6 vs. 7.6 US) (Haddock et al., 2006).

**Americas**

**Colombia.** National and district incidences were estimated by applying a set of age, sex and site-specific incidence/mortality ratios, obtained from a population-based cancer registry, to national and regional mortality. The most frequent cancers in males were prostate, stomach, and lung and in females were cervix uteri, breast, and stomach (Pineros et al., 2006).

**Martinique.** Cancer Registry for the period 1981-2000. Incidence of prostate cancer in men, breast cancer in women and colorectal cancer in both sexes strongly increased between 1981-1990 and 1991-2000, whereas no significant variation was observed for that of all digestive cancers together. Among women, cervical cancer incidence strongly decreased. These results demonstrate that Martinique tends to have the same cancer risk profile as France Mainland with, however, higher incidence rates for cervical, stomach and prostate cancer (Dieye et al., 2007).

**USA.** Overall, cancer incidence rates for all sites combined in New Mexico Indian men and women were lower than U.S. White rates, whereas Alaska Indian men and women exceeded U.S. rates. In comparing Alaska and New Mexico Indians, we observed a 2.5-fold higher incidence of cancer among Alaska Indians. The largest differences between the two Indian populations were noted primarily in cancers associated with tobacco use, including cancers of the oral cavity/pharynx, esophagus (only in men), colon and rectum, pancreas, larynx (men), lung, prostate, and urinary bladder (men). Lung cancer rates in Alaska Indian men and women were 7 and 10 times those of New Mexico Indian men and women (Kelly et al., 2006).

**USA.** Depending on cancer site, primary prevention (e.g. lung cancer among males), early detection (cervical cancer), and treatment (e.g. breast and testicular cancer, lymphoma) contributed to the current decline of mortality rates. Absence of a turnaround (e.g. lung cancer among females), slower decline than in other countries (e.g. cervical cancer), or later turnaround (e.g. breast cancer) may be related to failures in promoting prevention (lung cancer among females), early detection programmes (cervical cancer), or delays in the translation of modern treatment into routine health care (breast cancer) and indicate major challenges for current and future health policy (Becker et al., 2007).

**USA.** American Indians had similar cancer incidence compared to the general population in Wisconsin, and over twice as high as national SEER American Indian rates. Post-linkage rates resulted in more accurate site-specific and geographically focused cancer incidence rates to help target the national and state priorities of addressing disparities among American Indians. (Foote et al., 2007).

**USA.** Much of the survival disadvantage for Pacific Islanders groups appears to be a result of late diagnosis, and thus targeted interventions have much potential to reduce cancer mortality in this group (Goggins and Wong, 2007).

**USA.** Cancer incidence in middle eastern population of the USA is lower than non-Hispanic white and non-Hispanic Black, but is higher than rates for Hispanics and Asians, and middle eastern countries (Nasseri et al., 2007).

**USA.** Cancer incidence rates in Appalachia are higher than in the rest of the US, and they vary substantially between regions (Wingo et al., 2008).

**USA.** African American women had worse survival than white women but Asian and Pacific Island and Hispanic women had better survival than whites (Curtis et al., 2008).

**USA.** Breast and cervical cancer incidence rates among Alaska Natives are similar to US White rates, whereas rates for cancer of the uterus and ovary are significantly less than those of US Whites. Thirty-five year trends show increasing rates in breast cancer and decreasing rates of cervical cancer (Day et al., 2007).

**USA.** For years 1999-2003, black Floridians had significantly lower rates of lung, bladder, pancreas, and kidney cancer relative to SEER-9 blacks. The opposite pattern was evident for white Floridians with significantly higher rates of lung and laryngeal cancer relative to SEER-9 whites (Lee et al., 2008).

**USA.** Chinese Americans had among the lowest incidence and death rate from all cancer combined; however, Chinese women had the highest lung cancer death rate.
Filipinos had the highest incidence and death rate from prostate cancer and the highest death rate from female breast cancer. Vietnamese had among the highest incidence and death rates from liver, lung, and cervical cancer. Korean men and women had by far the highest incidence and mortality rates from stomach cancer. Japanese experienced the highest incidence and death rates from colorectal cancer and among the highest death rates from breast and prostate cancer (McCracken et al., 2007).

USA. Possible disparities in cancer incidence or mortality between specific Asians and Pacific Islanders and non-Hispanic whites (referent group) were identified for several cancers. Unfavorable patterns of stage at diagnosis for cancers of the colon and rectum, breast, cervix uteri, and prostate suggest a need for cancer control interventions in selected groups (Miller et al., 2008).

