

Chapter 4

New Malignancies Following Cancer of the Digestive Tract, Excluding Colorectal Cancer

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Synopsis

The risk of developing a subsequent primary cancer was evaluated in 124,524 patients diagnosed with cancers of the digestive tract (excluding colorectal and anal cancers) between 1973 and 2000. Significant excesses of all new malignancies combined were observed after cancers of the esophagus (O/E=1.38, O=635, EAR=70 per 10,000 person-years) and small intestine (O/E=1.11, O=422, EAR=18) but not after cancers of the stomach (O/E=0.91, O=1,609), liver and intrahepatic bile ducts (O/E=1.05, O=168, EAR=7), gallbladder (O/E=1.10, O=167, EAR=16), extrahepatic bile ducts/other biliary tract (O/E=0.86, O=175), or pancreas (O/E=0.75, O=377). Elevated risks of cancers of the buccal cavity and respiratory tract following esophageal cancer are likely related to tobacco and/or alcohol exposure, with increased risks seen among those with an initial esophageal squamous cell cancer (O/E=1.63) but not those with adenocarcinomas (O/E=0.87). Excesses of new cancers were seen among patients with small intestine adenocarcinomas and sarcomas. Following small intestine adenocarcinoma, the increased risks involved mainly digestive tract cancers, including colorectal cancer, while survivors of small intestine sarcomas had excesses of kidney cancer, as well as soft tissue sarcomas and cutaneous melanoma. Younger patients with small intestine adenocarcinomas, as well as those with stomach cancers, had a pattern of subsequent cancer risk suggestive of genetic syndromes, including hereditary nonpolyposis colorectal cancer. In addition, there were elevated risks of ovarian and pancreatic tumors following gallbladder cancer, and excesses of cancers of the mouth, ovary, kidney, and thyroid following liver cancer. Common etiologic factors may contribute to some patterns of multiple cancers (e.g., alcohol abuse with liver and mouth cancer), while other associations may be related to increased surveillance, difficulties in distinguishing primary from metastatic tumors, or incidental autopsy findings.

Esophageal Cancer

Esophageal cancer accounts for only 1% of incident malignancies in the U.S., but it is the seventh leading

cause of cancer death in men. Death rates are higher among black men compared with white men (Brown and Devesa, 2002; Jemal et al, 2005). More than 90% of esophageal cancers are squamous cell carcinomas (SCE) or adenocarcinomas (ACE). The histologic pattern of the disease has changed significantly over the past 20 years, with the incidence of SCE decreasing in all race and gender groups and incidence of ACE increasing, particularly among white men (Brown and Devesa, 2002). The 5-year relative survival rate is quite low, approximately 14.2%. Surgical resection, radiotherapy, chemotherapy, or a combination of these treatments is used for localized tumors of both histologic types (Enzinger and Mayer, 2003). Combination chemotherapy (cisplatin and 5-fluorouracil), radiotherapy, and stenting are used for palliative therapy (Enzinger and Mayer, 2003).

Tobacco smoking, alcohol abuse, low fruit and vegetable intake, and other correlates of low socioeconomic status may explain 98% of SCE in the U.S. (Brown and Devesa, 2002). Gastroesophageal reflux disease, obesity, smoking, and low intake of fruits and vegetables may account for up to 80% of ACE (Engel et al, 2003). Tylosis, a rare autosomal dominant disorder, is the only recognized familial syndrome that has been associated with SCE (Enzinger and Mayer, 2003).

Results and Discussion

Among the 18,402 patients initially diagnosed with esophageal cancer who survived 2 months or more, there was a 38% increased risk of subsequent primary cancers (O/E=1.38, O=635, 95% CI=1.28-1.49, EAR=70 per 10,000 person-years). The cumulative incidence of developing a second cancer, adjusted for the competing risk of death due to other causes, was 4.0% at 15 years (95% CI=3.7%-4.4%). The elevated risks of new malignancies were seen throughout all follow-up periods. Overall relative and absolute risks were substantially higher for blacks (O/E=1.89, EAR=158) than for whites (O/E=1.28, EAR=52). Excess risks were limited to patients diagnosed with esophageal cancer at ages younger than 70 years and to those with SCE (O/E=1.63, EAR=115), but not ACE (O/E=0.87, EAR=-24). Although the overall relative risk was somewhat higher for females than for males, the excess absolute risks were similar. The elevated risks

Abbreviations: O=observed number of subsequent (2nd, 3rd, etc.) primary cancers; O/E=ratio of observed to expected cancers; CI=confidence interval; PYR=person-years at risk; EAR=excess absolute risk (excess cancers per 10,000 person-years, calculated as [(O-E)/PYR]×10,000).

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were 9- to 17-fold for subsequent oral cancers (tongue, tonsil, mouth, oropharynx, and hypopharynx) and 1.7- to 4-fold for cancers of the respiratory tract (larynx, lung, and bronchus), thyroid, stomach (males only), and small intestine. Significant deficits of prostate cancer were seen following esophageal cancer overall (O/E=0.81), primarily among patients with initial ACE (O/E=0.59) but not SCE (O/E=0.92). The findings are generally consistent with earlier surveys of subsequent cancers after esophageal cancer (Berg et al, 1970; Hoar et al, 1985; Dong and Hemminki, 2001; Matsubara et al, 2003).

Exposure of the epithelial surface along the upper aerodigestive tract to the carcinogenic effects of smoking and drinking contributes to the increased risks of multiple cancers (buccal cavity, larynx, lung) following SCE but not ACE (Ahsan et al, 1997; Hemminki and Jiang, 2002). This field cancerogenic effect is also due to the clonal migration of mutated cells (van Oijen and Slootweg, 2000). These factors also account for the reciprocally increased risk of SCE following initial cancers of the buccal cavity and respiratory tract.

The significantly lower-than-expected rate of prostate cancers following esophageal cancer, particularly among patients with ACE, is not consistent with a previous study indicating a positive association between esophageal cancer (all types combined) and prostate cancer (Hoar et al, 1985). The excess of subsequent thyroid cancers in our study appeared as a result of incidental autopsy findings (4 of 6 cases). Reasons for the increased risk of stomach cancer following SCE and ACE are unclear.

Stomach Cancer

Stomach cancer is the second leading cause of cancer mortality in the world, although in the U.S. it ranks 13th among both men and women (Brown and Devesa, 2002; Jemal et al, 2005). The majority of stomach cancers (85-90%) are adenocarcinomas, with 76% being intestinal type and 13% diffuse type (Henson et al, 2004). During the past 60 years, incidence and mortality rates have declined strikingly in the U.S. and in other industrial countries as a result of decreases in noncardia gastric adenocarcinoma (Brown and Devesa, 2002). In contrast, the incidence rates for cancers in the esophagogastric junction and gastric cardia have increased or remained stable (Brown and Devesa, 2002; Hohenberger and Gretschel, 2003). Stomach cancer occurs more often in men and in minority populations of the U.S. (Brown and Devesa, 2002). Prognosis following stomach cancer has remained poor, with 5-year relative survival rates at 17.0% for gastric cardia cancers and 25.6% for noncardia gastric cancers. For patients with localized disease, surgical removal of the tumor and adjacent lymph nodes offers the only cure, although radiation and chemotherapy are often given (Hohenberger and Gretschel, 2003).

Gastric carriage of *Helicobacter pylori* has emerged as the major risk factor in the development and progression

of chronic atrophic gastritis to intestinal metaplasia, dysplasia, and eventually stomach cancer (Brown and Devesa, 2002). Dietary factors also play a role through poorly refrigerated or preserved foods (e.g., salted, pickled, smoked) and low fruit and vegetable intake. Cigarette smoking has also been linked to stomach cancer (Brown and Devesa, 2002). Changes in the prevalence of these risk factors have probably contributed to the marked decline in noncardia gastric adenocarcinoma. For tumors of the gastric cardia, the risk factors resemble those of ACE, including obesity and gastroesophageal reflux disease (Brown and Devesa, 2002; Engel et al, 2003). Genetic predisposition to stomach cancer may also occur with hereditary nonpolyposis colorectal cancer, familial adenomatous polyposis, familial gastric cancer of the diffuse type caused by germline mutations of E-cadherin (Lindor and Greene, 1998; Graziano et al, 2003), and immunogenetic susceptibility to gastric atrophy caused by proinflammatory cytokines (El-Omar et al, 2003).

Results and Discussion

Among the 39,998 patients who survived at least 2 months after their initial diagnosis of stomach cancer, a significantly reduced risk of subsequent primary cancers was observed (O/E=0.91, O=1,609, 95% CI=0.86-0.95). The estimated cumulative incidence of second cancer was 5.0% at 20 years (95% CI=4.7%-5.3%). The observed number of new malignancies among the 8,847 patients with gastric cardia cancers did not differ from that expected (O/E=0.97), while a significant deficit in risk was seen among 31,151 patients with noncardia gastric cancers (O/E=0.90). The overall risk of subsequent cancers was decreased during the first year after stomach cancer diagnosis and then rose to levels prevailing in the general population for the remaining follow-up intervals. The risk of new cancers did not differ by gender, but blacks had higher risks than whites, with practically all (93%) of the new malignancies among blacks occurring after noncardia gastric cancer (O/E=1.08, O=214). The risks of subsequent primary cancers were increased for patients diagnosed before age 50 years (O/E=1.50, EAR=24), were similar to expected values for those diagnosed at ages 50-69 years (O/E=1.03, EAR=5), and were lower than expected at older ages (≥ 70 years, O/E=0.77). Risks were significantly elevated for new cancers of the small intestine and thyroid and were decreased for cancers of the lip, uterine corpus, and prostate. Our results are consistent with previous surveys of stomach cancer showing either no increased risk or deficits in risk for all second cancers combined (Hoar et al, 1985; Lyng et al, 1985; Buiatti et al, 1997). However, some studies of stomach cancer have suggested elevated risks for certain subsequent cancers, including those of the colon, liver, pancreas, lung, and breast, as well as for lymphoma (Lyng et al, 1985; Ikeda et al, 1995; Neugut and Gold, 1999; Bozzetti et al, 2000; Kinoshita et al, 2000; Dinis-Ribeiro et al, 2002).

Although smoking is generally considered a risk factor for gastric cancer (Engel et al, 2003) and may predispose to subsequent primary cancers (Kinoshita et al, 2000), we found no excess of new malignancies at tobacco-related sites, except for an increased risk of respiratory cancer among stomach cancer patients diagnosed at ages younger than 50 years ($O/E=1.74$, $O=17$). The excess of colorectal cancers among younger patients suggests the influence of genetic factors, such as hereditary nonpolyposis colon cancer, which features certain extracolonic tumors, including gastric cancer (Umar, 2004). The excess cancers of the small intestine and thyroid were most pronounced in the first year of follow-up, suggesting the role of medical surveillance, or incidental tumors seen during the initial medical work-up or at autopsy.

Small Intestine Cancer

Cancer of the small intestine is relatively rare in the U.S., accounting for about 0.4% of incident cancers and 0.2% of cancer deaths (Jemal et al, 2005). Although this site represents 90% of the gastrointestinal surface area, the cancer frequency is less than 3% of all gastrointestinal cancers combined (Neugut et al, 1998; Rustgi, 2002). Adenocarcinomas, carcinoids, lymphomas, and sarcomas account for approximately 95% of malignant tumors of the small bowel (Neugut et al, 1998). Since the mid-1980s, small intestine tumors described as carcinoids NOS (not otherwise specified) have been considered malignant and reportable to the SEER Program. Lymphomas of the small intestine are grouped with other non-Hodgkin lymphomas in this survey and are thus excluded from this chapter. Adenocarcinomas and carcinoids occur more often among males than females, and more often among blacks than whites (Neugut et al, 1998). Five-year relative survival rates for cancers of the small intestine are 24.4% for adenocarcinomas, 78.6% for carcinoids, and 45.1% for sarcomas. Treatments include surgery and adjuvant chemotherapy for adenocarcinomas and carcinoids (Anthony and Kim, 2002; Rustgi, 2002) and surgery for leiomyosarcomas (Rustgi, 2002).

Although the etiology of cancers arising in the small intestine is unclear, adenocarcinomas of the small and large intestine are thought to have similar risk factors (Neugut et al, 1998). Some studies have suggested an effect of obesity, alcohol consumption, and cigarette smoking (Neugut et al, 1998; Kaerlev et al, 2000; Wolk et al, 2001; Samanic et al, 2004). Genetic factors are involved in cases associated with familial adenomatous polyposis, hereditary nonpolyposis colon cancer, and Peutz-Jeghers syndrome (Delaunoy et al, 2005). In addition, small intestine cancer occurs excessively in patients with celiac disease and Crohn's disease (Neugut et al, 1998; Delaunoy et al, 2005).

Results and Discussion

Overall, 422 subsequent primary cancers were observed among 5,432 2-month survivors of cancer of the small intestine, with an overall 11% elevated risk compared

with the general population ($O/E=1.11$, 95% $CI=1.01-1.22$, $EAR=18$). Eleven percent of patients developed a second primary cancer over a 20-year interval (cumulative incidence=10.8%, 95% $CI=9.6\%-12.0\%$). The 2,110 patients with adenocarcinoma of the small intestine had a significant 25% increase in subsequent cancer risk ($O/E=1.25$, $O=137$, $EAR=42$), while no excess was found among 2,332 patients diagnosed with carcinoids ($O/E=1.02$, $O=222$, $EAR=3$). A nonsignificant 23% elevation in subsequent cancer risk was seen in 749 patients with small intestine sarcomas ($O/E=1.23$, $O=48$, $EAR=30$). The risk of new malignancy was increased more than 2-fold when small intestine cancers were diagnosed before 50 years of age, whereas observed numbers did not differ from expectation at older ages. Risks of subsequent cancers did not vary substantially by race, gender, or follow-up interval. Significantly increased risks were observed for new cancers of the small intestine and kidney, as well as melanomas and soft tissue sarcomas. Previous studies using the SEER database have reported elevated risks for colorectal and other digestive tract cancers after small intestine adenocarcinomas, for melanoma after small intestine sarcomas among males only, and for prostate cancer following small intestine carcinoids (Neugut and Santos, 1993). Excesses of subsequent digestive cancers have also been reported in other cancer registry studies (Hoar et al, 1985; Lynge et al, 1985; Neugut and Santos, 1993; Ripley and Weinerman, 1997; Neugut et al, 1998; Neugut and Gold, 1999).

