

Population-based cancer survival in Qidong, People's Republic of China

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Introduction

Qidong, in Jiangsu province on the east coast of China, is located at the mouth of the Yangtze river (*Chang Jiang*), to the north of Shanghai (Fig. 1). It is situated in Shanghai Economic Zone, at latitude 31°40'–32°06' N and longitude 121°22'–121°55' E. It is surrounded by water on three sides like a peninsula, covering an area of about 1600 km², and had a population of 1.16 million around 1994 (population density: 750/km²). The climate is generally warm and moist in spring and summer, pleasantly cool in autumn and slightly cold in winter. The annual temperature is around 14°C, the humidity is >80%, and the annual rainfall is 100–110 cm.

Administratively, there are two towns and six districts directly subordinate to the municipality. Each district is further subdivided into six townships (*Xiang*), each with about fifteen villages (*Cun*). Farming is still the major occupation,

although industrialization has been increasing in recent years.

This report describes survival from selected cancers registered in Qidong Cancer Registry during the period 1982–91.

The Qidong cancer registry

A population-based cancer registry covering the whole region and all its residents has been in existence since 1972, when the Qidong Liver Cancer Institute was established. The main aim of cancer registration in the beginning was to promote epidemiological and etiological research into liver cancer and to monitor treatment outcomes. The data from the cancer registry and the mortality registration system (which was established in 1974 as one of the seven national rural sites for disease monitoring under the supervision of the Ministry of Health of the People's Republic of China) are now widely used not only for epidemiological research into liver cancer, but also for monitoring cancer incidence and mortality for all cancer sites and evaluating cancer control programmes (Chen *et al.*, 1991a).

The registry covers a population of 1.16 million people (1994). The age structure of the population (Fig. 2) is quite different from that generally seen in developing countries, and is more like that of a developed country. The sex ratio is 1018 females to 1000 males. The proportion of subjects aged under 15 years is 18.8%, and the proportion of those aged over 65 years is 8.8%.

The cancer incidence data for the periods 1983–87 and 1988–92 from this registry were published in Volumes VI and VII of *Cancer Incidence in Five Continents* (Parkin *et al.*, 1992, 1997).

Case-finding in the Qidong cancer registry involves both active and passive methods. At district and township hospitals, there are small registries with one full-time physician or health worker from