Organ Systems

Skin Cancer

Americas. There was an increasing incidence trend for both BCC and invasive SCC over the 10-year study period, with minimal change in the incidence of SCC in women. The overall ratio of BCC to invasive SCC in the population was 2.8 to 1. The approximate lifetime probabilities of developing BCC and invasive SCC were 13% and 5%, respectively. (Hayes et al., 2007).

Americas-USA. Over the 12-year period there was a 62% increase in the overall number of skin cancer samples processed by local pathology laboratories and a 20% increase in the number of patients. These data highlight the fact that many patients will have more than one skin cancer, which reinforces the benefit in collecting data for both patient and sample numbers in order to obtain a true reflection of the workload. The data have also shown that more affluent men and women have higher rates of BCC and melanoma than their less affluent counterparts (Hoey et al., 2007).

Americas-USA. Melanoma incidence rates continue to increase in Puerto Rico. This, in combination with an increase in the diagnosis of thin melanomas, suggests that the stable mortality rates may be due, in part, to earlier diagnosis and improved overall prognosis (Valentin et al., 2007).

Americas-USA. The overall White-to-Black incidence ratio in conjunctival melanoma was 2.6:1, which is much less than that of uveal melanoma (18:1) and cutaneous melanoma (13:1 to 26:1), but is similar to that of mucosal melanoma (2.2:1 to 2.3:1) (Hu et al., 2008).

Europe. Skin cancers, latitude, and sunny climate have been used as proxy indicators of solar exposure above a reference level. The interpretation of such data may still be hampered by incomplete cancer registration, difference in protection against sunbeams, selection mechanisms, and absence of information on potential confounders (Grimsrud and Andersen, 2008).

Europe-Denmark. Danish results indicate that exposure to low doses of arsenic might be associated with a reduced risk for skin cancer. (Bastrup et al., 2008).

Europe-Italy. In Tuscany Cancer Registry there was an increase of the risk of malignant melanoma diagnosis of about 36.6% every 5 years of period or cohort up to 2001 (Crocetti et al., 2007).

Europe-UK. The crude incidence of SCC for the period 1995-97 was 34.7 per 100,000. Age-adjusted rates of SCC, first ever BCC, and CIS of the skin have all increased significantly in both sexes between 1992 and 2003, the majority of lesions locating on the head and neck area, with the exception of CIS, which in females was more commonly located on the limbs (Brewster et al., 2007).

Europe-Scandinavia. Incident and new subsequent cases of non-melanoma skin cancer were similar and thus did not explain the reduced mortality of basal cell carcinoma patients - incomplete registration or selection bias may be responsible (Jensen et al., 2007).

Asia-Iran. The annual age-standardized incidence rate of Kaposi’s sarcoma was from 0.10 to 0.17 per 100,000 in males and 0.06-0.08 in females, with peak incidences at ages 50-79 (Mousavi et al., 2007).

Asia-Taiwan. Asia national data reveal a rapidly increasing incidence of eyelid cancers from 1979 to 1999. Basal cell carcinoma dominates the incidence trends, and the significant cohort effects give a warning of increasing risk in younger birth cohorts (Lin et al., 2006).

Oral Cancer

Asia. In Singapore and Hong Kong (both rapid decrease from high level) and Los Angeles (no change but low), over the time period 1973-1997, we observed a great disparity in the risks and time trends of NPC in these selected Chinese populations (Luo et al., 2007).

Asia-China. The incidence rate of NPC has remained stable during the recent two decades in Sihui and in females in Cangwu, with a slight increase observed in males in Cangwu from 17.81 to 19.76 per 100,000. The incidence rate in Sihui is 1.4-2.0 times higher during the corresponding years than in Cangwu, even though the residents of both areas are of Cantonese ethnicity. A progressive decline in mortality rate was observed in females only in Sihui, with an average reduction of 6.3% per five-year period (Jia et al., 2006).

Asia-Saudi Arabia. Overall the burden and risk of oral cancer in the country are not large. However, very wide regional disparities exist, with an almost thirty-fold differences between the regions with the lowest and highest rates. There is a significant public health problem for the residents of Jizan and the women of Najran (Brown et al., 2006).