In the current SEER survey, patients with small intestine adenocarcinomas had 2-fold or greater increases in risks of subsequent digestive tract cancers, especially colon cancer, which did not occur in excess following small intestine sarcomas or carcinoids. Since reciprocally increased risks of small intestine cancers were seen following cancers of the colon and other digestive sites, it is likely that shared risk factors are involved (Neugut and Santos, 1993; Neugut et al, 1998). In particular, patients with small intestine adenocarcinoma diagnosed at younger than age 50 years had 10- to 18-fold increased risks for new cancers of the colon and rectum ($O=10$) and corpus uteri ($O=2$), a constellation of tumors associated with hereditary nonpolyposis colon cancer (Umar, 2004). Other genetic syndromes, such as familial adenomatous polyposis and Peutz-Jeghers syndrome, may also predispose to small and large intestine cancers at a young age (Delaunoy et al, 2005).

Both males and females with small intestine sarcoma had an increased risk of cutaneous melanoma, an association previously reported in SEER registries among males only (Neugut and Santos, 1993). This finding was most pronounced among younger patients (ages <50 years, $O/E=24.74$, $O=5$), suggesting genetic or immunologic factors, although some sarcomas and melanomas may be difficult to separate on diagnostic grounds (Matz et al, 2002). The increased risk of renal cancer after small intestine sarcoma is noteworthy, as 3 of the 4 cases had documented leiomyosarcoma of the small intestine, raising the possibility of hereditary leiomyomatosis

associated with renal cell cancer, even though the leiomyomas in this syndrome are primarily cutaneous and uterine (Kiuru et al, 2002).

Liver and Intrahepatic Bile Duct Cancers

Although liver and intrahepatic bile duct cancers account for an estimated 1.3% of incident cancers and 2.7% of cancer deaths in the U.S. (Jemal et al, 2005), they are the fifth most common malignant neoplasm worldwide and the third most common cause of cancer death (Llovet et al, 2003). The incidence and mortality rates for liver and intrahepatic bile duct cancers have been increasing in the U.S. (El-Serag, 2004; Shaib and El-Serag, 2004). Hepatocellular carcinoma (HCC) constitutes the majority of primary liver cancers, followed by intrahepatic bile duct cancer or cholangiocarcinoma (Carriaga and Henson, 1995). Prognosis is especially poor for all forms of primary liver cancer, with a 5-year relative survival rate of 8.2%. Curative surgery and liver transplantation are used to treat the small proportion of liver cancers that are localized and resectable. Treatment options for unresectable tumors include palliative surgery to relieve obstruction of the biliary tree and limited use of adjuvant chemotherapy, radiation, and/or photodynamic therapy (Khan et al, 2002; Valea, 2002).

The major risk factors for HCC include hepatitis B and C virus, chronic alcoholism, and the cirrhosis associated with these exposures. The fungal metabolite aflatoxin B₁ from food sources plays an important role in developing countries. In addition, metabolic diseases such as tyrosinemia, hemochromatosis, and porphyrias contribute to a small proportion of the cancers (Valea, 2002). Recent studies have implicated obesity and diabetes mellitus as conditions predisposing to nonalcoholic steatohepatitis and to HCC (El-Serag, 2004).

Results and Discussion

No overall excess of subsequent primary cancer was observed among the 11,500 patients who survived 2 months or more following cancer of the liver or intrahepatic bile duct (O/E=1.05, O=168, 95% CI=0.90-1.22, EAR=7). Notably, 15% of the new malignancies were diagnosed at autopsy. As with other cancers that are rapidly fatal, the cumulative incidence of developing a second cancer was very low (1.8% at 15 years, 95% CI=1.5%-2.2%). However, the rate of new cancers tended to increase over time, with a nonsignificant 64% excess seen among 200 patients surviving 10 years or more (O=15). Risks for all subsequent cancers combined did not differ substantially by gender, race, or treatment. Significantly elevated risks were observed for new malignancies of the mouth, ovary, kidney, and thyroid, based on small numbers. Among the 1,937 patients diagnosed with liver cancer at ages younger than 50 years, there was a significantly increased risk of all subsequent cancers combined (O/E=3.15, O=23, EAR=40), with 10- to 27-fold elevated risks for cancers of the colon, ovary, and bladder, as well as for acute non-lymphocytic leukemia,

based on fewer than 5 cases each. Common risk factors (e.g., alcohol for oral cavity cancer), incidental autopsy findings (e.g., thyroid cancer), treatment effects (e.g., acute myeloid leukemia), and misdiagnosed metastases (e.g., ovarian and digestive tract cancers) may have contributed to these results. Previous reports of second cancers following primary liver cancer are sparse and based on small numbers (Kaczynski et al, 1995).

Gallbladder Cancer

Gallbladder cancers account for an estimated 0.2% of incident cancers in the U.S., with rates for women being 2 to 6 times higher than for men (Misra et al, 2003). Most tumors (90%) are adenocarcinomas, and the relative survival rate is low (14.9% at 5 years). Surgical resection is used to treat patients with localized disease; therapies for more advanced stages may include palliative surgery, radiation, and chemotherapy (Misra et al, 2003).

Because the major precursor state is cholesterol gallstones, the risk factors for stones resemble those for gallbladder cancer; they include female gender, obesity, parity, and physical inactivity (Lazcano-Ponce et al, 2001). Native Americans have the highest rates of stones and gallbladder cancer in the U.S. (Lazcano-Ponce et al, 2001). The mechanisms by which stones predispose to gallbladder cancer are not entirely clear, but they appear to involve chronic inflammatory processes (Misra et al, 2003).

Results and Discussion

Among the 5,343 patients diagnosed with gallbladder cancer who survived at least 2 months, the subsequent cancer risk did not differ significantly from that expected (O/E=1.10, O=167, 95% CI=0.94-1.27, EAR=16). Overall risks were similar by gender and race. The cumulative incidence of second cancers at 15 years was 3.4% (95% CI=2.9%-4.0%). An increased risk of subsequent ovarian cancers in excess of 4-fold was observed, as reported in a previous SEER survey (Su et al, 1999), and a nearly 3-fold excess of pancreatic cancer was seen, in agreement with a Connecticut registry study (Hoar et al, 1985). In addition, a 12-fold increased risk of subsequent bile duct cancer was noted. Although the associations may result in part from misdiagnosed metastases, it is possible that the increased risk of pancreatic and bile duct tumors was caused by a common etiologic factor such as obesity, or predisposing conditions such as gallstones or sclerosing cholangitis (de Groen et al, 1999).

Other Biliary Tract Cancers

Cancers of other segments of the biliary tract include tumors of the extrahepatic bile ducts and the ampulla of Vater, as well as other and unspecified biliary malignancies. These tumors are more common in men than women, and relative survival is typically poor, 20.0% at 5 years. Surgical resection is the primary treatment for those without metastasis or nodal involvement. Palliative surgery, adjuvant chemotherapy, and radiation are treatment options for unresectable tumors (Khan et al, 2002).

The main risk factor for extrahepatic bile duct cancer is primary sclerosing cholangitis, a chronic autoimmune inflammatory process that is often associated with ulcerative colitis (Cullen and Chapman, 2003). Gallstones also predispose to bile duct cancers (de Groen et al, 1999; Khan et al, 2002). Familial adenomatous polyposis may be associated with ampulla of Vater cancer in some cases (Lillemoe, 2003).

Results and Discussion

Among the 5,498 patients who survived 2 months or longer following a diagnosis of other biliary cancer, a total of 175 subsequent primary cancers were observed, yielding a significant deficit in risk (O/E=0.86, 95% CI=0.74-1.00). The cumulative incidence of second cancers was estimated at 3.8% at 15 years (95% CI=3.2%-4.4%). Overall, 65 new malignancies were observed among 3,110 patients with extrahepatic bile duct cancer (O/E=0.78, 95% CI=0.61-1.00); 108 subsequent malignancies occurred among 1,961 patients with carcinoma of the ampulla of Vater (O/E=0.94, 95% CI=0.77-1.14); and 2 new malignancies were observed among 427 patients with other/unspecified biliary tumors. Overall, a significant increased risk of subsequent rectal cancer (excluding rectosigmoid junction) was found (O/E=2.28, O=12), especially among patients with an initial diagnosis of ampulla of Vater cancer (O/E=2.76, O=8). In the reverse direction, there were significant increased risks for extrahepatic bile duct cancer (O/E=1.41, O=86) and ampulla of Vater cancer (O/E=1.45, O=52) after colorectal cancer. These associations are consistent with previous SEER evaluations that reported an elevated risk of colorectal cancers after extrahepatic bile duct and/or ampulla of Vater cancer (Su et al, 1999; Das et al, 2004), as well as an excess of these cancers after colorectal cancer (Hatch et al, 1992; Su et al, 1999). These findings suggest the influence of a genetic susceptibility syndrome, such as hereditary nonpolyposis colon cancer or familial adenomatous polyposis (de Groen et al, 1999), or a predisposing condition, such as sclerosing cholangitis (de Groen et al, 1999). Contrary to an earlier report (Hatch et al, 1992), there was no elevation in the risk of ovarian cancer following cancers of the ampulla of Vater in this extended follow-up study. Prior reports have also shown no excess risk for cancers of the breast, female genital organs, or for smoking-related aerodigestive tract cancers after extrahepatic and ampullary biliary tract cancers (Su et al, 1999).

Pancreatic Cancer

Pancreatic cancer is estimated to be the eleventh most frequent incident cancer, and the fourth most common cause of cancer mortality for men and women in the U.S. (Jemal et al, 2005). More than 90% of pancreatic cancers are ductal adenocarcinomas, with islet-cell tumors constituting about 5% (Mayer, 2005). The incidence of pancreatic cancer is higher in men compared with women, and in blacks compared with whites (Ries et al, 2004). Pancreatic cancer is most often diagnosed at advanced stages, resulting in a 5-year relative survival rate of only 4.3%. For patients

with localized disease, surgical resection of the pancreas offers the only effective treatment; palliative treatments, such as surgery for biliary decompression and adjunctive radiation and chemotherapy (fluorouracil), are used for nonresectable tumors (Mayer, 2005).

Of the few risk factors that have been identified, cigarette smoking is the most consistent (Mayer, 2005). Diabetes mellitus (Huxley et al, 2005) and chronic pancreatitis also predispose to the disease (Lowenfels et al, 1999). An association with obesity has been reported in several studies (Berrington de Gonzalez et al, 2003), but the effect of dietary factors and physical activity is unclear. Genetic susceptibility plays a role, with some cases being familial or related to hereditary melanoma, Peutz-Jeghers syndrome, hereditary breast or ovarian cancer, familial pancreatitis, or hereditary nonpolyposis colon cancer (Hansel et al, 2003).

Results and Discussion

Among 38,351 2-month survivors of pancreatic cancer, a deficit in risk of subsequent primary cancers was observed (O/E=0.75, O=377, 95% CI 0.67-0.82). Nearly 16% of the 377 new malignancies were diagnosed at autopsy. The cumulative incidence of second cancer was very low, 1.0% at 10 years (95% CI=0.9%-1.1%), consistent with very poor survival rates. The 578 patients diagnosed with primary islet-cell tumors had fewer new malignancies than expected (O/E=0.85, O=23). Males had a rate of subsequent cancer that was similar to that of females, while risks appeared to be somewhat higher in blacks (O/E=0.96) than whites (O/E=0.68). A 27% nonsignificant increase in subsequent cancer risk was observed among those who were younger than age 50 years when diagnosed with pancreatic cancer. Over all ages combined, risks were significantly increased for subsequent cancers of the small intestine and thyroid, but deficits in risk were seen for cancers of the colon, liver, respiratory tract, uterine corpus, and bladder, as well as myeloma. In 2 other registry-based studies of pancreatic cancer, the risk of second cancers did not differ from that of the general population (Hoar et al, 1985; Lynge et al, 1985), although significant deficits were noted in a third study (Dong and Hemminki, 2001).

The extremely poor survival associated with pancreatic cancer impedes the detection of new primaries and likely explains the deficits in risk for many cancers. The elevated risk of new thyroid tumors was related to incidental findings at autopsy (10 of 12 thyroid cancers), while misclassified metastases probably explained the increased risk for small intestine cancer, which was limited to the early follow-up period. Cigarette smoking may underlie the elevated risk of lung cancer following pancreatic cancer among patients diagnosed at younger than 50 years of age (O/E=2.84, O=7), especially because a reciprocal increased risk of subsequent pancreatic cancer was associated with other smoking-related cancers (lung, head and neck, and bladder) in a previous SEER survey (Neugut et al, 1995; Neugut and Gold, 1999). Although an elevated risk of pancreatic cancer has been reported in

melanoma-prone families (Goldstein et al, 1995) and in patients with early-onset melanoma in an earlier SEER study (Schenk et al, 1998), we found no evidence in the current SEER data of a significantly increased risk of melanoma after pancreatic cancer at any age.