Figure 1. Map showing location of Qidong

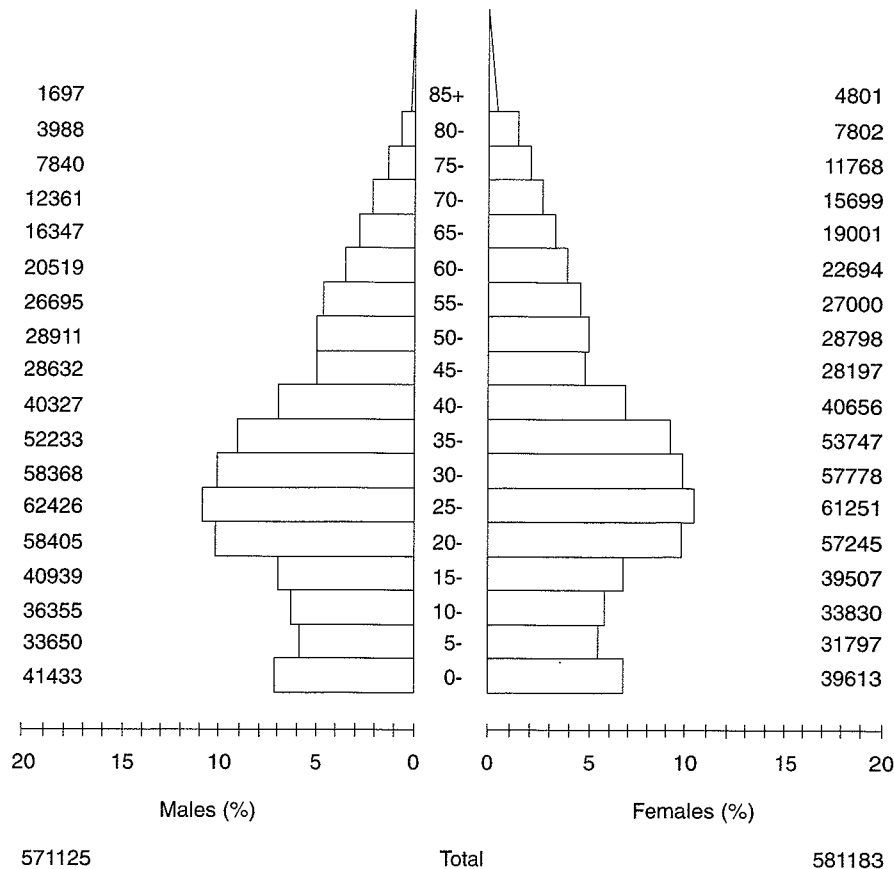


Figure 2. Average annual population of Qidong, 1988–92

the Qidong Anti-Cancer Network acting as one of the registration personnel. The units providing primary care are also responsible for reporting incident cancer cases and cancer deaths in their region. Upon discovering any new patient with cancer in their area, the registration official will first check whether the case is an incident cancer. For confirmed incident cases, details such as name, sex, age at diagnosis, marital status, address and occupation, and basic information on date and basis of diagnosis, treatment, hospital name and outcome are collected using a special form provided by the Qidong registry. When the person eventually dies, at home or in hospital, the registration official adds the date of death to the record. Sometimes the registration official may receive information after the person's death, as a death certificate notification (DCN), rather than at the time of diagnosis, and in this case the person's medical records are reviewed or a home visit is carried out to obtain information.

Because of these efforts to trace cases back, the proportion of cases registered on a death-certificate-only (DCO) basis is very low.

The data collected by the village and district registries are reported each month to the central registry, located in the epidemiology unit of the Qidong Liver Cancer Institute. All data files received from lower-level registries and other hospitals are checked with cancer report lists and DCN cards in order to track down missing cases and exclude duplicate registrations. Until 1985, registry operations and indexing were performed manually. Computers were installed at the cancer registry in 1985, and a computerized database is now available.

Cancer incidence in Qidong

Table 1 gives the crude and age-standardized incidence rates (ASR) of all cancers in males and females in Qidong during the period 1988–92

Table 1. Annual average cancer incidence per 100 000 person-years in Qidong, People's Republic of China, 1988–92

Site	MALES			FEMALES		
	Number	Crude rate	ASR	Number	Crude rate	ASR
Lip	4	0.1	0.1	2	0.1	0.1
Tongue	4	0.1	0.1	6	0.2	0.2
Salivary gland	11	0.4	0.4	3	0.1	0.1
Mouth	8	0.3	0.3	8	0.3	0.2
Oropharynx	1	0.0	0.0	5	0.2	0.1
Nasopharynx	58	2.0	1.9	40	1.4	1.1
Hypopharynx	3	0.1	0.1	0	0.0	0.0
Oesophagus	347	12.2	11.5	181	6.2	4.6
Stomach	1292	45.2	42.7	780	26.8	20.7
Small intestine	15	0.5	0.5	17	0.6	0.4
Colon	64	2.2	2.1	79	2.7	2.0
Rectum	224	7.8	7.4	262	9.0	7.0
Liver	2336	81.8	72.1	648	22.3	19.1
Gallbladder	41	1.4	1.4	37	1.3	1.1
Pancreas	212	7.4	7.0	180	6.2	4.8
Larynx	19	0.7	0.7	2	0.1	0.1
Lung	1053	36.9	35.0	405	13.9	11.0
Bone	46	1.6	1.6	37	1.3	1.1
Connective tissue	9	0.3	0.3	6	0.2	0.2
Melanoma of skin	12	0.4	0.4	11	0.4	0.3
Other skin	40	1.4	1.4	48	1.7	1.1
Breast	3			371	12.8	11.2
Cervix uteri				97	3.3	2.6
Corpus uteri				19	0.7	0.6
Ovary				37	1.3	1.2
Prostate	15	0.5	0.5			
Testis	8	0.3	0.2			
Penis	17	0.6	0.5			
Bladder	118	4.1	4.0	30	1.0	0.7
Kidney	15	0.5	0.5	15	0.5	0.5
Brain, nervous system	97	3.4	3.2	62	2.1	2.0
Thyroid	5	0.2	0.1	17	0.6	0.5
Hodgkin's disease	2	0.1	0.1	1	0.0	0.0
Non-Hodgkin lymphoma	104	3.6	3.7	64	2.2	1.8
Multiple myeloma	37	1.3	1.3	20	0.7	0.5
Lymphoid leukaemia	31	1.1	1.1	20	0.7	0.7
Myeloid leukaemia	53	1.9	1.8	57	2.0	1.8
All sites	6400	224.1	207.1	3691	127.0	102.9
All sites without skin	6360	222.7	205.7	3643	125.4	101.9