Europe-UK. Oral cancer incidence was investigated among 10 857 individuals using Scottish Cancer Registry data. Since 1980 the incidence of oral cancer among males in Scotland has significantly increased, the rise occurring almost entirely in the most deprived areas of residence.(Conway et al., 2007)

Asia-Pakistan. The ASIR for oral cancer in females...
showed a gradual rise from 14 to 64+ years of age, for pharynx from 20 to 64+, a decade after the oral cancer rise and cancer larynx showed a rise at 25+, a decade and a half after the oral cancer rise (Bhurgri et al., 2006a).

Asia-Taiwan. The relative risk of nasopharyngeal carcinoma for the 1971 to 1980 as compared with the 1931 to 1940 birth cohort was 0.38 for women and 0.68 for men. That for oropharyngeal carcinoma was 45.67 for men and 2.69 for women. Change in lifestyle seemed to be an important factor for the differences in incidence trends (Hsu et al., 2006).

Esophageal Cancer

Asia-China. A declining trend in was observed the mortality of esophageal and gastric cancer in Linzhou (Sun et al., 2007).

Asia-China. During the period 1979-2003, a steady decrease in the age-standardized incidence rate of esophageal cancer in Hong Kong was observed for both males and females in line with the increased intakes of fresh vegetables and decreased alcohol drinking, tobacco smoking, and preserved food consumption observed in the population (Tse et al., 2007).

Asia-China. In Hong Kong, from 1984 to 2003 esophageal adenocarcinoma declined among both males and females, faster than for esophageal squamous cell carcinoma so that the relative ratio decreased from 11.7% in 1984 to 1988 to 6.4% in 1998 to 2003 (Yee et al., 2007).

Asia-China. The trend of the incidence rate of esophageal cancer had been decreasing for the last 29 years. in Cixian The incidence rate in mountainous areas and hilly areas showed a declining trend while in the plain areas it remained steady but having slight increase in the recent years. The mortality rate of esophageal cancer had a significant decrease from 1969 to 2002 (He et al., 2006).

Asia-Singapore. The decline in the incidence of SCC is likely to be associated with the known decrease in the frequency of smoking among Singaporeans. In contrast, there appears to be a trend toward an increase in the incidence of adenocarcinoma (Fernandes et al., 2006).

Europe. A clear upward trend was observed in the incidence of oesophageal adenocarcinoma, and in Denmark and Scotland the incidence in men is now higher than that of squamous-cell carcinoma. Squamous-cell carcinoma remains the prevalent histological type in southern Europe. Changes in smoking habits and alcohol drinking for men, and perhaps nutrition, diet and physical activity for both sexes, can partly or largely explain these trends (Bosetti et al., 2007).

Europe-Italy. An interdisciplinary committee of endoscopists, pathologists and information technology experts was established in 2004 to design a website-based Barrett’s Oesophagus Registry for the Veneto Region and neighbouring north-eastern Italian provinces. Protocols for endoscopies and biopsies and standard reports were carefully defined (Zaninotto et al., 2007).

Stomach Cancer

Asia-China. A declining trend in was observed the mortality of esophageal and gastric cancer in Linzhou (Sun et al., 2007).

Asia-China. A decreasing trend for the incidence and mortality of stomach cancer has been observed in Zhaoyuan County (Wang et al., 2007).

Asia-Turkey. In a developing country with a high H. pylori prevalence, contrary to developed countries, the ratio of distal versus proximal gastric adenocarcinomas has not changed over time. Geographical distribution should be taken into the account in projecting changing patterns of gastric cancers (Bor et al., 2007).

Colon and Rectum Cancer

Americas-USA. Colorectal cancer rates decreased in the United States during the 1990s. Decreases were most pronounced among males, among non-Hispanic whites, and for tumors of the sigmoid colon, probably being due to increased use of screening (Cress et al., 2006).

Americas-USA. The Colon Cancer Family Registry supports an evolving research program that is broad and interdisciplinary. The greater scientific community has access to this large and well-characterized resource for studies of colorectal cancer (Newcomb et al., 2007). colorectal cancer incidence in Singapore, with increasing rates among men, and stabilized rates in women (de Kok et al., 2008).

Americas-USA. Good population-based results are due, in part, to the nationwide prospective quality assurance rectal cancer registration (Pahlman et al., 2007).

Asia-Israel. A trend for increase in right colorectal cancer in Jews aged > or =65 years. The proportion and amount of colorectal cancer increased most significantly in older women, which was partially explained by their increasing numbers and by colorectal cancer occurring in recent immigrants from Russia, who are at high-risk (Rozen et al., 2007a).