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Esophagus Both Sexes

Table 4.1.1: Characteristics of patients with an initial cancer of the esophagus, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	13,496	100.0	4,906	100.0	18,402	100.0
Initial treatment						
Any radiation	8,901	66.0	3,310	67.5	12,211	66.4
With surgery	2,066	15.3	585	11.9	2,651	14.4
Without surgery	6,835	50.6	2,725	55.5	9,560	52.0
No radiation	4,595	34.0	1,596	32.5	6,191	33.6
With surgery	2,315	17.2	685	14.0	3,000	16.3
Without surgery	2,280	16.9	911	18.6	3,191	17.3
Race						
White	10,070	74.6	3,763	76.7	13,833	75.2
Black	2,590	19.2	960	19.6	3,550	19.3
Other	825	6.1	178	3.6	1,003	5.5
Unknown	11	0.1	5	0.1	16	0.1
Age at 1st primary cancer diagnosis, years						
< 30	21	0.2	7	0.1	28	0.2
30–49	1,251	9.3	285	5.8	1,536	8.3
50–69	7,704	57.1	2,343	47.8	10,047	54.6
70–79	3,373	25.0	1,366	27.8	4,739	25.8
≥ 80	1,147	8.5	905	18.4	2,052	11.2
Number of patients with one or more primary cancers						
One primary cancer only	13,066	96.8	4,759	97.0	17,825	96.9
1st and 2nd cancers	388	2.9	139	2.8	527	2.9
1st, 2nd, and 3rd cancers	37	0.3	6	0.1	43	0.2
1st, 2nd, 3rd, and additional cancers	5	0.0	2	0.0	7	0.0
Other statistics						
Median age at 1st cancer diagnosis	65.2	—	68.7	—	66.2	—
Median year of 1st cancer diagnosis	1989.1	—	1987.8	—	1988.8	—
Median person-years at risk	0.5	—	0.6	—	0.6	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	94.9	—	90.5	—	93.8
1st, 2nd, and additional cancers	—	94.4	—	89.8	—	93.2
1st cancer only	—	4.0	—	6.1	—	4.5

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Table 4.1.2: Risk of subsequent primary cancers after cancer of the esophagus, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	197	1.23*	296	1.57*	94	1.31*	48	1.22	635	459.74	1.38*	70.18
All excluding same site	196	1.24*	294	1.59*	93	1.31*	48	1.23	631	453.53	1.39*	71.07
Buccal cavity, pharynx	39	8.33*	46	8.94*	21	11.95*	11	12.66*	117	12.46	9.39*	41.86
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.76	0.00	-0.70
Tongue	7	7.56*	14	13.48*	6	16.73*	0	0.00	27	2.50	10.81*	9.81
Salivary gland	1	2.83	1	2.44	1	6.37	0	0.00	3	1.01	2.97	0.80
Mouth	12	9.96*	15	11.42*	3	6.72*	1	4.56	31	3.18	9.74*	11.14
Nasopharynx	0	0.00	1	4.98	0	0.00	0	0.00	1	0.49	2.06	0.21
Tonsil	6	12.56*	9	17.29*	5	29.57*	1	12.99	21	1.24	16.88*	7.91
Oropharynx	2	13.85*	2	12.55*	1	18.46	0	0.00	5	0.38	13.03*	1.85
Hypopharynx	8	14.76*	4	6.82*	4	21.01*	7	80.01*	23	1.41	16.36*	8.65
Digestive system	47	1.30	52	1.27	11	0.70	11	1.26	121	101.41	1.19	7.85
Esophagus	1	0.43	2	0.79	1	1.11	0	0.00	4	6.20	0.64	-0.88
Stomach	12	2.95*	10	2.25*	2	1.23	2	2.24	26	11.04	2.36*	5.99
Small intestine	2	4.01	3	5.04*	0	0.00	1	7.48	6	1.46	4.10*	1.82
Colon	21	1.35	21	1.17	2	0.29	4	1.00	48	44.47	1.08	1.41
Rectum, rectosigmoid junction	5	0.81	8	1.14	2	0.78	1	0.73	16	17.07	0.94	-0.43
Anus, anal canal	1	3.44	0	0.00	0	0.00	0	0.00	1	0.84	1.19	0.06
Liver	0	0.00	1	0.62	0	0.00	0	0.00	1	3.94	0.25	-1.18
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	1.18	0.00	-0.47
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	1	4.69	1	2.14	0.47	-0.46
Pancreas	5	1.16	4	0.81	3	1.59	2	1.89	14	12.18	1.15	0.73
Respiratory system	39	1.28	89	2.57*	27	2.12*	7	1.04	162	84.55	1.92*	31.02
Nose, nasal cavity, ear	0	0.00	1	3.68	0	0.00	0	0.00	1	0.67	1.50	0.13
Larynx	7	3.03*	10	3.94*	4	4.65*	2	4.85	23	6.11	3.76*	6.76
Lung, bronchus	32	1.15	77	2.42*	23	1.96*	4	0.64	136	77.56	1.75*	23.40
Female breast	7	0.78	16	1.41	5	1.05	2	0.75	30	27.79	1.08	3.01
Female genital system	2	0.47	3	0.59	1	0.49	1	0.92	7	12.48	0.56	-7.45
Cervix uteri	1	1.91	0	0.00	1	4.68	0	0.00	2	1.42	1.40	0.78
Corpus uteri	1	0.47	2	0.77	0	0.00	0	0.00	3	6.30	0.48	-4.48
Ovary	0	0.00	1	0.68	0	0.00	1	2.97	2	3.62	0.55	-2.21
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.30
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.61	0.00	-0.83
Male genital system	31	0.78	44	0.92	12	0.65	8	0.79	95	115.84	0.82	-11.83
Prostate	31	0.79	42	0.89	12	0.66	8	0.80	93	114.82	0.81*	-12.39
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.19
Urinary system	15	1.13	20	1.29	7	1.18	1	0.30	43	38.01	1.13	2.00
Urinary bladder	10	1.09	15	1.40	5	1.22	1	0.43	31	26.35	1.18	1.86
Kidney parenchyma	5	1.53	2	0.52	2	1.36	0	0.00	9	9.41	0.96	-0.16
Renal pelvis, other urinary	0	0.00	3	3.27	0	0.00	0	0.00	3	2.26	1.33	0.30
Ureter	0	0.00	1	3.34	0	0.00	0	0.00	1	0.74	1.36	0.11
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.36	0.00	-0.14
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	1.73	0.00	-0.69
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-0.22
Melanoma of skin	2	0.64	6	1.52	2	1.31	0	0.00	10	9.45	1.06	0.22
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.24
Brain, central nervous system	1	0.66	2	1.12	0	0.00	0	0.00	3	4.30	0.70	-0.52
Thyroid	4	5.92*	2	2.52	0	0.00	0	0.00	6	1.90	3.17*	1.64
Lymphatic, hematopoietic	5	0.43	8	0.59	4	0.76	5	1.68	22	33.32	0.66*	-4.53
Hodgkin lymphoma	0	0.00	1	2.47	0	0.00	0	0.00	1	0.98	1.02	0.01
Non-Hodgkin lymphoma	3	0.61	4	0.67	1	0.43	2	1.49	10	14.53	0.69	-1.82
Myeloma	1	0.46	1	0.40	1	1.02	2	3.65	5	6.22	0.80	-0.49
Leukemia	1	0.25	2	0.43	2	1.11	1	0.98	6	11.58	0.52	-2.24
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.12
Chronic lymphocytic	0	0.00	1	0.53	0	0.00	1	2.50	2	4.67	0.43	-1.07
Acute non-lymphocytic	0	0.00	1	0.64	1	1.63	0	0.00	2	3.88	0.52	-0.75
Chronic myeloid	0	0.00	0	0.00	1	4.07	0	0.00	1	1.59	0.63	-0.24

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 7,357 PYR and for male cancers on 17,615 PYR.

Esophagus Females

Table 4.1.3: Risk of subsequent primary cancers after cancer of the esophagus, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
	4,906	2,543										
			1,974	3,029	375	1,184	129	601	4,906	7,357		
All subsequent cancers	45	1.35	74	1.78*	25	1.41	13	1.26	157	102.94	1.53*	73.48
All excluding same site	44	1.33	74	1.79*	24	1.36	13	1.27	155	102.17	1.52*	71.81
Buccal cavity, pharynx	12	19.64*	14	18.85*	8	26.37*	4	24.30*	38	1.82	20.86*	49.18
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.17
Tongue	1	7.54	6	37.20*	2	30.28*	0	0.00	9	0.40	22.74*	11.70
Salivary gland	0	0.00	1	12.70	1	30.18	0	0.00	2	0.19	10.26*	2.45
Mouth	4	18.73*	5	19.29*	1	9.36	1	16.65	11	0.64	17.20*	14.08
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.10
Tonsil	3	53.10*	2	30.31*	2	80.08*	0	0.00	7	0.16	44.19*	9.30
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.06
Hypopharynx	3	68.84*	0	0.00	1	48.61	3	318.17*	7	0.13	55.34*	9.34
Digestive system	10	1.20	8	0.78	4	0.90	2	0.73	24	25.75	0.93	-2.38
Esophagus	1	3.89	0	0.00	1	7.71	0	0.00	2	0.77	2.60	1.67
Stomach	1	1.46	0	0.00	0	0.00	0	0.00	1	2.08	0.48	-1.46
Small intestine	1	8.94	0	0.00	0	0.00	0	0.00	1	0.36	2.78	0.87
Colon	5	1.21	3	0.59	1	0.44	2	1.43	11	12.92	0.85	-2.60
Rectum, rectosigmoid junction	1	0.78	5	3.21*	1	1.54	0	0.00	7	3.86	1.81	4.27
Rectum	0	0.00	5	4.91*	1	2.35	0	0.00	6	2.53	2.38	4.72
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.43
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.57	0.00	-0.77
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.57	0.00	-0.77
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-0.75
Pancreas	1	0.91	0	0.00	0	0.00	0	0.00	1	3.45	0.29	-3.33
Respiratory system	7	1.61	19	3.37*	3	1.21	2	1.38	31	13.91	2.23*	23.23
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.19
Larynx	0	0.00	2	10.99*	0	0.00	1	27.43	3	0.44	6.80*	3.48
Lung, bronchus	7	1.69	16	2.97*	3	1.27	1	0.72	27	13.29	2.03*	18.63
Female breast	7	0.78	16	1.41	5	1.05	2	0.75	30	27.79	1.08	3.01
Female genital system	2	0.47	3	0.59	1	0.49	1	0.92	7	12.48	0.56	-7.45
Cervix uteri	1	1.91	0	0.00	1	4.68	0	0.00	2	1.42	1.40	0.78
Corpus uteri	1	0.47	2	0.77	0	0.00	0	0.00	3	6.30	0.48	-4.48
Ovary	0	0.00	1	0.68	0	0.00	1	2.97	2	3.62	0.55	-2.21
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.30
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.61	0.00	-0.83
Urinary system	2	1.24	7	3.43*	1	1.12	0	0.00	10	5.10	1.96	6.67
Urinary bladder	0	0.00	3	2.49	1	1.89	0	0.00	4	3.02	1.32	1.33
Kidney parenchyma	2	3.88	2	3.02	0	0.00	0	0.00	4	1.64	2.44	3.21
Renal pelvis, other urinary	0	0.00	2	11.55*	0	0.00	0	0.00	2	0.43	4.62	2.13
Ureter	0	0.00	1	19.18	0	0.00	0	0.00	1	0.13	7.66	1.18
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.12
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.41	0.00	-0.56
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.06
Melanoma of skin	1	1.91	1	1.47	0	0.00	0	0.00	2	1.66	1.21	0.46
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.19
Brain, central nervous system	0	0.00	1	2.47	0	0.00	0	0.00	1	0.99	1.01	0.02
Thyroid	1	4.01	1	3.26	0	0.00	0	0.00	2	0.74	2.70	1.71
Lymphatic, hematopoietic	2	0.78	2	0.62	2	1.40	1	1.14	7	8.12	0.86	-1.53
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.29
Non-Hodgkin lymphoma	1	0.85	2	1.32	0	0.00	0	0.00	3	3.77	0.79	-1.05
Myeloma	0	0.00	0	0.00	1	3.65	1	6.06	2	1.56	1.28	0.60
Leukemia	1	1.21	0	0.00	1	2.24	0	0.00	2	2.57	0.78	-0.78
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.10
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	0.00	-1.37
Acute non-lymphocytic	0	0.00	0	0.00	1	6.37	0	0.00	1	0.90	1.11	0.13
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.36	0.00	-0.49