ASR: Age-standardized incidence rate (world population).

(Parkin *et al.*, 1997). The overall ASR is twice as high in males (207.1) as in females (102.9). Liver cancer is the most common cancer in both sexes, accounting for 36.5% of male and 17.6% of female cancers. More than two-thirds of the cases occurred in those aged 30–59 years. Qidong has the highest reported incidence rate for hepatocellular carcinoma in the world, in both males and females. Hepatitis B infection has been identified as a major cause of liver cancer in Qidong (Zhu *et al.*, 1989).

The prevalence of hepatitis B surface antigen (HBsAg) in the general population is around 15% (Lu *et al.*, 1987). Aflatoxin exposure is another major risk factor (Fujimoto *et al.*, 1994; Groopman *et al.*, 1995).

The stomach is the second most common cancer site among both sexes and accounts for 20.2% of male and 21.1% of female cancers. This is followed by lung cancer, which constitutes 16.5% of male and 11.0% of female cancers. Liver, stomach and lung

cancers together account for almost three-quarters of all male cancers and half of female cancers in Qidong. Breast cancer (10.1%) is the fourth most common cancer in females. Cervical cancer incidence (ASR: 2.6) is rather low in this population.

Health care services

Health care and social welfare schemes have developed rapidly in Qidong since the 1970s. There is a special office in charge of primary health care activities, as part of the work of the local health bureau. Health care services in Qidong have two systems. One is free of charge for professional persons (teachers, medical staff, scientific researchers, government staff, etc.); the other is the cooperative medical service for all inhabitants. In the near future, the two systems are likely to be merged into a health-insurance-based system.

At the basic level, there are village clinics staffed by one to three health workers with responsibilities in extended primary health care. In each township, there is a hospital with 20–50 beds, with responsibility for primary medical care. At the district level, there is a district hospital with 100–150 beds, where more specialized diagnostic and therapeutic care for various diseases is available. The tertiary care institutions include five city hospitals with 200–500 beds and the Qidong Liver Cancer Institute with 100 beds. All the city hospitals and six district hospitals are State-run; the township hospitals and village clinics are supported by local governments. Public health authorities implement health care projects mainly through hospitals at the four levels of the city, district, township and village — the so-called 'health care network'. In the past, there were almost no private clinics or practitioners in this region. Of late, a few have been established: this is a recent phenomenon accompanying the development of the market-based economy.

Pathology, cytology and haematology diagnostic services are available at all district hospitals, city hospitals and the Qidong Liver Cancer Institute. City hospitals and the Qidong Liver Cancer Institute provide radiological diagnostic facilities for cancer as well as cancer surgery and chemotherapy. Radiotherapy facilities are not available in Qidong, and patients who require this treatment are referred to Shanghai, Nanjing or Nantong.

Early detection and prevention activities

Liver cancer screening has been carried out since 1970, for early detection of liver cancer using the

health care network (Zhu *et al.*, 1989). Between 1972 and 1979, mass screening was carried out in the population using alpha-fetoprotein (AFP) assay. More than two million residents aged 15 years and over participated in this programme. Since the 1980s, a screening programme with AFP assay and testing for HBsAg has been conducted for people aged 30–69 years (Chen *et al.*, 1991b). Several thousand subjects have been subjected to this testing, which has yielded a cohort of HBsAg carriers and non-carriers, who are currently being followed up. A randomized controlled screening trial with serial AFP estimation and ultrasonography was carried out among 5581 male HBsAg carriers, who were identified by screening the high-risk population during the period 1989–95 (Chen *et al.*, unpublished). They were randomly assigned to a screening group ($N=3712$) and a control group ($N=1869$). Although screening resulted in early detection of liver cancer, there was little difference in mortality from liver cancer in the two groups (mortality rate 1138.1 per 100 000 person-years in the intervention group vs. 1113.9 per 100 000 in the control group).