Asia-Israel. Comparing 1982-1984 to 2000-2002, the proportion of right-sided CRC decreased in both genders (p < 0.01) in Arabs. In general, this pattern of increasing rectal and left-sided CRC had been seen over a decade earlier in Jews of Asian-African origin and then their trend reversed during the last decade (Rozen et al., 2007b).

Asia-Singapore. Despite the dramatic increase in incidence of colorectal cancer in Singapore, there has also been significant progress in survival of colorectal cancer patients with localized disease (limited to large bowel), with 5-year, age-standardized relative survival improving from 36 to 66% in men and 32 to 71% in women; in rectal cancer, improvements from 25 to 66% in men and 23 to 66% in women were also observed (Wong and Eu, 2007).

Asia-Thailand. A slight increase in the incidence of colorectal cancer in Khon Kaen province, while rates for stomach cancer remained quite stable (Suwanrungruang et al., 2006).

Europe-Germany. Comparisons of colon and rectal
cancer rates in East and West Germany the colon-rectum cancer ratio is positively associated with the overall incidence of colorectal cancer with a stronger association among women than men (Stang et al., 2007).

**Europe-Italy.** From specialised registry findings, despite the increasing incidence of colorectal cancer, there are several reasons for cautious optimism. Most of the lesions are now diagnosed at an early stage, and this is associated with a significant increase of survival (Ponz de Leon et al., 2007).

**Europe-Denmark.** Survival and mortality from colon and rectal cancer improved before the National Cancer Plan was proposed; after its implementation, however, improvement has been observed for rectal cancer only (Iversen et al., 2007).

**Europe-Finland.** For both colon and rectum cancers, the cure fraction has increased dramatically over time for all age groups. The reasons for these impressive increases in patient survival are complex, but are highly likely to be strongly related to many improvements in cancer care over this same time period (Lambert et al., 2007).

**Europe-Italy.** Despite risk reduction estimated in most northern-central regions among men and in the large majority of regions among women, the colorectal cancer burden in Italy is expected to remain relevant in the next years (Grande et al., 2007).

**Europe-UK.** Overall, there was an increase in the incidence of colorectal cancer among men aged 50 years and over in SE England, and a decrease among the youngest age groups. In women, there was a clear decrease in incidence among those aged less than 60 years but a slight increase among those aged 60-79 years. Furthermore, there has been a steady decrease in mortality for all ages, larger in women (Sanjoaquin et al., 2007).

**Liver and Pancreas Cancer**

**Africa-Egypt.** HCC analysis in Egypt revealed a higher incidence in males than in females, significant geographic variations among districts, and a higher incidence in Gharbiah than that reported by SEER (Lehman et al., 2007).

**Americas-USA.** Changes of pancreatic cancer mortality in the last three decades in Arkansas remarkably differed by age, sex, and race and were different in patterns from those of the US population (Zhang et al., 2008).

**Asia-Japan.** With data from the Biliary Tract Cancer Registration Committee of the Japanese Society of Biliary Surgery, classification reflected the prognosis (Kayahara and Nagakawa, 2007).

**Asia-Pakistan.** Most patients present with large, multifocal tumours, with poor liver function. Sixty one percent had evidence of prior infection with hepatitis B or C. The advanced stage at presentation, poor background liver function in many and the absence of a national liver transplantation program limit treatment options (Yusuf et al., 2007).

**Europe-France.** In Bas-Rhin, the incidence of hepatocellular carcinoma (histologically verified or not) remained stable from the 1990-91 to 1998-99 periods, but the proportion of cases with underlying viral cirrhosis rose from 9% up to 20% (Binder-Foucard et al., 2007).

**Europe-Denmark.** The decrease in cholangiocarcinoma incidence rates cannot be explained by time trends in known risk factors (e.g., inflammatory bowel disease, diabetes, smoking, or thorotrast), but our findings are consistent with a common etiology for intra- and extrahepatic cholangiocarcinomas (Jepsen et al., 2007).

**Europe-Italy.** Over the study period, incidence remained stable in the United States and most of Europe, except for a notable increase in southern Europe, probably related to hepatitis B and C infection and increasing alcohol intake. Survival increased slightly with time, mainly in southern Europe and was unaffected by sex, but was better in younger patients probably due to greater surveillance for cirrhosis. The survival gap between clinical and population-based series suggests management is better in centers of excellence (Capocaccia et al., 2007).