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.1.4: Risk of subsequent primary cancers after cancer of the esophagus, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	152	1.19*	222	1.52*	69	1.28	35	1.20	478	356.80	1.34*	68.81
All excluding same site	152	1.21*	220	1.53*	69	1.29*	35	1.22	476	351.36	1.35*	70.76
Buccal cavity, pharynx	27	6.63*	32	7.26*	13	8.94*	7	9.93*	79	10.64	7.43*	38.81
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.63	0.00	-0.93
Tongue	6	7.56*	8	9.12*	4	13.67*	0	0.00	18	2.10	8.56*	9.02
Salivary gland	1	3.46	0	0.00	0	0.00	0	0.00	1	0.81	1.23	0.11
Mouth	8	8.07*	10	9.49*	2	5.89	0	0.00	20	2.54	7.86*	9.91
Nasopharynx	0	0.00	1	5.82	0	0.00	0	0.00	1	0.42	2.40	0.33
Tonsil	3	7.13*	7	15.40*	3	20.82*	1	15.14	14	1.09	12.89*	7.33
Oropharynx	2	15.51*	2	14.27*	1	21.43	0	0.00	5	0.34	14.80*	2.65
Hypopharynx	5	10.03*	4	7.50*	3	17.67*	4	51.25*	16	1.28	12.50*	8.36
Digestive system	37	1.34	44	1.43*	7	0.63	9	1.51	97	75.66	1.28*	12.12
Esophagus	0	0.00	2	0.90	0	0.00	0	0.00	2	5.44	0.37	-1.95
Stomach	11	3.25*	10	2.76*	2	1.57	2	2.98	25	8.96	2.79*	9.11
Small intestine	1	2.58	3	6.64*	0	0.00	1	10.70	5	1.10	4.53*	2.21
Colon	16	1.41	18	1.40	1	0.21	2	0.77	37	31.56	1.17	3.09
Rectum, rectosigmoid junction	4	0.82	3	0.55	1	0.52	1	1.01	9	13.21	0.68	-2.39
Anus, anal canal	1	5.32	0	0.00	0	0.00	0	0.00	1	0.52	1.92	0.27
Liver	0	0.00	1	0.72	0	0.00	0	0.00	1	3.37	0.30	-1.35
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.61	0.00	-0.35
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	1	6.86	1	1.59	0.63	-0.33
Pancreas	4	1.24	4	1.13	3	2.35	2	2.94	13	8.73	1.49	2.42
Respiratory system	32	1.23	70	2.41*	24	2.34*	5	0.95	131	70.64	1.85*	34.27
Nose, nasal cavity, ear	0	0.00	1	4.66	0	0.00	0	0.00	1	0.53	1.90	0.27
Larynx	7	3.24*	8	3.40*	4	5.09*	1	2.66	20	5.67	3.53*	8.13
Lung, bronchus	25	1.06	61	2.31*	20	2.13*	3	0.62	109	64.27	1.70*	25.39
Male breast	0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.39
Male genital system	31	0.78	44	0.92	12	0.65	8	0.79	95	115.84	0.82	-11.83
Prostate	31	0.79	42	0.89	12	0.66	8	0.80	93	114.82	0.81*	-12.39
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.19
Urinary system	13	1.12	13	0.96	6	1.19	1	0.36	33	32.92	1.00	0.05
Urinary bladder	10	1.22	12	1.26	4	1.12	1	0.50	27	23.32	1.16	2.09
Kidney parenchyma	3	1.09	0	0.00	2	1.70	0	0.00	5	7.77	0.64	-1.57
Renal pelvis, other urinary	0	0.00	1	1.34	0	0.00	0	0.00	1	1.83	0.55	-0.47
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.60	0.00	-0.34
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-0.15
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	1.32	0.00	-0.75
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.51	0.00	-0.29
Melanoma of skin	1	0.38	5	1.53	2	1.62	0	0.00	8	7.79	1.03	0.12
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.26
Brain, central nervous system	1	0.83	1	0.72	0	0.00	0	0.00	2	3.32	0.60	-0.75
Thyroid	3	7.04*	1	2.06	0	0.00	0	0.00	4	1.16	3.46	1.61
Lymphatic, hematopoietic	3	0.33*	6	0.58	2	0.52	4	1.91	15	25.20	0.60*	-5.79
Hodgkin lymphoma	0	0.00	1	3.15	0	0.00	0	0.00	1	0.77	1.30	0.13
Non-Hodgkin lymphoma	2	0.53	2	0.45	1	0.60	2	2.16	7	10.76	0.65	-2.13
Myeloma	1	0.59	1	0.53	0	0.00	1	2.62	3	4.66	0.64	-0.94
Leukemia	0	0.00	2	0.55	1	0.74	1	1.35	4	9.01	0.44	-2.84
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.13
Chronic lymphocytic	0	0.00	1	0.67	0	0.00	1	3.39	2	3.66	0.55	-0.94
Acute non-lymphocytic	0	0.00	1	0.82	0	0.00	0	0.00	1	2.98	0.34	-1.12
Chronic myeloid	0	0.00	0	0.00	1	5.43	0	0.00	1	1.23	0.81	-0.13

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Esophagus

Both Sexes, <60 Years of Age

Table 4.1.5: Risk of subsequent primary cancers after cancer of the esophagus, both sexes, <60 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	48	2.45*	86	2.99*	37	2.23*	30	1.80*	201	81.65	2.46*	135.95
All excluding same site	48	2.51*	86	3.05*	37	2.26*	30	1.82*	201	80.17	2.51*	137.64
Buccal cavity, pharynx	20	19.40*	19	14.56*	13	21.84*	8	18.28*	60	3.37	17.81*	64.51
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.33
Tongue	4	18.17*	7	24.57*	4	30.70*	0	0.00	15	0.73	20.57*	16.26
Salivary gland	1	18.39	0	0.00	0	0.00	0	0.00	1	0.20	4.95	0.91
Mouth	7	25.11*	6	17.54*	2	13.09*	1	9.31	16	0.88	18.16*	17.22
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.18
Tonsil	3	20.24*	4	22.16*	3	39.46*	1	20.82	11	0.45	24.30*	12.01
Oropharynx	1	28.52	0	0.00	0	0.00	0	0.00	1	0.12	8.54	1.01
Hypopharynx	2	15.87*	2	12.74*	3	41.37*	5	97.42*	12	0.41	29.49*	13.21
Digestive system	6	1.50	13	2.30*	2	0.63	5	1.56	26	16.02	1.62*	11.37
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	1.48	0.00	-1.69
Stomach	3	6.62*	3	4.94	1	3.12	0	0.00	7	1.70	4.12*	6.04
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.35
Colon	1	0.72	7	3.38*	0	0.00	1	0.74	9	6.05	1.49	3.37
Rectum, rectosigmoid junction	1	1.35	1	0.93	0	0.00	1	1.80	3	2.96	1.01	0.05
Anus, anal canal	1	17.98	0	0.00	0	0.00	0	0.00	1	0.20	4.96	0.91
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.82	0.00	-0.93
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.15
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	1	15.06	1	0.29	3.49	0.81
Pancreas	0	0.00	2	2.92	1	2.60	2	5.10	5	1.95	2.56	3.47
Respiratory system	11	2.55*	36	5.97*	12	3.63*	6	1.91	65	16.78	3.87*	54.93
Nose, nasal cavity, ear	0	0.00	1	18.08	0	0.00	0	0.00	1	0.15	6.79	0.97
Larynx	3	6.49*	4	6.51*	1	3.33	2	8.56	10	1.61	6.21*	9.56
Lung, bronchus	8	2.11	31	5.80*	11	3.70*	3	1.04	53	14.98	3.54*	43.31
Female breast	1	0.69	1	0.51	1	0.88	1	1.09	4	5.46	0.73	-7.39
Female genital system	0	0.00	0	0.00	0	0.00	1	2.58	1	2.48	0.40	-7.45
Cervix uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	0.00	-2.02
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	1.24	0.00	-6.28
Ovary	0	0.00	0	0.00	0	0.00	1	8.70	1	0.68	1.47	1.62
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.16
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.37
Male genital system	3	0.96	9	1.54	1	0.24	6	1.22	19	18.09	1.05	1.33
Prostate	3	1.00	8	1.40	1	0.24	6	1.23	18	17.77	1.01	0.35
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.30
Urinary system	2	1.35	4	1.79	5	3.97*	1	0.75	12	6.31	1.90	6.48
Urinary bladder	1	1.18	4	3.04	4	5.18*	1	1.12	10	3.82	2.62*	7.04
Kidney parenchyma	1	1.76	0	0.00	1	2.35	0	0.00	2	2.18	0.92	-0.21
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.31	0.00	-0.35
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.10
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.10
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.42
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.31
Melanoma of skin	0	0.00	0	0.00	1	2.23	0	0.00	1	2.38	0.42	-1.57
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.14
Brain, central nervous system	1	3.39	0	0.00	0	0.00	0	0.00	1	1.05	0.96	-0.05
Thyroid	2	11.08*	0	0.00	0	0.00	0	0.00	2	0.60	3.35	1.60
Lymphatic, hematopoietic	2	1.31	1	0.47	2	1.76	2	1.75	7	5.94	1.18	1.21
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.33
Non-Hodgkin lymphoma	1	1.41	1	0.99	0	0.00	1	1.89	3	2.79	1.08	0.24
Myeloma	0	0.00	0	0.00	1	4.68	1	4.61	2	1.08	1.85	1.04
Leukemia	1	2.25	0	0.00	1	2.92	0	0.00	2	1.78	1.12	0.25
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.08
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.73	0.00	-0.84
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.56	0.00	-0.63
Chronic myeloid	0	0.00	0	0.00	1	21.05	0	0.00	1	0.26	3.87	0.84

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 1,982 PYR and for male cancers on 6,796 PYR.

Table 4.1.6: Risk of subsequent primary cancers after cancer of the esophagus, both sexes, 60-69 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	73	1.35*	112	1.57*	31	1.03	12	0.72	228	172.46	1.32*	63.97
All excluding same site	72	1.35*	111	1.58*	30	1.01	12	0.73	225	169.99	1.32*	63.36
Buccal cavity, pharynx	13	7.33*	20	9.81*	5	7.30*	2	6.24	40	4.82	8.30*	40.52
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.63	0.00	-0.72
Tongue	2	5.60	5	12.07*	1	7.05	0	0.00	8	0.98	8.19*	8.09
Salivary gland	0	0.00	1	7.11	1	17.20	0	0.00	2	0.34	5.82	1.91
Mouth	4	8.79*	8	15.58*	0	0.00	0	0.00	12	1.22	9.83*	12.41
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.22
Tonsil	2	10.42*	4	18.94*	2	31.21*	0	0.00	8	0.49	16.29*	8.65
Oropharynx	0	0.00	1	14.37	1	45.60	0	0.00	2	0.16	12.30*	2.12
Hypopharynx	5	21.58*	1	3.88	0	0.00	1	34.24	7	0.60	11.71*	7.37
Digestive system	21	1.88*	18	1.25	3	0.48	4	1.03	46	35.60	1.29	11.97
Esophagus	1	1.13	1	0.97	1	2.66	0	0.00	3	2.47	1.21	0.61
Stomach	5	4.02*	2	1.32	0	0.00	1	2.47	8	3.82	2.09	4.81
Small intestine	2	12.25*	1	4.57	0	0.00	1	17.75	4	0.53	7.48*	3.99
Colon	7	1.56	5	0.84	1	0.37	2	1.09	15	14.98	1.00	0.02
Rectum, rectosigmoid junction	2	0.97	3	1.16	1	0.97	0	0.00	6	6.27	0.96	-0.31
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.31	0.00	-0.36
Liver	0	0.00	1	1.62	0	0.00	0	0.00	1	1.51	0.66	-0.58
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.43
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.70	0.00	-0.80
Pancreas	4	2.93	2	1.14	0	0.00	0	0.00	6	4.34	1.38	1.91
Respiratory system	15	1.30	33	2.30*	11	1.96	0	0.00	59	34.25	1.72*	28.51
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.28
Larynx	4	4.08*	4	3.58	2	5.45	0	0.00	10	2.61	3.84*	8.52
Lung, bronchus	11	1.05	28	2.14*	9	1.73	0	0.00	48	31.32	1.53*	19.21
Female breast	3	1.07	6	1.48	3	1.51	1	0.76	13	10.17	1.28	10.86
Female genital system	1	0.70	1	0.51	0	0.00	0	0.00	2	4.81	0.42	-10.76
Cervix uteri	1	5.80	0	0.00	0	0.00	0	0.00	1	0.52	1.94	1.86
Corpus uteri	0	0.00	1	0.94	0	0.00	0	0.00	1	2.59	0.39	-6.09
Ovary	0	0.00	0	0.00	0	0.00	0	0.00	0	1.35	0.00	-5.18
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.28
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.67
Male genital system	10	0.72	17	0.87	5	0.60	1	0.25	33	45.73	0.72	-20.96
Prostate	10	0.72	17	0.88	5	0.60	1	0.26	33	45.41	0.73	-20.43
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.13
Urinary system	4	0.94	9	1.60	1	0.42	0	0.00	14	13.69	1.02	0.36
Urinary bladder	2	0.71	7	1.84	0	0.00	0	0.00	9	9.28	0.97	-0.32
Kidney parenchyma	2	1.71	1	0.66	1	1.65	0	0.00	4	3.60	1.11	0.46
Renal pelvis, other urinary	0	0.00	1	3.02	0	0.00	0	0.00	1	0.81	1.23	0.22
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-0.31
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.15
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.68
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.12
Melanoma of skin	1	0.96	3	2.10	0	0.00	0	0.00	4	3.39	1.18	0.70
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.25
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	1.66	0.00	-1.91
Thyroid	1	4.16	1	3.33	0	0.00	0	0.00	2	0.71	2.83	1.49
Lymphatic, hematopoietic	1	0.28	2	0.42	1	0.48	2	1.53	6	11.62	0.52	-6.47
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-0.40
Non-Hodgkin lymphoma	1	0.66	2	0.96	0	0.00	1	1.69	4	5.11	0.78	-1.28
Myeloma	0	0.00	0	0.00	0	0.00	1	4.19	1	2.27	0.44	-1.46
Leukemia	0	0.00	0	0.00	1	1.44	0	0.00	1	3.90	0.26	-3.34
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.12
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	1.62	0.00	-1.87
Acute non-lymphocytic	0	0.00	0	0.00	1	4.14	0	0.00	1	1.30	0.77	-0.35
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.53	0.00	-0.61

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 2,608 PYR and for male cancers on 6,074 PYR.