In 1983, a hepatitis B vaccination pilot project started after the hepatitis B virus had been identified as a major cause of liver cancer in this area (Sun *et al.*, 1991; Zhu & Sun, 1996). The target population for the vaccination study was neonates from eight townships in the pilot study, and it was later extended to 26 townships in the area. Vaccinations were given at birth, one month and six months after delivery. This programme was initially supported by the World Health Organization, the Imperial Cancer Research Fund and the Chinese Academy of Medical Sciences, and has now become a part of the extended immunization programme in the area.

Survival analysis

Subjects

A total of 17 331 incident cases in selected cancer sites, registered during the period 1982–91 in Qidong, formed the basis for the survival analysis. The distribution of these cases, the proportion of cases registered on the basis of death certificates only (DCO), the proportion of histologically verified cases and the number of cases ultimately included in the survival analysis for individual cancer sites are shown in Table 2. The percentage of DCO cases is less than 1% for all sites. The proportion of histologically verified cases ranged

Table 2. Cases of cancer registered and data quality indices, Qidong, People's Republic of China, 1982-91

Site	ICD 9	No. of cases registered	Data quality indices		Cases excluded from analysis		Cases included in survival analysis	
			% DCO	% HV	DCO	Others	No.	%
Nasopharynx	147	171	0.0	84.2	0	3	168	98.2
Oesophagus	150	979	0.1	22.0	1	12	966	98.7
Stomach	151	3861	0.2	44.8	9	98	3754	97.2
Small intestine	152	95	0.0	66.3	0	2	93	97.9
Colon	153	256	0.0	67.2	0	17	239	93.4
Rectum	154	831	0.1	75.8	1	21	809	97.4
Colorectum	153-4	1087	0.1	73.8	1	38	1048	96.4
Liver	155	5950	0.7	6.5	40	35	5875	98.7
Pancreas	157	689	0.0	28.6	0	18	671	97.4
Lung	162	2539	0.2	7.0	5	48	2486	97.9
Breast	174	644	0.0	86.7	0	48	596	92.5
Cervix	180	206	0.5	79.1	1	5	200	97.1
Bladder	188	257	0.0	68.9	0	17	240	93.4
Brain, nervous system*	191-2	277	0.4	31.8	1	4	272	98.2
Multiple myeloma	203	134	0.0	51.5	0	3	131	97.8
Myeloid leukaemia	205	134	0.0	71.6	0	6	128	95.5
All leukaemias	204-8	442	0.2	69.9	1	19	422	95.5
Total	-	17331	0.3	29.3	59	350	16922	97.6

DCO: Death certificate only; HV: Histological verification.

* Includes benign and unspecified neoplasms, number not known.

from 6.5% in liver cancer to 86.7% in breast cancer. DCO cases and 350 cases with either no follow-up information or incomplete information on date of diagnosis or death were excluded, leaving 16 922 cases (97.6% of all incident cases) for survival analysis. The proportion of cases excluded varied from 1.3% in oesophageal and liver cancer to 7.5% in breast cancer.

Follow-up methods

A mixture of passive and active methods was employed to collect information on the vital status of subjects. Certificates of death from all causes were matched with the registry database annually as a routine procedure. For cancer patients presumed to be still alive, active follow-up was conducted, which involved house visits by health workers from the village clinics. In a few cases, case records were scrutinized at the data sources to ascertain the subject's vital status.