**Europe-UK.** There was a particularly dramatic reduction in intrahepatic bile duct cancer, over the last three decades of the 20th century in England and Wales, along with a halving of the gallbladder cancer and a 33% reduction of extrahepatic bile duct cancer (West et al., 2006).

**Lung Cancer**

**Americas-USA.** U.S. mesothelioma incidence was 1.11 cases per 100,000 persons. Most cases occurred among older, white males. The proportion of women with peritoneal mesothelioma was triple that of men (14.8% vs 5.4%) (Larson et al., 2007).

**Americas-USA.** The descriptive epidemiologic data indicate that long-term exposure to low-dose NO(x) may play a major role in causing steep increases in past adenocarcinoma of the lung incidence rates; Black males about 50% higher than Whites males and can be explained by the differences in air quality related to residence site and size (Chen et al., 2007).

**Asia-Korea.** Long-term exposure to PM10 as air pollution was significantly associated with female lung cancer incidence in cancer registry data for 7 Korean metropolitan cities (Hwang et al., 2007).

**Asia-Pakistan.** The risk of developing lung cancer increased with age, with a marginally higher risk in the higher socioeconomic categories for men and in the lower socioeconomic categories for women. A higher risk was also observed for men who were residing along the coastal belt, and for ethnicities belonging to Southern Pakistan (Sindhi and Mohajir) residing in Karachi South (Bhurgri et al., 2006b)

**Asia-Saudi-Arabia.** The highest ASR for lung cancer was in Bahrain (34.3 for males, 12.1 for females) followed by Qatar (18.5 and 5.5) and Kuwait (13.8 and 4.0); the lowest rates were in Saudi Arabia (4.8 and 1.3 for females). The mean age at diagnosis for males ranged from 68.7 years in Bahrain to 59.2 years in Oman. Squamous cell carcinoma in males (except in Qatar) and adenocarcinoma in females
were the predominant histological types (Al-Hamdan et al., 2006).

Asia-Taiwan. National Cancer Registration Program results show that the worse the air pollution, the higher the AC rate, regardless of gender. On the other hand, SCC incidence rates did not increase with increasing air pollution (Liaw et al., 2008).

Asia-Turkey. Lung, significant decreasing trend for small cell carcinoma by increasing age, resulting in an excess risk among men younger than age 45 (Elci OC, Akpinar-Elci, 2007).

Europe-Italy. Marked difference in lung cancer figures and trends between sexes suggests that prevention policies have led to changes in smoking habits for men and decrease, while for women they were lacking in efficacy (Inghelmann et al., 2007c).

Europe-Serbia. Vojvodina is a region with increasingly high incidence and mortality rates in comparison to neighboring and European Union (EU) countries both in male and female populations (Petrovi et al., 2006).

Europe-UK. This is lower than both the previously published 55% figure, derived from UK mesothelioma register data 1986-1991, and the 44% figure derived from Scottish mortality data 1981-1999 (Camidge et al., 2006).

Bladder, Prostate, Testis and Penis Cancer

Americas-USA. PSA screening may account for much, but not all, of the observed drop in prostate cancer mortality in the USA (Etzioni et al., 2008).

Americas-USA. Databases from the Surveillance, Epidemiology and End Results (SEER) program of the National Cancer Institute and the International Agency for Research on Cancer (IARC), and the literature on autopsy studies on prostate cancer show that improved cancer registration is needed in developing nations. Clinically significant disease should be distinguished from insignificant disease (Haas et al., 2008).

Asia-Iran. The incidence of prostate cancer in Iran is very low as compared to the Western countries. This can partly be explained by lack of nationwide screening program, younger age structure and quality of cancer registration (Sadjadi et al., 2007).

Asia-Japan. A review of black-white ratios for cancer incidences provided evidence that the lower incidences of bladder cancer in blacks might indeed be arylamine exposure, although other factors could also be involved (Moore, 2006).

Asia-Pakistan. The incidence of testicular cancer is low as in other Asian countries. The histological pattern is predictable except for testicular non Hodgkin lymphoma, probably responsible for the second peak observed in the present series (Mushtaq et al., 2007).

Europe. Excess risk to develop prostate cancer in bladder cancer patients younger than 70 years in five cancer registries in Belgium, The Netherlands and the United Kingdom may be due to detection bias, although a common aetiology may also be present (Kellen et al., 2007).