Esophagus

Both Sexes, ≥70 Years of Age

Table 4.1.7: Risk of subsequent primary cancers after cancer of the esophagus, both sexes, ≥70 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	6,791		2,361		329		79		6,791			
Person-years in interval	3,220		3,205		875		212		7,511			
All subsequent cancers	76	0.88	98	1.12	26	1.04	6	1.00	206	205.63	1.00	0.50
All excluding same site	76	0.89	97	1.12	26	1.05	6	1.01	205	203.37	1.01	2.16
Buccal cavity, pharynx	6	3.19*	7	3.88*	3	6.29*	1	9.00	17	4.27	3.98*	16.94
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.84	0.00	-1.12
Tongue	1	2.86	2	5.89	1	11.56	0	0.00	4	0.79	5.04*	4.27
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-0.62
Mouth	1	2.12	1	2.19	1	8.08	0	0.00	3	1.08	2.77	2.55
Nasopharynx	0	0.00	1	17.59	0	0.00	0	0.00	1	0.13	7.41	1.15
Tonsil	1	7.28	1	7.75	0	0.00	0	0.00	2	0.30	6.66	2.26
Oropharynx	1	21.40	1	22.28	0	0.00	0	0.00	2	0.10	19.22*	2.52
Hypopharynx	1	5.43	1	5.82	1	25.95	1	143.73*	4	0.40	9.96*	4.79
Digestive system	20	0.96	21	1.00	6	0.96	2	1.24	49	49.78	0.98	-1.04
Esophagus	0	0.00	1	1.05	0	0.00	0	0.00	1	2.25	0.44	-1.67
Stomach	4	1.68	5	2.16	1	1.53	1	5.89	11	5.52	1.99	7.30
Small intestine	0	0.00	2	7.52	0	0.00	0	0.00	2	0.62	3.21	1.83
Colon	13	1.35	9	0.91	1	0.33	1	1.23	24	23.45	1.02	0.74
Rectum, rectosigmoid junction	2	0.60	4	1.20	1	1.07	0	0.00	7	7.84	0.89	-1.11
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.44
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	1.62	0.00	-2.15
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.91
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	1.16	0.00	-1.54
Pancreas	1	0.41	0	0.00	2	2.70	0	0.00	3	5.89	0.51	-3.84
Respiratory system	13	0.89	20	1.40	4	1.05	1	1.19	38	33.52	1.13	5.96
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.38
Larynx	0	0.00	2	2.48	1	5.19	0	0.00	3	1.90	1.58	1.47
Lung, bronchus	13	0.96	18	1.35	3	0.84	1	1.27	35	31.26	1.12	4.98
Female breast	3	0.63	9	1.69	1	0.61	0	0.00	13	12.16	1.07	3.05
Female genital system	1	0.48	2	0.88	1	1.49	0	0.00	4	5.20	0.77	-4.33
Cervix uteri	0	0.00	0	0.00	1	16.06	0	0.00	1	0.51	1.97	1.78
Corpus uteri	1	0.99	1	0.92	0	0.00	0	0.00	2	2.47	0.81	-1.69
Ovary	0	0.00	1	1.44	0	0.00	0	0.00	1	1.59	0.63	-2.14
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.41
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-1.32
Male genital system	18	0.80	18	0.81	6	1.02	1	0.79	43	52.02	0.83	-19.01
Prostate	18	0.80	17	0.77	6	1.03	1	0.80	42	51.64	0.81	-20.32
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.10
Urinary system	9	1.20	7	0.91	1	0.44	0	0.00	17	18.01	0.94	-1.35
Urinary bladder	7	1.27	4	0.71	1	0.59	0	0.00	12	13.25	0.91	-1.66
Kidney parenchyma	2	1.31	1	0.64	0	0.00	0	0.00	3	3.63	0.83	-0.83
Renal pelvis, other urinary	0	0.00	2	4.15	0	0.00	0	0.00	2	1.14	1.75	1.14
Ureter	0	0.00	1	6.17	0	0.00	0	0.00	1	0.38	2.61	0.82
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.19
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.77	0.00	-1.02
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.23
Melanoma of skin	1	0.68	3	1.88	1	2.03	0	0.00	5	3.68	1.36	1.75
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.34
Brain, central nervous system	0	0.00	2	2.90	0	0.00	0	0.00	2	1.60	1.25	0.54
Thyroid	1	3.93	1	3.91	0	0.00	0	0.00	2	0.59	3.38	1.87
Lymphatic, hematopoietic	2	0.31	5	0.75	1	0.49	1	1.91	9	15.76	0.57	-9.00
Hodgkin lymphoma	0	0.00	1	6.74	0	0.00	0	0.00	1	0.35	2.86	0.87
Non-Hodgkin lymphoma	1	0.37	1	0.35	1	1.14	0	0.00	3	6.64	0.45	-4.84
Myeloma	1	0.83	1	0.82	0	0.00	0	0.00	2	2.87	0.70	-1.16
Leukemia	0	0.00	2	0.80	0	0.00	1	4.98	3	5.90	0.51	-3.86
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.18
Chronic lymphocytic	0	0.00	1	1.03	0	0.00	1	13.04	2	2.31	0.86	-0.42
Acute non-lymphocytic	0	0.00	1	1.17	0	0.00	0	0.00	1	2.02	0.49	-1.36
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.80	0.00	-1.07

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 2,767 PYR and for male cancers on 4,744 PYR.

Esophagus Squamous Cell Carcinoma, Both Sexes

Table 4.1.8: Risk of subsequent primary cancers after squamous cell carcinoma of the esophagus, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	149	1.45*	222	1.87*	72	1.49*	43	1.54*	486	297.71	1.63*	114.53
All excluding same site	148	1.46*	221	1.89*	71	1.49*	43	1.55*	483	293.53	1.65*	115.24
Buccal cavity, pharynx	37	12.04*	43	13.22*	21	18.04*	11	18.10*	112	8.10	13.83*	63.20
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.03	0.00	-0.63
Tongue	7	11.66*	13	20.09*	6	25.38*	0	0.00	26	1.61	16.18*	14.84
Salivary gland	0	0.00	1	4.06	1	9.84	0	0.00	2	0.63	3.20	0.84
Mouth	12	14.71*	13	15.11*	3	9.78*	1	6.34	29	2.14	13.55*	16.34
Nasopharynx	0	0.00	1	7.39	0	0.00	0	0.00	1	0.34	2.97	0.40
Tonsil	6	18.79*	9	27.13*	5	44.31*	1	18.27	21	0.82	25.65*	12.28
Oropharynx	2	20.50*	2	19.44*	1	27.22	0	0.00	5	0.26	19.58*	2.89
Hypopharynx	8	21.46*	4	10.40*	4	30.91*	7	112.28*	23	0.95	24.23*	13.41
Digestive system	29	1.21	31	1.15	9	0.84	10	1.59	79	67.94	1.16	6.73
Esophagus	1	0.63	1	0.60	1	1.64	0	0.00	3	4.18	0.72	-0.72
Stomach	8	2.81*	8	2.65*	2	1.76	2	3.06	20	7.65	2.61*	7.51
Small intestine	1	3.10	3	7.90*	0	0.00	1	10.27	5	0.96	5.20*	2.46
Colon	13	1.27	8	0.68	1	0.21	4	1.38	26	29.75	0.87	-2.28
Rectum, rectosigmoid junction	3	0.75	6	1.35	2	1.17	0	0.00	11	11.10	0.99	-0.06
Anus, anal canal	1	5.21	0	0.00	0	0.00	0	0.00	1	0.56	1.78	0.27
Liver	0	0.00	1	0.97	0	0.00	0	0.00	1	2.61	0.38	-0.98
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.86	0.00	-0.52
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	1	6.56	1	1.37	0.73	-0.23
Pancreas	2	0.68	2	0.61	2	1.52	2	2.58	8	8.30	0.96	-0.18
Respiratory system	31	1.56*	71	3.23*	21	2.46*	6	1.26	129	55.20	2.34*	44.89
Nose, nasal cavity, ear	0	0.00	1	5.82	0	0.00	0	0.00	1	0.44	2.30	0.34
Larynx	5	3.31*	9	5.67*	3	5.30*	1	3.50	18	3.95	4.56*	8.55
Lung, bronchus	26	1.43	60	2.97*	18	2.28*	4	0.90	108	50.68	2.13*	34.86
Female breast	6	0.84	12	1.31	4	1.00	2	0.89	24	22.54	1.06	2.42
Female genital system	1	0.30	2	0.48	1	0.58	1	1.08	5	10.20	0.49	-8.62
Cervix uteri	1	2.26	0	0.00	1	5.57	0	0.00	2	1.20	1.66	1.32
Corpus uteri	0	0.00	1	0.48	0	0.00	0	0.00	1	5.13	0.19	-6.85
Ovary	0	0.00	1	0.84	0	0.00	1	3.50	2	2.94	0.68	-1.56
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.30
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.49	0.00	-0.82
Male genital system	24	1.03	28	1.03	7	0.61	6	0.89	65	68.78	0.95	-3.63
Prostate	24	1.04	26	0.96	7	0.61	6	0.89	63	68.19	0.92	-4.98
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.16
Urinary system	8	1.02	15	1.66	3	0.82	0	0.00	26	22.81	1.14	1.94
Urinary bladder	5	0.93	11	1.79	3	1.20	0	0.00	19	15.53	1.22	2.11
Kidney parenchyma	3	1.50	1	0.43	0	0.00	0	0.00	4	5.84	0.68	-1.12
Renal pelvis, other urinary	0	0.00	3	5.28*	0	0.00	0	0.00	3	1.44	2.09	0.95
Ureter	0	0.00	1	5.53	0	0.00	0	0.00	1	0.46	2.19	0.33
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.14
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	1.10	0.00	-0.67
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.20
Melanoma of skin	2	1.26	3	1.49	0	0.00	0	0.00	5	5.05	0.99	-0.03
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0.00	-0.22
Brain, central nervous system	1	1.08	2	1.88	0	0.00	0	0.00	3	2.65	1.13	0.22
Thyroid	4	9.11*	2	3.91	0	0.00	0	0.00	6	1.25	4.79*	2.89
Lymphatic, hematopoietic	4	0.55	5	0.60	3	0.86	5	2.39	17	21.20	0.80	-2.56
Hodgkin lymphoma	0	0.00	1	4.01	0	0.00	0	0.00	1	0.62	1.60	0.23
Non-Hodgkin lymphoma	2	0.67	2	0.56	1	0.66	2	2.12	7	8.98	0.78	-1.20
Myeloma	1	0.67	1	0.60	1	1.46	2	5.02	5	4.24	1.18	0.46
Leukemia	1	0.39	1	0.34	1	0.85	1	1.41	4	7.36	0.54	-2.04
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.12
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	1	3.61	1	2.95	0.34	-1.19
Acute non-lymphocytic	0	0.00	1	1.03	0	0.00	0	0.00	1	2.47	0.41	-0.89
Chronic myeloid	0	0.00	0	0.00	1	6.18	0	0.00	1	1.02	0.98	-0.01

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 6,029 PYR and for male cancers on 10,412 PYR.

Esophagus Adenocarcinoma, Both Sexes

Table 4.1.9: Risk of subsequent primary cancers after adenocarcinoma of the esophagus, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	43	0.80	64	0.99	19	0.89	5	0.48	131	149.89	0.87	-24.39
All excluding same site	43	0.81	64	1.00	19	0.90	5	0.48	131	148.01	0.89	-21.96
Buccal cavity, pharynx	2	1.33	2	1.13	0	0.00	0	0.00	4	4.05	0.99	-0.06
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.88
Tongue	0	0.00	1	2.74	0	0.00	0	0.00	1	0.83	1.21	0.22
Salivary gland	1	7.77	0	0.00	0	0.00	0	0.00	1	0.36	2.79	0.83
Mouth	0	0.00	1	2.40	0	0.00	0	0.00	1	0.96	1.04	0.05
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.18
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.39	0.00	-0.51
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.15
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.55
Digestive system	18	1.62	16	1.22	2	0.46	1	0.46	37	30.71	1.20	8.12
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	1.88	0.00	-2.43
Stomach	4	3.55	2	1.53	0	0.00	0	0.00	6	3.09	1.94	3.75
Small intestine	1	6.10	0	0.00	0	0.00	0	0.00	1	0.46	2.16	0.69
Colon	8	1.65	11	1.93	1	0.52	0	0.00	20	13.47	1.48	8.42
Rectum, rectosigmoid junction	2	0.99	1	0.42	0	0.00	1	2.75	4	5.50	0.73	-1.94
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.32
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	1.24	0.00	-1.60
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.37
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.71	0.00	-0.92
Pancreas	3	2.34	1	0.66	1	2.00	0	0.00	5	3.54	1.41	1.88
Respiratory system	7	0.71	16	1.35	5	1.31	1	0.55	29	27.25	1.06	2.25
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.28
Larynx	2	2.68	0	0.00	1	3.70	1	8.33	4	2.02	1.98	2.55
Lung, bronchus	5	0.56	16	1.48	4	1.14	0	0.00	25	24.95	1.00	0.06
Female breast	1	0.65	4	2.38	0	0.00	0	0.00	5	3.91	1.28	11.43
Female genital system	1	1.53	1	1.42	0	0.00	0	0.00	2	1.64	1.22	3.77
Cervix uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-1.50
Corpus uteri	1	3.00	1	2.73	0	0.00	0	0.00	2	0.84	2.39	12.22
Ovary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0.00	-5.29
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.29
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.97
Male genital system	4	0.26*	15	0.77	5	0.76	2	0.61	26	44.79	0.58*	-27.65
Prostate	4	0.26*	15	0.78	5	0.77	2	0.62	26	44.38	0.59*	-27.04
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.23
Urinary system	6	1.18	5	0.82	3	1.45	1	0.96	15	14.30	1.05	0.90
Urinary bladder	4	1.11	4	0.92	1	0.67	1	1.31	10	10.20	0.98	-0.26
Kidney parenchyma	2	1.68	1	0.69	2	4.28	0	0.00	5	3.33	1.50	2.16
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.77	0.00	-0.99
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.34
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.16
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.58	0.00	-0.75
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.27
Melanoma of skin	0	0.00	3	1.64	2	3.37	0	0.00	5	4.17	1.20	1.07
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.29
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	1.54	0.00	-1.99
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.58	0.00	-0.75
Lymphatic, hematopoietic	1	0.25	2	0.42	1	0.62	0	0.00	4	11.22	0.36*	-9.32
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.43
Non-Hodgkin lymphoma	1	0.55	1	0.45	0	0.00	0	0.00	2	5.16	0.39	-4.08
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	1.81	0.00	-2.34
Leukemia	0	0.00	1	0.60	1	1.79	0	0.00	2	3.92	0.51	-2.47
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.13
Chronic lymphocytic	0	0.00	1	1.48	0	0.00	0	0.00	1	1.59	0.63	-0.76
Acute non-lymphocytic	0	0.00	0	0.00	1	5.24	0	0.00	1	1.31	0.76	-0.40
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.53	0.00	-0.68

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 952 PYR and for male cancers on 6,796 PYR.