Analytical methodology (see Chapters 2, 3 and 5)

The index date for calculating the duration of survival was the incidence date. The survival time for each case was the time between the index date and the date of death, or the cut-off date, 31 December

1994. Cumulative observed and relative survival rates were calculated using Hakulinen's method (Hakulinen, 1982; Hakulinen *et al.*, 1994). The expected survival rate for a group of people in the general population similar to the patient group with respect to age, sex and calendar period of observation was calculated using the Qidong life tables for the years 1982-91 (Chen *et al.*, 1996). Age-standardized relative survival (ASRS) was calculated for all ages and for the age group 0-74 years by directly standardizing the site-specific and age-specific relative survival to the site-specific age distributions of the estimated global incidence of major cancers in 1985, to facilitate comparison with other reported survival experiences from other countries.

Results

The cumulative observed and relative survival rates by site and sex are given in Table 3. The survival outcomes for sites such as oesophagus, liver, pancreas, lung, multiple myeloma and leukaemia were poor, with five-year relative survival rates less than 6%. Liver cancer had the lowest survival for both sexes combined: a five-year relative survival of 2%. One-year relative survival was greater than 80%

in the case of breast cancer, and ranged between 50% and 60% for nasopharyngeal, rectal, cervical and urinary-bladder cancers. Five-year relative survival for female breast cancer was 55.7%; it was 28.2% for nasopharyngeal cancer, 24.8% for rectal cancer, 33.6% for cervical cancer and 37.7% for cancer of the urinary bladder.

Survival rates among females were higher than among males for cancers of the nasopharynx and small intestine and lower for bladder cancer and leukaemias. There were minimal differences between the sexes in five-year relative survival for other sites.

Table 4 shows the number of cases and five-year relative survival by age group, as well as the ASRS for all ages and 0–74 years of age. Liver cancer had the lowest survival, with no differences between the age groups. There were no evident trends of survival according to age.

Discussion

Population-based survival data are useful for the evaluation of certain aspects of cancer control programmes, such as early detection, effectiveness of therapy and accessibility to diagnostic and treatment facilities across the region. But they are not easy to obtain, especially in developing countries, owing to the lack of population-based information systems and difficulties in obtaining follow-up information on vital status. In mainland China, cancer incidence data are available from population-based cancer registries in Shanghai (since 1963), Qidong (since 1972) and Tianjin (since 1978). Cancer incidence data from these sources have been published (Parkin *et al.*, 1992). They reveal interesting differences in cancer patterns. This is the first concerted effort to obtain survival estimates in our region.

The Chinese health services, which currently rely heavily on primary health care delivery, not only improve the health of the population, but can also contribute to the establishment of information systems which will help to evaluate the impact of available health care services. Cancer registration and follow-up of cancer patients in Qidong have benefited greatly from this extensive network and from the on-going liver cancer control programmes. The very low proportion of DCO cases and cases lost to follow-up, even for cancers in sites with a poor prognosis, is a reflection of input by this integrated primary health care system.

The survival rates observed in various cancers should be interpreted against the background of

satisfactory case-finding to ensure registration of all diagnosed cases, adequate follow-up and the availability of a dedicated institution for the control of liver cancer. Though our efforts resulted in the detection of an increasing proportion of early liver cancers, the proportion of early-stage liver cancers or those which underwent effective resection was too limited to influence population-based survival.

Mass screening in the general population during the 1970s (Zhu *et al.*, 1989) and selected screening in a high-risk population since 1989 (Chen *et al.*, 1991b) did result in detection of a higher percentage of early-stage cases. In a more recent report from the area, liver cancer screening resulted in early detection (29.6% of 257 liver cancers at stage I in the intervention group vs. 6.0% of 117 liver cancers in the control group of the randomized screening trial), but the five-year survival rates were similar in both groups (Chen *et al.*, unpublished). This may be because there was no effective treatment for the cases detected and/or because the early-stage cases were not sufficiently numerous to influence survival over the cohort as a whole. It may also reflect the fact that patients with liver cancer need other effective therapy besides resection, as the latter offers very little chance for most patients.

Hepatitis B infection has now been established as a major cause of liver cancer in several regions of the world, including China (IARC, 1994). Vaccination against hepatitis B infection to prevent liver cancer seems to have considerable potential. There is some observational evidence of decreasing incidence of liver cancer among children following a hepatitis B vaccination programme in Taiwan (Chang *et al.*, 1997). Future reductions in the liver cancer burden should result from this practical preventive option, now increasingly used by national governments in their extended immunization programmes.