Europe-Germany. For prostatic and testicular cancer, the TNM category distribution can be used for short-term evaluation of quality assurance projects and in health services research. (Radespiel-Tröger et al., 2008).

Europe-Italy. The existing North-South gradient in prostate cancer incidence seems to be associated with the different spread of the PSA test in different parts of the country (Inghelmann et al., 2007).

Europe-Italy. From 1994 to 2004, 238 patients presented multiple bladder and prostate cancers, synchronous in 74. The increase was mainly accounted for by the detection of prostate cancers during cystectomies performed for bladder carcinoma (Cassetti et al., 2007).

Europe-Norway. Cohort-specific trends in seminoma incidence are similar to cohort-specific trends in non-seminoma incidence, lending support to the conclusion that the subtypes are epidemiologically and etiologically comparable (Bray et al., 2006).

Europe-Sweden. The completeness and correctness of the registration of renal pelvic and ureteral carcinomas are unsatisfactory but in line with registries for some other primary sites. The notification of upper urinary tract tumors among patients with a history of bladder cancer was poor, in particular in patients not treated with surgery (Holming et al., 2007).

Europe-Sweden. A population-based penile cancer register in Sweden with almost complete registration, offers unique possibilities for studies of both epidemiological and clinical aspects (Persson et al., 2007).

Europe-UK. Compared with ‘All White’ men, testis cancer incidence was significantly lower in Indian, Pakistani, Bangladeshi, other Asian, Black Caribbean, Black African, other Black and Chinese men. Prostate cancer incidence was significantly greater in Black Caribbean, Black African, Other Black, Indian, Pakistani, Mixed White and Black Caribbean and Mixed White and Black African groups but less common in Bangladeshi and Chinese men (Jack et al., 2007).

Breast and Ovarian Cancer

Americas-USA. From 1980 through 2006, quantitative and qualitative trends in breast cancer incidence rates, particularly for ER+ tumors, parallel major changes in patterns of mammography screening and use of menopausal hormone therapy (Glass et al., 2007).

Americas-USA. Reductions in breast cancer incidence varied considerably by race/ethnicity, consistent with documented differences in the prevalence and discontinuation of hormone therapy (HT) but do not correspond as well to patterns of mammography use in these groups. The data provide evidence that population-level HT use is a major influence on population-level rates of particular breast cancer subtypes, especially receptor-positive tumors (Hausauer et al., 2007).

Americas-USA. The breast cancer mortality rate for black women in Chicago for 1999-2003 was 49% higher than that of white women, but the disparity is a recent
phenomenon that is increasing rapidly. This lack of progress for black women is perplexing given that self-reported mammography screening rates have been the same for blacks and whites in Chicago since at least 1996 (Hirschman et al., 2007).

**Americas-USA.** In women 50 years or older, rates of invasive breast cancer increased for most subgroups, except Filipinas, and in Japanese until 1998-2000. Rates of breast cancer in situ increased in most subgroups from 1990 to 2002, as did rates of lobular breast cancer for Chinese women (Keegan et al., 2007).

**Americas-USA.** Declines in rates of breast cancer overall and invasive ductal carcinoma were primarily limited to women > or = 50 years of age and to non-Hispanic whites and Asian/Pacific Islanders, and declines in rates of invasive lobular carcinoma were primarily limited to non-Hispanic whites (Li and Daling, 2007).

**Americas-USA.** The profile of breast tumor presentation in Hispanic women in Arizona is consistent with a more aggressive disease pattern and less favorable prognosis than that of non-Hispanic Whites (Martinez et al., 2007).

**Americas-USA.** The incidence of epithelial ovarian cancer in California declined significantly among all age groups examined and among non-Hispanic white and black women, but only to a limited extent in Hispanic and Asian/Pacific Islander women (Morris et al., 2008).

**Americas-USA.** Although the demographic characteristics of primary fallopian tube carcinoma are similar to those of ovarian cancer, stage at diagnosis and the stable trend observed are in contrast to ovarian cancer (Stewart et al., 2007).

**Asia-Egypt.** Breast cancer is the most common cancer among women in Arab countries with a young age of around 50 years at presentation. Locally advanced disease is very common and total mastectomy is the most commonly performed surgery. Awareness campaigns and value of clinical breast examination were validated in the Cairo Breast Cancer Screening Trial. More radiation centers and early detection would optimize care and reduce the currently high rate of total mastectomies. Population-based screening in those countries with affluent resources and accessible care should be implemented (El Saghir et al., 2007).