Table 4.2.1: Characteristics of patients with an initial cancer of the stomach, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	24,914	100.0	15,084	100.0	39,998	100.0
Initial treatment						
Any radiation	4,809	19.3	1,765	11.7	6,574	16.4
With surgery	2,381	9.6	882	5.8	3,263	8.2
Without surgery	2,428	9.7	883	5.9	3,311	8.3
No radiation	20,105	80.7	13,319	88.3	33,424	83.6
With surgery	12,880	51.7	8,108	53.8	20,988	52.5
Without surgery	7,225	29.0	5,211	34.5	12,436	31.1
Race						
White	18,783	75.4	11,151	73.9	29,934	74.8
Black	2,866	11.5	1,752	11.6	4,618	11.5
Other	3,225	12.9	2,154	14.3	5,379	13.4
Unknown	40	0.2	27	0.2	67	0.2
Age at 1st primary cancer diagnosis, years						
< 30	125	0.5	108	0.7	233	0.6
30–49	2,328	9.3	1,379	9.1	3,707	9.3
50–69	11,683	46.9	5,084	33.7	16,767	41.9
70–79	7,213	29.0	4,518	30.0	11,731	29.3
≥ 80	3,565	14.3	3,995	26.5	7,560	18.9
Number of patients with one or more primary cancers						
One primary cancer only	23,890	95.9	14,629	97.0	38,519	96.3
1st and 2nd cancers	942	3.8	416	2.8	1,358	3.4
1st, 2nd, and 3rd cancers	73	0.3	39	0.3	112	0.3
1st, 2nd, 3rd, and additional cancers	9	0.0	0	0.0	9	0.0
Other statistics						
Median age at 1st cancer diagnosis	67.8	—	72.3	—	69.4	—
Median year of 1st cancer diagnosis	1987.0	—	1986.9	—	1987.0	—
Median person-years at risk	0.7	—	0.8	—	0.8	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	93.4	—	93.8	—	93.5
1st, 2nd, and additional cancers	—	92.8	—	93.8	—	93.1
1st cancer only	—	6.2	—	4.6	—	5.7

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Stomach Both Sexes

Table 4.2.2: Risk of subsequent primary cancers after cancer of the stomach, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
	39,998	22,066										
			19,462	38,430	5,722	19,888	2,698	14,508	39,998	94,892		
All subsequent cancers	259	0.69*	657	0.96	376	0.96	317	1.00	1,609	1,770.56	0.91*	-17.03
All excluding same site	256	0.70*	646	0.97	369	0.98	308	1.00	1,579	1,718.52	0.92*	-14.70
Buccal cavity, pharynx	11	1.09	11	0.63	6	0.67	7	1.04	35	43.17	0.81	-0.86
Lip	0	0.00	0	0.00	0	0.00	1	1.03	1	6.44	0.16*	-0.57
Tongue	3	1.56	1	0.30	1	0.57	2	1.48	7	8.38	0.84	-0.15
Salivary gland	0	0.00	1	0.67	0	0.00	1	1.39	2	3.90	0.51	-0.20
Mouth	5	1.90	2	0.44	2	0.85	1	0.58	10	11.25	0.89	-0.13
Nasopharynx	1	1.98	1	1.11	1	2.17	1	3.01	4	2.20	1.82	0.19
Tonsil	1	1.11	4	2.63	0	0.00	0	0.00	5	3.73	1.34	0.13
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	1.18	0.00	-0.12
Hypopharynx	0	0.00	1	0.54	1	1.07	1	1.48	3	4.55	0.66	-0.16
Digestive system	60	0.65*	194	1.15	99	1.03	76	1.00	429	432.88	0.99	-0.41
Esophagus	4	0.87	11	1.34	7	1.58	5	1.40	27	20.78	1.30	0.66
Stomach	3	0.26*	11	0.54*	7	0.61	9	1.02	30	52.04	0.58*	-2.32
Small intestine	9	8.09*	5	2.44	1	0.83	2	1.93	17	5.41	3.14*	1.22
Colon	25	0.61*	78	1.05	44	1.02	37	1.08	184	193.06	0.95	-0.95
Rectum, rectosigmoid junction	10	0.64	39	1.41*	13	0.86	17	1.48	79	69.65	1.13	0.99
Anus, anal canal	0	0.00	1	0.79	2	2.77	0	0.00	3	3.23	0.93	-0.02
Liver	2	0.57	4	0.61	3	0.80	2	0.64	11	16.98	0.65	-0.63
Gallbladder	0	0.00	1	0.40	1	0.71	0	0.00	2	6.31	0.32	-0.45
Bile ducts, other biliary	2	1.00	7	1.84	1	0.43	1	0.50	11	10.11	1.09	0.09
Pancreas	5	0.45	37	1.85*	20	1.75*	3	0.33*	65	51.47	1.26	1.43
Respiratory system	31	0.47*	115	0.98	61	0.95	74	1.43*	281	300.00	0.94	-2.00
Nose, nasal cavity, ear	0	0.00	2	1.90	0	0.00	0	0.00	2	2.68	0.75	-0.07
Larynx	4	0.88	5	0.65	6	1.53	7	2.38	22	19.13	1.15	0.30
Lung, bronchus	27	0.44*	108	0.99	54	0.90	67	1.39*	256	277.42	0.92	-2.26
Female breast	24	0.86	55	1.02	35	1.08	13	0.53*	127	139.04	0.91	-3.05
Female genital system	6	0.46*	25	1.01	12	0.85	1	0.10*	44	62.05	0.71*	-4.58
Cervix uteri	1	0.57	1	0.32	2	1.21	0	0.00	4	7.63	0.52	-0.92
Corpus uteri	4	0.63	10	0.84	3	0.45	0	0.00*	17	29.86	0.57*	-3.26
Ovary	1	0.27	9	1.26	4	0.95	1	0.32	15	18.21	0.82	-0.81
Vagina	0	0.00	1	2.08	1	3.54	0	0.00	2	1.21	1.65	0.20
Vulva	0	0.00	4	3.03	1	1.19	0	0.00	5	3.49	1.43	0.38
Male genital system	59	0.72*	124	0.84*	73	0.85	73	0.97	329	390.54	0.84*	-11.09
Prostate	59	0.73*	122	0.83*	73	0.86	73	0.98	327	386.99	0.84*	-10.81
Testis	0	0.00	1	2.49	0	0.00	0	0.00	1	0.95	1.06	0.01
Urinary system	30	0.99	59	1.09	33	1.08	30	1.17	152	140.79	1.08	1.18
Urinary bladder	15	0.70	38	1.00	27	1.26	22	1.21	102	98.94	1.03	0.32
Kidney parenchyma	14	2.01*	15	1.19	4	0.56	6	1.01	39	32.63	1.20	0.67
Renal pelvis, other urinary	1	0.49	6	1.66	2	1.00	2	1.26	11	9.23	1.19	0.19
Ureter	1	1.48	3	2.46	0	0.00	1	1.92	5	3.09	1.62	0.20
Bone, joints	0	0.00	1	1.87	0	0.00	1	4.71	2	1.33	1.50	0.07
Soft tissue including heart	2	1.38	2	0.76	5	3.35*	2	1.59	11	6.83	1.61	0.44
Kaposi sarcoma	0	0.00	1	1.34	0	0.00	0	0.00	1	1.89	0.53	-0.09
Melanoma of skin	5	0.78	8	0.69	6	0.89	5	0.82	24	30.85	0.78	-0.72
Eye, orbit	0	0.00	0	0.00	2	4.41	0	0.00	2	2.14	0.93	-0.02
Brain, central nervous system	1	0.30	7	1.17	3	0.93	3	1.18	14	15.11	0.93	-0.12
Thyroid	9	4.99*	2	0.61	4	2.25	0	0.00	15	8.22	1.83*	0.71
Lymphatic, hematopoietic	17	0.61*	47	0.93	26	0.89	22	0.91	112	131.61	0.85	-2.07
Hodgkin lymphoma	0	0.00	1	0.70	1	1.38	0	0.00	2	3.54	0.57	-0.16
Non-Hodgkin lymphoma	8	0.69	21	0.97	11	0.86	7	0.64	47	57.00	0.82	-1.05
Myeloma	5	0.98	10	1.07	1	0.19	5	1.15	21	24.17	0.87	-0.33
Leukemia	4	0.39	15	0.83	13	1.26	10	1.20	42	46.90	0.90	-0.52
Acute lymphocytic	0	0.00	1	2.07	0	0.00	0	0.00	1	1.23	0.81	-0.02
Chronic lymphocytic	1	0.25	7	1.00	1	0.26	5	1.60	14	17.99	0.78	-0.42
Acute non-lymphocytic	1	0.29	4	0.64	7	1.95	3	1.02	15	16.26	0.92	-0.13
Chronic myeloid	2	1.44	2	0.80	3	2.11	2	1.70	9	6.48	1.39	0.27

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 39,417 PYR and for male cancers on 55,476 PYR.

Table 4.2.3: Risk of subsequent primary cancers after cancer of the stomach, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	78	0.73*	218	1.04	125	0.98	73	0.76*	494	541.73	0.91*	-12.11
All excluding same site	77	0.74*	213	1.04	122	0.98	72	0.77*	484	527.17	0.92	-10.95
Buccal cavity, pharynx	4	2.13	3	0.83	1	0.47	1	0.64	9	9.22	0.98	-0.06
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.67	0.00	-0.17
Tongue	1	2.46	0	0.00	0	0.00	1	2.85	2	2.03	0.99	-0.01
Salivary gland	0	0.00	1	2.46	0	0.00	0	0.00	1	1.04	0.96	-0.01
Mouth	3	4.53	1	0.78	1	1.32	0	0.00	5	3.25	1.54	0.44
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.49	0.00	-0.12
Tonsil	0	0.00	1	3.50	0	0.00	0	0.00	1	0.70	1.44	0.08
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.05
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.53	0.00	-0.14
Digestive system	19	0.64*	64	1.10	43	1.20	21	0.79	147	149.99	0.98	-0.76
Esophagus	2	2.68	2	1.38	1	1.14	2	3.01	7	3.74	1.87	0.83
Stomach	1	0.34	5	0.88	3	0.86	1	0.40	10	14.56	0.69	-1.16
Small intestine	4	11.47*	0	0.00	0	0.00	1	2.75	5	1.86	2.70	0.80
Colon	7	0.48*	35	1.22	23	1.30	13	0.99	78	74.10	1.05	0.99
Rectum, rectosigmoid junction	3	0.67	13	1.53	6	1.20	1	0.28	23	21.53	1.07	0.37
Rectum	2	0.69	8	1.43	3	0.90	0	0.00	13	14.21	0.91	-0.31
Anus, anal canal	0	0.00	0	0.00	2	5.24	0	0.00	2	1.61	1.24	0.10
Liver	0	0.00	0	0.00	1	1.06	0	0.00	1	3.90	0.26	-0.74
Gallbladder	0	0.00	1	0.70	1	1.20	0	0.00	2	3.58	0.56	-0.40
Bile ducts, other biliary	0	0.00	0	0.00	1	1.11	1	1.42	2	3.65	0.55	-0.42
Pancreas	2	0.52	8	1.06	5	1.06	2	0.56	17	19.72	0.86	-0.69
Respiratory system	4	0.32*	29	1.15	13	0.83	18	1.42	64	66.15	0.97	-0.55
Nose, nasal cavity, ear	0	0.00	1	3.21	0	0.00	0	0.00	1	0.81	1.24	0.05
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	1.86	0.00	-0.47
Lung, bronchus	4	0.34*	28	1.16	13	0.87	18	1.47	63	63.30	1.00	-0.08
Female breast	24	0.86	55	1.02	35	1.08	13	0.53*	127	139.04	0.91	-3.05
Female genital system	6	0.46*	25	1.01	12	0.85	1	0.10*	44	62.05	0.71*	-4.58
Cervix uteri	1	0.57	1	0.32	2	1.21	0	0.00	4	7.63	0.52	-0.92
Corpus uteri	4	0.63	10	0.84	3	0.45	0	0.00*	17	29.86	0.57*	-3.26
Ovary	1	0.27	9	1.26	4	0.95	1	0.32	15	18.21	0.82	-0.81
Vagina	0	0.00	1	2.08	1	3.54	0	0.00	2	1.21	1.65	0.20
Vulva	0	0.00	4	3.03	1	1.19	0	0.00	5	3.49	1.43	0.38
Urinary system	5	0.94	8	0.77	8	1.24	6	1.21	27	27.22	0.99	-0.06
Urinary bladder	3	0.92	5	0.78	7	1.77	2	0.66	17	16.63	1.02	0.09
Kidney parenchyma	1	0.64	2	0.64	0	0.00	3	1.95	6	8.16	0.74	-0.55
Renal pelvis, other urinary	1	2.06	1	1.05	1	1.74	1	2.38	4	2.43	1.65	0.40
Ureter	1	6.41	0	0.00	0	0.00	0	0.00	1	0.80	1.26	0.05
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-0.12
Soft tissue including heart	1	2.31	1	1.17	1	1.90	0	0.00	3	2.22	1.35	0.20
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.07
Melanoma of skin	0	0.00	4	1.28	2	1.03	2	1.28	8	8.19	0.98	-0.05
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.69	0.00	-0.17
Brain, central nervous system	1	1.04	6	3.20*	1	0.90	2	2.40	10	4.78	2.09*	1.32
Thyroid	4	4.50*	1	0.58	2	2.03	0	0.00	7	4.32	1.62	0.68
Lymphatic, hematopoietic	10	1.17	20	1.19	6	0.57	6	0.75	42	43.94	0.96	-0.49
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	1.09	0.00	-0.28
Non-Hodgkin lymphoma	6	1.57	11	1.43	3	0.62	3	0.78	23	20.22	1.14	0.71
Myeloma	1	0.61	3	0.94	1	0.51	1	0.68	6	8.22	0.73	-0.56
Leukemia	3	1.04	6	1.08	2	0.58	2	0.78	13	14.41	0.90	-0.36
Acute lymphocytic	0	0.00	1	6.35	0	0.00	0	0.00	1	0.41	2.45	0.15
Chronic lymphocytic	1	0.92	2	0.96	0	0.00	2	2.13	5	5.37	0.93	-0.09
Acute non-lymphocytic	1	0.99	1	0.50	0	0.00	0	0.00	2	5.16	0.39	-0.80
Chronic myeloid	1	2.51	1	1.30	1	2.09	0	0.00	3	2.01	1.49	0.25