The exceedingly low survival in cases of oesophageal, pancreatic and lung cancer is not surprising in view of the comparable results seen in developed countries with more sophisticated and technologically advanced health care. The poor survival in the case of colorectal cancers is probably due to late presentation. In cancers such as multiple myeloma and leukaemia, intensive chemotherapy-based treatment is important in improving outcome. This is not consistently available in our health services, whose emphasis is more on primary health care for common diseases. The poor survival from these cancers is therefore not surprising.

Table 3. Observed and relative survival by site and sex, Qidong, People's Republic of China, 1982-91

Site	ICD 9	Number included	All ages and both sexes combined						% survival by sex at 5 years of follow-up					
			Observed survival (OS)			Relative survival (RS)			Male			Female		
			1 yr	3 yr	5 yr	1 yr	3 yr	5 yr	Number	OS	RS	Number	OS	RS
Nasopharynx	147	168	56.0	33.3	25.4	57.0	35.4	28.2	113	22.7	24.9	55	30.9	34.8
Oesophagus	150	966	16.4	5.1	3.3	17.1	5.8	4.2	653	3.3	4.2	313	3.2	4.0
Stomach	151	3754	31.6	15.7	11.8	32.7	17.5	14.3	2423	12.3	15.1	1331	11.0	13.0
Small intestine	152	93	31.2	19.4	11.0	32.2	21.4	13.1	41	5.7	6.7	52	14.8	17.9
Colon	153	239	44.4	31.4	26.2	45.8	34.8	31.4	104	25.5	29.8	135	26.9	32.8
Rectum	154	809	48.7	27.1	20.8	50.2	29.9	24.8	355	22.2	26.9	454	19.6	23.1
Colorectum	153-4	1048	47.7	28.1	22.0	49.2	31.0	26.3	459	23.0	27.6	589	21.3	25.3
Liver	155	5875	10.6	3.0	1.9	10.7	3.1	2.0	4574	1.7	1.8	1301	2.6	2.7
Pancreas	157	671	10.1	5.1	4.6	10.5	5.7	5.5	374	4.8	5.8	297	4.3	5.1
Lung	162	2486	13.5	4.1	3.0	14.0	4.6	3.6	1784	2.8	3.4	702	3.5	4.1
Breast	174	596	83.9	63.9	52.3	84.8	66.2	55.7				596	52.3	55.7
Cervix	180	200	57.5	36.5	28.9	59.2	39.9	33.6				200	28.9	33.6
Bladder	188	240	52.5	36.7	30.4	54.6	41.5	37.7	177	35.3	43.7	63	17.1	21.3
Brain, nervous system*	191-2	272	19.5	10.3	7.8	19.7	10.7	8.3	156	7.9	8.5	116	7.5	7.9
Multiple myeloma	203	131	12.2	4.6	2.0	12.6	5.0	2.3	81	1.2	1.4	50	2.9	3.3
Myeloid leukaemia	205	128	21.9	10.9	9.7	22.2	11.4	10.5	72	14.6	15.8	56	3.6	3.8
All leukaemia	204-8	422	16.6	5.9	4.4	16.8	6.2	4.7	234	5.6	6.1	188	3.0	3.2

* Includes benign and unspecified neoplasms, number not known

Five-year relative survival for breast cancer (56%) was the highest among all the sites in our study. The preliminary results of a population-based randomized intervention trial of screening for female breast cancer using breast self-examination in Shanghai, China, indicated no difference between the intervention and the control groups in the proportion of cancer cases diagnosed at an early stage (Thomas *et al.*, 1997). The comparatively higher survival observed in Shanghai is probably due to a high proportion of breast cancers being diagnosed at an early stage, as seen in the above study, possibly because of improved awareness and the extensive network of diagnostic and therapeutic facilities (see Chapter 7). A number of advances in understanding the natural history of breast cancer, awareness among women and physicians, early detection and local and systemic adjuvant therapies have led to varying degrees of improvement in prognosis from this cancer in several European countries (Berrino *et al.*, 1995). These advances have not yet reached all community settings in developing countries. However a focus on early detection by increasing awareness further is likely to improve the results even within the scope of existing treatment facilities.