**Asia-Iran.** The incidence rate of breast cancer in women 50 years at presentation. Locally advanced disease is very common and total mastectomy is the most commonly performed surgery. Awareness campaigns and value of clinical breast examination were validated in the Cairo Breast Cancer Screening Trial. More radiation centers and early detection would optimize care and reduce the currently high rate of total mastectomies. Population-based screening in those countries with affluent resources and accessible care should be implemented (El Saghir et al., 2007).

**Asia-Pakistan.** The incidence of breast cancer in Karachi South (KS) for the period 1995-1997 was the third highest in Asia. The hallmarks were a high reproductive age malignancy involving a higher socio-economic class (Bhurgri et al., 2007).

**Asia-Saudi Arabia.** Considering the growth and aging of population and using conservative estimates for the annual percent change in incidence (increase) and mortality (decrease) by 2025, incidence and mortality cases are expected to increase by about 350% and 160%, respectively (Ibrahim et al., 2008).

**Asia-Singapore.** Patients in the region have a profile of breast cancer that differs from that seen in the West: presentation at a younger age, with more advanced stage and fewer estrogen-positive tumors (Lim et al., 2007).

**Asia-Turkey.** The Breast Diseases Registry system has been implemented as an integrated disease-specific system in order to obtain a comprehensive use of patient health data for research and to support the Breast Cancer Registry as well as provide an ancillary clinical tool (Kosgil and Baykal 2007).

**Europe-Italy.** Different rates of breast cancer incidence in Palermo City and in the other small municipalities of the Province suggest a different pattern of risk as a consequence of different lifestyle and diet modifications in the urban population (Traina et al., 2006).

**Europe-Italy.** Geographical variation in female breast cancer burden can be explained by the unequal distribution of screening. A more widespread screening activity in the southern regions in the future would help to bridge the gap between northern-central and southern regions (Grande et al., 2007).

**Europe-UK.** Although most of the breast cancer screen-detected survival advantage is due to a shift in prognostic index, the mode of detection does impact on survival in patients there is a significant residual survival benefit likely to be due to differences in tumour biology (Wishart et al., 2008).

### Cervical Cancer

**Asia-Korea.** The incidence of cervical cancer in the elderly is increasing, while it is decreasing overall. The health service must emphasize education for the elderly about cervical cancer prevention while concentrating on screening (Jo et al., 2007).

**Asia-Pakistan.** A large proportion of cervical cancer patients in Pakistan (67%) presented in stages II to IV and only 12% presented early at stages 0 or I, emphasizing the need for early detection (Badar et al., 2007). The incidence of cervical cancer in Karachi South (1995-97) reflects a low risk population with a late presentation...
and a high stage disease (Bhurgri et al., 2007b).

Asia-Pakistan. Cancer corpus uteri in Karachi South reflects a moderate risk population, predominantly middle aged with a higher socio-economic status. On the average the malignancy is observed a decade earlier then reported elsewhere (Bhurgri et al., 2007a).

Europe-the Netherlands. In 2003, age-adjusted incidence and mortality in Finland were 4.0 and 0.9 and in the Netherlands 4.9 and 1.4 per 100,000 woman-years, respectively. The decline in mortality in Finland seems to be almost completely related to the screening programme whereas in the Netherlands it was initially considered to be a natural decline (van der Aa et al., 2008).

Thyroid Cancer

Americas-USA. More frequent use of medical imaging has led to increased detection rate of small, subclinical tumours, which in turn accounts for the higher incidence of differentiated thyroid carcinoma (Kent et al., 2007).

Asia-Iran. The country was considered as an endemic, iodine-deficient area, until fairly recently. Iodization of salt was started about 12 years ago, in the nation. Considering the effect of improvement in the iodine intake in previously deficient communities, associated with an increase in the incidence of papillary carcinoma compared to other histologic types, the frequency and distribution of histologic types has closer to what can be seen in iodine-rich areas (Haghpanah et al., 2006).

Lymphoma, Leukemia and Bone Tumors

Americas-USA. Kaposi sarcoma and non-Hodgkin lymphoma incidence declined markedly in the US in recent years, likely reflecting highly active antiretroviral therapy-related improvements in immunity, while incidence of some non-AIDS-defining cancers increased. These trends have led to a shift in the spectrum of cancer among HIV-infected persons (Engels et al., 2008).


Europe-Denmark. The Scandinavian incidence of acute lymphoblastic leukemia increased with the calendar period until 1983, and with the birth cohort until 1980, but incidence has been stable thereafter (Svendsen et al., 2007).