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

**Stomach
Males**

Table 4.2.4: Risk of subsequent primary cancers after cancer of the stomach, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	24,914		11,929		3,217		1,505		24,914			
Person-years in interval	13,692		22,566		10,976		8,242		55,476			
All subsequent cancers	181	0.67*	439	0.92	251	0.96	244	1.10	1,115	1,228.83	0.91*	-20.52
All excluding same site	179	0.68*	433	0.94	247	0.97	236	1.10	1,095	1,191.35	0.92*	-17.37
Buccal cavity, pharynx	7	0.85	8	0.58	5	0.73	6	1.15	26	33.96	0.77	-1.43
Lip	0	0.00	0	0.00	0	0.00	1	1.18	1	5.77	0.17*	-0.86
Tongue	2	1.32	1	0.39	1	0.78	1	1.00	5	6.35	0.79	-0.24
Salivary gland	0	0.00	0	0.00	0	0.00	1	1.86	1	2.86	0.35	-0.33
Mouth	2	1.02	1	0.31	1	0.63	1	0.85	5	8.00	0.63	-0.54
Nasopharynx	1	2.45	1	1.41	1	2.88	1	4.00	4	1.71	2.34	0.41
Tonsil	1	1.34	3	2.43	0	0.00	0	0.00	4	3.03	1.32	0.17
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.96	0.00	-0.17
Hypopharynx	0	0.00	1	0.61	1	1.23	1	1.69	3	4.01	0.75	-0.18
Digestive system	41	0.65*	130	1.18	56	0.93	55	1.12	282	282.89	1.00	-0.16
Esophagus	2	0.52	9	1.34	6	1.69	3	1.04	20	17.04	1.17	0.53
Stomach	2	0.24*	6	0.41*	4	0.50	8	1.26	20	37.48	0.53*	-3.15
Small intestine	5	6.54*	5	3.68*	1	1.32	1	1.49	12	3.55	3.38*	1.52
Colon	18	0.69	43	0.94	21	0.82	24	1.13	106	118.96	0.89	-2.34
Rectum, rectosigmoid junction	7	0.63	26	1.36	7	0.70	16	2.02*	56	48.12	1.16	1.42
Anus, anal canal	0	0.00	1	1.58	0	0.00	0	0.00	1	1.62	0.62	-0.11
Liver	2	0.72	4	0.78	2	0.71	2	0.85	10	13.08	0.76	-0.56
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	2.73	0.00	-0.49
Bile ducts, other biliary	2	1.51	7	2.87*	0	0.00	0	0.00	9	6.46	1.39	0.46
Pancreas	3	0.42	29	2.34*	15	2.24*	1	0.18	48	31.75	1.51*	2.93
Respiratory system	27	0.50*	86	0.93	48	0.98	56	1.43*	217	233.85	0.93	-3.04
Nose, nasal cavity, ear	0	0.00	1	1.35	0	0.00	0	0.00	1	1.87	0.54	-0.16
Larynx	4	0.96	5	0.72	6	1.72	7	2.67*	22	17.27	1.27	0.85
Lung, bronchus	23	0.47*	80	0.95	41	0.91	49	1.36*	193	214.13	0.90	-3.81
Male breast	0	0.00	0	0.00	0	0.00	0	0.00	0	2.27	0.00	-0.41
Male genital system	59	0.72*	124	0.84*	73	0.85	73	0.97	329	390.54	0.84*	-11.09
Prostate	59	0.73*	122	0.83*	73	0.86	73	0.98	327	386.99	0.84*	-10.81
Testis	0	0.00	1	2.49	0	0.00	0	0.00	1	0.95	1.06	0.01
Urinary system	25	1.00	51	1.17	25	1.04	24	1.16	125	113.57	1.10	2.06
Urinary bladder	12	0.66	33	1.05	20	1.14	20	1.32	85	82.30	1.03	0.49
Kidney parenchyma	13	2.40*	13	1.37	4	0.77	3	0.68	33	24.47	1.35	1.54
Renal pelvis, other urinary	0	0.00	5	1.87	1	0.70	1	0.86	7	6.80	1.03	0.04
Ureter	0	0.00	3	3.31	0	0.00	1	2.60	4	2.29	1.74	0.31
Bone, joints	0	0.00	1	2.83	0	0.00	1	7.24	2	0.88	2.28	0.20
Soft tissue including heart	1	0.99	1	0.56	4	4.14*	2	2.34	8	4.61	1.74	0.61
Kaposi sarcoma	0	0.00	1	1.56	0	0.00	0	0.00	1	1.61	0.62	-0.11
Melanoma of skin	5	1.03	4	0.47	4	0.84	3	0.66	16	22.66	0.71	-1.20
Eye, orbit	0	0.00	0	0.00	2	6.67	0	0.00	2	1.46	1.37	0.10
Brain, central nervous system	0	0.00	1	0.24	2	0.94	1	0.58	4	10.33	0.39*	-1.14
Thyroid	5	5.47*	1	0.64	2	2.53	0	0.00	8	3.89	2.05	0.74
Lymphatic, hematopoietic	7	0.36*	27	0.80	20	1.07	16	1.00	70	87.66	0.80	-3.18
Hodgkin lymphoma	0	0.00	1	1.00	1	2.09	0	0.00	2	2.44	0.82	-0.08
Non-Hodgkin lymphoma	2	0.25*	10	0.71	8	1.01	4	0.57	24	36.78	0.65*	-2.30
Myeloma	4	1.15	7	1.14	0	0.00	4	1.38	15	15.95	0.94	-0.17
Leukemia	1	0.14*	9	0.72	11	1.60	8	1.39	29	32.49	0.89	-0.63
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.83	0.00	-0.15
Chronic lymphocytic	0	0.00	5	1.02	1	0.38	3	1.37	9	12.62	0.71	-0.65
Acute non-lymphocytic	0	0.00	3	0.70	7	2.95*	3	1.49	13	11.10	1.17	0.34
Chronic myeloid	1	1.01	1	0.58	2	2.12	2	2.45	6	4.47	1.34	0.28

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.2.5: Risk of subsequent primary cancers after cancer of the stomach, both sexes, <50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	8	1.49	23	1.78*	14	1.17	42	1.50*	87	58.16	1.50*	23.55
All excluding same site	7	1.33	23	1.82*	13	1.11	40	1.46*	83	56.98	1.46*	21.24
Buccal cavity, pharynx	1	3.92	0	0.00	0	0.00	1	1.13	2	2.26	0.88	-0.21
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.14
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.48	0.00	-0.39
Salivary gland	0	0.00	0	0.00	0	0.00	1	15.23	1	0.17	5.96	0.68
Mouth	1	16.29	0	0.00	0	0.00	0	0.00	1	0.56	1.78	0.36
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.18
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.24
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.05
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.19
Digestive system	4	4.72*	10	4.61*	3	1.40	12	2.28*	29	10.41	2.78*	15.18
Esophagus	0	0.00	0	0.00	0	0.00	2	5.21	2	0.78	2.56	1.00
Stomach	1	8.87	0	0.00	1	4.13	2	3.60	4	1.18	3.39	2.30
Small intestine	1	44.75	1	19.03	0	0.00	0	0.00	2	0.22	9.12*	1.45
Colon	1	3.49	5	6.74*	1	1.31	3	1.49	10	3.81	2.63*	5.06
Rectum, rectosigmoid junction	0	0.00	3	7.23*	0	0.00	2	2.06	5	1.96	2.55	2.48
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.13
Liver	0	0.00	1	6.42	0	0.00	2	5.98	3	0.69	4.34	1.88
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.09
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.17
Pancreas	1	10.96	0	0.00	1	4.12	1	1.64	3	1.18	2.53	1.48
Respiratory system	0	0.00	1	0.51	4	1.96	12	2.39*	17	9.77	1.74*	5.91
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.09
Larynx	0	0.00	0	0.00	0	0.00	1	2.48	1	0.88	1.13	0.10
Lung, bronchus	0	0.00	1	0.58	3	1.66	11	2.41*	15	8.74	1.72	5.11
Female breast	1	0.92	1	0.38	0	0.00	4	1.20	6	9.27	0.65	-6.19
Female genital system	0	0.00	3	2.78	1	1.09	1	0.74	5	3.80	1.32	2.27
Cervix uteri	0	0.00	1	3.12	0	0.00	0	0.00	1	0.89	1.12	0.20
Corpus uteri	0	0.00	2	5.13	0	0.00	0	0.00	2	1.59	1.26	0.77
Ovary	0	0.00	0	0.00	1	3.71	1	2.54	2	1.10	1.81	1.70
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.07
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.19
Male genital system	0	0.00	0	0.00	0	0.00	8	1.36	8	7.90	1.01	0.14
Prostate	0	0.00	0	0.00	0	0.00	8	1.38	8	7.50	1.07	0.72
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.47
Urinary system	1	3.18	2	2.61	1	1.34	3	1.55	7	3.77	1.86	2.64
Urinary bladder	1	6.26	0	0.00	1	2.49	2	1.72	4	2.12	1.89	1.54
Kidney parenchyma	0	0.00	2	5.86	0	0.00	1	1.47	3	1.48	2.03	1.24
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.14
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.04
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.07
Soft tissue including heart	0	0.00	1	9.76	1	13.53	0	0.00	2	0.35	5.76	1.35
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.37
Melanoma of skin	0	0.00	1	1.63	0	0.00	0	0.00	1	2.14	0.47	-0.93
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.08
Brain, central nervous system	0	0.00	0	0.00	1	5.29	0	0.00	1	0.87	1.15	0.10
Thyroid	1	6.18	0	0.00	1	4.37	0	0.00	2	1.00	2.00	0.81
Lymphatic, hematopoietic	0	0.00	4	3.50	2	2.13	0	0.00	6	4.52	1.33	1.21
Hodgkin lymphoma	0	0.00	1	8.39	0	0.00	0	0.00	1	0.33	3.00	0.54
Non-Hodgkin lymphoma	0	0.00	1	1.71	1	2.11	0	0.00	2	2.28	0.88	-0.23
Myeloma	0	0.00	1	7.57	0	0.00	0	0.00	1	0.65	1.54	0.29
Leukemia	0	0.00	1	3.27	1	3.86	0	0.00	2	1.26	1.59	0.61
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.06
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	0.00	-0.33
Acute non-lymphocytic	0	0.00	1	8.81	1	11.08	0	0.00	2	0.45	4.47	1.27
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.17

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 5,282 PYR and for male cancers on 6,966 PYR.