For cervical cancer, the five-year relative survival was rather low in our setting. Early

diagnosis and treatment should be emphasized to improve outcomes for this cancer.

Though the lack of detail about several clinical factors, particularly information on clinical extent, is a severe limiting factor in our study, the results prompt certain realistic interpretations concerning outcomes from major cancers in our region. We are planning future studies with more information about clinical details in order to establish the outcome of patterns of care in our city.

To summarize, the most common cancers in Qidong occur in the digestive system: liver, stomach, oesophagus, rectum, colon and pancreas. Cancer of the lung, ranking third, shows an increasing trend and may emerge as the second major cancer, overtaking stomach cancer, in the near future (Chen *et al.*, 1991a). The above-mentioned cancer sites accounted for some 85% of all cancers in the population of this region. Unfortunately, survival from these kinds of cancers (except colorectal) is generally very poor everywhere. The low likelihood of further improvements in survival in the range of common cancers in Qidong makes it essential to maintain a strong preventive focus in our cancer control programme in order to reduce the burden from these cancers.

Table 4. Site-specific and age-specific number of cases, five-year relative survival and ASRS, Qidong, People's Republic of China, 1982-91

Site	ICD 9	Number of cases						% Relative survival (RS) at 5 years						RS	ASRS	
		≤34	35-44	45-54	55-64	65-74	75+	≤34	35-44	45-54	55-64	65-74	75+		All ages	0-74
Nasopharynx	147	18	26	46	36	28	14	56.1	25.2	36.0	14.0	15.4	24.0	28.2	25.0	25.2
Oesophagus	150	7	19	86	238	351	265	0.0	0.0	9.7	3.6	3.9	3.1	4.2	4.2	4.6
Stomach	151	103	216	442	979	1226	788	16.9	22.2	22.2	17.7	11.0	3.8	14.3	13.0	17.2
Small intestine	152	4	9	9	20	27	24	25.2	22.7	11.6	21.6	6.7	0.0	13.1	8.5	14.4
Colon	153	16	17	38	49	59	60	44.1	48.0	29.2	35.7	30.3	16.0	31.4	26.7	34.1
Rectum	154	42	66	100	178	242	181	19.3	34.8	35.5	29.8	23.8	6.4	24.8	19.4	28.5
Colorectum	153-4	58	83	138	227	301	241	26.1	37.6	33.7	31.1	25.0	8.6	26.3	21.0	29.6
Liver	155	985	1626	1451	1096	540	177	2.3	2.2	1.5	2.2	2.3	0.0	2.0	1.6	2.1
Pancreas	157	17	45	74	158	239	138	11.9	6.8	4.2	4.8	7.2	1.8	5.5	4.4	6.0
Lung	162	32	98	281	710	884	481	9.5	1.0	4.8	4.3	3.3	2.0	3.6	3.3	3.9
Breast	174	50	163	160	110	73	40	59.8	60.8	62.1	47.0	51.8	23.2	55.7	49.7	55.7
Cervix	180	6	12	32	57	45	48	50.3	42.2	47.4	41.6	28.0	6.9	33.6	37.7	42.0
Bladder	188	4	6	21	71	79	59	50.5	68.3	39.3	43.0	38.3	19.2	37.7	33.0	42.8
Brain, nervous system	191-2	66	38	68	59	29	12	8.8	18.2	7.6	3.7	8.2	0.0	8.3	6.6	8.2
Multiple myeloma	203	14	8	23	28	36	22	7.2	0.0	0.0	0.0	3.4	6.4	2.3	3.5	2.7
Myeloid leukaemia	205	49	20	16	13	18	12	10.8	5.1	19.5	0.0	6.5	25.8	10.5	12.3	9.0
All leukaemia	204-8	163	59	52	52	67	29	5.9	1.7	5.0	4.2	3.6	11.2	4.7	6.0	4.7

ASRS: Age-standardized relative survival

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