Europe-Germany. The Central Registry for Cutaneous Lymphomas of the German Society of Dermatology for the first time has presented epidemiologic data allowing comparison with other nations for the study of etiological factors and socioeconomic influences (Assaf et al., 2007).

Europe-the Netherlands. Bone tumors in Holland, pathology based registration compared with literature data showed significant differences due to a referral-based institutionally bias, whereas tumor registries only give data for specific tumor types (van den Berg et al., 2008).

Europe-Poland. The incidence of lymphomas in Poland has been described (Gazza et al., 2007).

Childhood Cancers

Americas-Canada. Among diagnostic groups, five-year survival estimates were highest for retinoblastoma (99%), carcinomas and other malignant epithelial neoplasms and malignant melanomas (91%) and for renal tumours (91%); they were poorest for hepatic tumours (68%) and for malignant bone tumours (68%). Survival for childhood and adolescent cancer in Canada has improved substantially since last reported (Ellison et al., 2007).

Americas-USA. The largest available population-based cohort of childhood cancer survivors to include investigation of a wide spectrum of adverse outcomes should provide useful information for counselling survivors, planning long-term clinical follow-up and evaluating the long-term risks likely to be associated with proposed treatment strategies (Hawkins et al, 2007).

Americas-USA. Hospital-based registries for childhood cancer are both feasible and essential in low-income countries, and can be developed using available training programs for data managers and the free online Pediatric Oncology Networked Data Base (www.POND4kids.org) (Howard et al., 2008).

Americas-USA. Between 1992 and 2004, a modest, non-significant increase in the average annual incidence rate overall, significant for hepatoblastomas and melanomas, was observed for all pediatric cancer diagnoses combined (Linabery and Ross, 2008).

Asia-Malaysia. There are significant and important racial differences in the frequency of subtypes of childhood ALL in Malaysia and Singapore (Ariffin et al., 2007).

Asia-Pakistan. Lymphomas and leukaemias are the main bulk of childhood cancers, with malignant tumours being twice more common in males than females (Jamal et al., 2006).

Asia-Taiwan. From the databases of the Birth Registration and Labor Insurance, and National Cancer Registry in Taiwan, maternal occupation with potential exposure to organic solvents during periconception might increase risks of childhood cancers, especially for leukemia (Sung et al., 2007).

Europe-France. In collaboration with 62 population-based cancer registries contributing to the Automated Childhood Cancer Information System (ACCIS), a database has been generated to study incidence and survival of children and adolescents with cancer in Europe. Geographical differences in incidence are caused partly by differences in definition of eligible cases. The observed increase in incidence rates cannot be explained by biases due to the selection of datasets for analyses, and only partially by the registration of non-malignant or multiple primary tumours. Part of the observed differences in survival between the regions may be due to variable completeness of follow-up, but most is probably explained by resource availability and organisation of care (Steliarova-Foucher et al., 2006).

Europe-Germany. All malignancies combined (excluding central nervous system-tumors and neuroblastomas) show a significant trend: +0.7% in western and +1.1% per year in.
eastern Germany. The overall trend in Germany is mostly due to the significant increase in lymphoid leukemia (Spix et al., 2008).

**Europe-Switzerland.** Close collaboration between all paediatric oncologists-haematologists in Switzerland and a university department has allowed the creation of a national population-based cancer registry with detailed clinical information. This allows development of nested research projects on childhood cancer aetiology, management and outcome, both on a national and an international level (Michel et al., 2007).

**Europe-Switzerland.** Incidences of childhood cancers in the Swiss Childhood Cancer Registry are similar to those in neighbouring countries and to data published by regional cancer registries in Switzerland for the same period, suggesting good completeness of registration (Michel et al., 2007).

**Europe-UK.** In adolescent and young British, malignant neoplasms of the central nervous system showed the highest rate (8.5), followed by myeloid and monocytic leukaemia (6.6), lymphoid leukaemia (6.4), malignant bone tumours (5.4) and non-Hodgkin's lymphoma (Geraci et al., 2007).

**Europe-UK.** Using British national data on referral patterns to tertiary paediatric oncology centres, we explored reasons for lower survival rates. Participation in international clinical trials coincided with rapid gains in survival for hepatoblastoma (Pritchard-Jones and Stiller, 2007).

References


APOCPC/UICC-ARO Cancer Registration Consortium