Stomach Both Sexes, 50-69 Years of Age

Table 4.2.6: Risk of subsequent primary cancers after cancer of the stomach, both sexes, 50-69 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	16,767		8,814		2,729		1,493		16,767			
Person-years in interval	9,775		17,651		10,060		8,774		46,261			
All subsequent cancers	106	0.85	281	1.08	195	1.02	230	1.08	812	789.80	1.03	4.80
All excluding same site	105	0.87	276	1.09	191	1.02	224	1.08	796	769.78	1.03	5.67
Buccal cavity, pharynx	8	1.76	6	0.71	2	0.40	5	1.12	21	22.44	0.94	-0.31
Lip	0	0.00	0	0.00	0	0.00	1	1.55	1	2.82	0.36	-0.39
Tongue	2	2.21	1	0.60	0	0.00	1	1.12	4	4.49	0.89	-0.11
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	1.64	0.00	-0.36
Mouth	4	3.38	0	0.00	0	0.00	1	0.88	5	5.76	0.87	-0.16
Nasopharynx	1	3.76	1	2.01	1	3.55	1	4.56	4	1.26	3.17	0.59
Tonsil	1	2.02	3	3.41	0	0.00	0	0.00	4	2.22	1.80	0.39
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.69	0.00	-0.15
Hypopharynx	0	0.00	0	0.00	1	1.65	1	2.08	2	2.70	0.74	-0.15
Digestive system	20	0.74	71	1.26	45	1.08	54	1.12	190	173.03	1.10	3.67
Esophagus	1	0.52	8	2.11	4	1.63	3	1.23	16	10.61	1.51	1.16
Stomach	1	0.32	5	0.76	4	0.83	6	1.10	16	20.03	0.80	-0.87
Small intestine	3	7.98*	2	2.51	1	1.69	2	2.93	8	2.45	3.27*	1.20
Colon	9	0.85	24	1.06	16	0.91	28	1.30	77	72.27	1.07	1.02
Rectum, rectosigmoid junction	3	0.58	10	0.96	7	0.97	14	1.85*	34	30.29	1.12	0.80
Anus, anal canal	0	0.00	1	1.98	1	2.90	0	0.00	2	1.46	1.37	0.12
Liver	1	0.78	0	0.00	2	1.01	0	0.00	3	8.11	0.37	-1.11
Gallbladder	0	0.00	0	0.00	1	1.95	0	0.00	1	2.06	0.49	-0.23
Bile ducts, other biliary	0	0.00	3	2.79	0	0.00	1	0.83	4	3.64	1.10	0.08
Pancreas	2	0.62	18	2.68*	9	1.82	0	0.00*	29	20.63	1.41	1.81
Respiratory system	19	0.72	65	1.22	39	1.06	53	1.43*	176	153.34	1.15	4.90
Nose, nasal cavity, ear	0	0.00	1	2.42	0	0.00	0	0.00	1	1.20	0.83	-0.04
Larynx	4	1.75	3	0.71	5	1.98	5	2.35	17	11.16	1.52	1.26
Lung, bronchus	15	0.63	61	1.26	34	1.01	48	1.39*	158	140.62	1.12	3.76
Female breast	11	1.20	27	1.35	18	1.25	9	0.61	65	58.37	1.11	4.01
Female genital system	1	0.21	9	0.91	7	1.07	0	0.00*	17	27.33	0.62*	-6.25
Cervix uteri	0	0.00	0	0.00	2	2.77	0	0.00	2	3.22	0.62	-0.74
Corpus uteri	1	0.39	3	0.56	1	0.29	0	0.00	5	14.49	0.35*	-5.75
Ovary	0	0.00	3	1.12	2	1.07	0	0.00	5	7.67	0.65	-1.62
Vagina	0	0.00	1	7.68	1	10.10	0	0.00	2	0.40	4.99	0.97
Vulva	0	0.00	2	6.96	0	0.00	0	0.00	2	0.98	2.05	0.62
Male genital system	18	0.72	48	0.84	36	0.77	55	1.00	157	183.96	0.85*	-9.06
Prostate	18	0.73	48	0.85	36	0.77	55	1.01	157	182.41	0.86	-8.54
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.14
Urinary system	14	1.45	21	1.06	23	1.57	20	1.15	78	61.49	1.27*	3.57
Urinary bladder	4	0.63	12	0.92	18	1.82*	16	1.31	50	41.47	1.21	1.84
Kidney parenchyma	9	3.27*	6	1.09	3	0.78	3	0.73	21	16.19	1.30	1.04
Renal pelvis, other urinary	1	1.68	3	2.41	2	2.15	1	0.94	7	3.83	1.83	0.68
Ureter	1	5.22	2	4.89	0	0.00	1	2.80	4	1.27	3.15	0.59
Bone, joints	0	0.00	1	4.44	0	0.00	1	7.33	2	0.62	3.21	0.30
Soft tissue including heart	1	2.11	0	0.00	1	1.50	2	2.54	4	2.88	1.39	0.24
Kaposi sarcoma	0	0.00	1	4.87	0	0.00	0	0.00	1	0.58	1.71	0.09
Melanoma of skin	2	0.79	1	0.20	3	0.89	4	1.01	10	14.80	0.68	-1.04
Eye, orbit	0	0.00	0	0.00	1	4.43	0	0.00	1	0.99	1.01	0.00
Brain, central nervous system	0	0.00	3	1.09	1	0.56	3	1.70	7	7.75	0.90	-0.16
Thyroid	4	5.14*	0	0.00	1	1.09	0	0.00	5	4.00	1.25	0.22
Lymphatic, hematopoietic	6	0.71	23	1.32	11	0.84	17	1.09	57	54.55	1.04	0.53
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	1.65	0.00	-0.36
Non-Hodgkin lymphoma	2	0.54	10	1.29	5	0.85	7	0.98	24	24.49	0.98	-0.11
Myeloma	2	1.28	5	1.50	0	0.00	3	1.03	10	10.30	0.97	-0.06
Leukemia	2	0.72	8	1.39	6	1.39	7	1.34	23	18.11	1.27	1.06
Acute lymphocytic	0	0.00	1	6.01	0	0.00	0	0.00	1	0.49	2.02	0.11
Chronic lymphocytic	1	0.87	5	2.12	1	0.58	3	1.51	10	7.21	1.39	0.60
Acute non-lymphocytic	0	0.00	1	0.52	4	2.63	3	1.58	8	6.25	1.28	0.38
Chronic myeloid	1	2.57	0	0.00	1	1.74	1	1.38	3	2.46	1.22	0.12

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 16,514 PYR and for male cancers on 29,747 PYR.

Table 4.2.7: Risk of subsequent primary cancers after cancer of the stomach, both sexes, ≥70 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	145	0.58*	353	0.86*	167	0.90	45	0.59*	710	922.60	0.77*	-58.43
All excluding same site	144	0.60*	347	0.87*	165	0.92	44	0.60*	700	891.77	0.78*	-52.71
Buccal cavity, pharynx	2	0.38	5	0.60	4	1.16	1	0.72	12	18.47	0.65	-1.78
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	3.45	0.00	-0.95
Tongue	1	1.03	0	0.00	1	1.54	1	3.89	3	3.41	0.88	-0.11
Salivary gland	0	0.00	1	1.10	0	0.00	0	0.00	1	2.09	0.48	-0.30
Mouth	0	0.00	2	0.90	2	2.11	0	0.00	4	4.93	0.81	-0.26
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.72	0.00	-0.20
Tonsil	0	0.00	1	1.78	0	0.00	0	0.00	1	1.22	0.82	-0.06
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.11
Hypopharynx	0	0.00	1	1.31	0	0.00	0	0.00	1	1.62	0.62	-0.17
Digestive system	36	0.55*	113	1.03	51	0.98	10	0.45*	210	249.44	0.84*	-10.84
Esophagus	3	1.14	3	0.71	3	1.67	0	0.00	9	9.39	0.96	-0.11
Stomach	1	0.12*	6	0.44*	2	0.31	1	0.36	10	30.83	0.32*	-5.73
Small intestine	5	6.99*	2	1.66	0	0.00	0	0.00	7	2.74	2.55*	1.17
Colon	15	0.50*	49	0.96	27	1.08	6	0.55	97	116.98	0.83	-5.49
Rectum, rectosigmoid junction	7	0.68	26	1.55*	6	0.81	1	0.34	40	37.40	1.07	0.71
Anus, anal canal	0	0.00	0	0.00	1	2.94	0	0.00	1	1.61	0.62	-0.17
Liver	1	0.46	3	0.80	1	0.61	0	0.00	5	8.18	0.61	-0.87
Gallbladder	0	0.00	1	0.54	0	0.00	0	0.00	1	4.15	0.24	-0.87
Bile ducts, other biliary	2	1.34	4	1.48	1	0.71	0	0.00	7	6.26	1.12	0.20
Pancreas	2	0.26*	19	1.46	10	1.60	2	0.74	33	29.65	1.11	0.92
Respiratory system	12	0.31*	49	0.78	18	0.70	9	0.94	88	136.89	0.64*	-13.44
Nose, nasal cavity, ear	0	0.00	1	1.64	0	0.00	0	0.00	1	1.37	0.73	-0.10
Larynx	0	0.00	2	0.61	1	0.84	1	2.45	4	7.09	0.56	-0.85
Lung, bronchus	12	0.33*	46	0.79	17	0.70	8	0.88	83	128.06	0.65*	-12.39
Female breast	12	0.68	27	0.85	17	1.07	0	0.00*	56	71.40	0.78	-8.74
Female genital system	5	0.63	13	0.94	4	0.61	0	0.00	22	30.92	0.71	-5.06
Cervix uteri	1	1.06	0	0.00	0	0.00	0	0.00	1	3.52	0.28	-1.43
Corpus uteri	3	0.82	5	0.80	2	0.71	0	0.00	10	13.78	0.73	-2.14
Ovary	1	0.43	6	1.44	1	0.48	0	0.00	8	9.43	0.85	-0.81
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.77	0.00	-0.44
Vulva	0	0.00	2	1.99	1	1.73	0	0.00	3	2.41	1.25	0.34
Male genital system	41	0.73*	76	0.84	37	0.99	10	0.69	164	198.67	0.83*	-18.48
Prostate	41	0.73*	74	0.82	37	1.00	10	0.70	162	197.09	0.82*	-18.70
Testis	0	0.00	1	10.97	0	0.00	0	0.00	1	0.19	5.15	0.43
Urinary system	15	0.74	36	1.07	9	0.60	7	1.10	67	75.53	0.89	-2.35
Urinary bladder	10	0.67	26	1.06	8	0.72	4	0.83	48	55.35	0.87	-2.02
Kidney parenchyma	5	1.22	7	1.04	1	0.34	2	1.72	15	14.96	1.00	0.01
Renal pelvis, other urinary	0	0.00	3	1.28	0	0.00	1	2.35	4	5.22	0.77	-0.33
Ureter	0	0.00	1	1.25	0	0.00	0	0.00	1	1.77	0.56	-0.21
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.62	0.00	-0.17
Soft tissue including heart	1	1.08	1	0.63	3	3.99	0	0.00	5	3.60	1.39	0.38
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.86	0.00	-0.24
Melanoma of skin	3	0.84	6	0.98	3	1.04	1	0.74	13	13.91	0.93	-0.25
Eye, orbit	0	0.00	0	0.00	1	4.79	0	0.00	1	1.06	0.94	-0.02
Brain, central nervous system	1	0.56	4	1.35	1	0.80	0	0.00	6	6.49	0.92	-0.13
Thyroid	4	4.63*	2	1.37	2	3.15	0	0.00	8	3.21	2.49*	1.32
Lymphatic, hematopoietic	11	0.58	20	0.63*	13	0.86	5	0.76	49	72.54	0.68*	-6.47
Hodgkin lymphoma	0	0.00	0	0.00	1	3.44	0	0.00	1	1.55	0.65	-0.15
Non-Hodgkin lymphoma	6	0.78	10	0.75	5	0.78	0	0.00	21	30.23	0.69	-2.54
Myeloma	3	0.86	4	0.68	1	0.37	2	1.77	10	13.23	0.76	-0.89
Leukemia	2	0.28*	6	0.50	6	1.05	3	1.18	17	27.53	0.62*	-2.90
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.66	0.00	-0.18
Chronic lymphocytic	0	0.00	2	0.44	0	0.00	2	2.14	4	10.38	0.39*	-1.75
Acute non-lymphocytic	1	0.40	2	0.47	2	1.01	0	0.00	5	9.56	0.52	-1.25
Chronic myeloid	1	1.03	2	1.21	2	2.48	1	2.67	6	3.80	1.58	0.60

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 17,620 PYR and for male cancers on 18,763 PYR.

Stomach Cardia, Both Sexes

Table 4.2.8: Risk of subsequent primary cancers after cancer of the stomach cardia, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
	8,847	4,833	4,020	6,383	765	2,450	303	1,448	8,847	15,113		
All subsequent cancers	61	0.75*	120	1.04	57	1.12	36	1.04	274	283.24	0.97	-6.12
All excluding same site	61	0.76*	118	1.04	54	1.08	36	1.07	269	276.48	0.97	-4.95
Buccal cavity, pharynx	2	0.83	1	0.31	1	0.78	0	0.00	4	7.72	0.52	-2.46
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.29	0.00	-0.85
Tongue	1	2.11	0	0.00	0	0.00	0	0.00	1	1.53	0.65	-0.35
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.66	0.00	-0.43
Mouth	1	1.66	0	0.00	0	0.00	0	0.00	1	1.90	0.53	-0.59
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.31	0.00	-0.20
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.71	0.00	-0.47
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.15
Hypopharynx	0	0.00	0	0.00	1	7.28	0	0.00	1	0.83	1.20	0.11
Digestive system	19	1.05	33	1.31	13	1.17	7	0.93	72	61.84	1.16	6.72
Esophagus	1	0.98	3	2.10	1	1.66	0	0.00	5	3.45	1.45	1.02
Stomach	0	0.00	2	0.73	3	2.46	0	0.00	5	6.76	0.74	-1.17
Small intestine	1	4.09	2	5.73	0	0.00	0	0.00	3	0.86	3.51	1.42
Colon	10	1.27	12	1.09	5	1.01	5	1.49	32	27.15	1.18	3.21
Rectum, rectosigmoid junction	4	1.22	6	1.34	1	0.53	2	1.61	13	10.91	1.19	1.39
Anus, anal canal	0	0.00	1	5.02	0	0.00	0	0.00	1	0.48	2.08	0.34
Liver	1	1.47	0	0.00	0	0.00	0	0.00	1	2.45	0.41	-0.96
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.45
Bile ducts, other biliary	1	2.59	1	1.78	0	0.00	0	0.00	2	1.41	1.42	0.39
Pancreas	1	0.48	6	2.05	3	2.33	0	0.00	10	7.18	1.39	1.86
Respiratory system	8	0.52	22	1.02	12	1.32	7	1.18	49	52.02	0.94	-2.00
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.28
Larynx	0	0.00	0	0.00	0	0.00	1	2.68	1	3.77	0.27	-1.83
Lung, bronchus	8	0.57	22	1.12	11	1.32	6	1.09	47	47.71	0.99	-0.47
Female breast	3	0.90	8	1.59	5	2.11	0	0.00	16	12.17	1.31	11.74
Female genital system	0	0.00	2	0.90	0	0.00	0	0.00	2	5.30	0.38	-10.12
Cervix uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-1.70
Corpus uteri	0	0.00	1	0.89	0	0.00	0	0.00	1	2.67	0.37	-5.12
Ovary	0	0.00	1	1.52	0	0.00	0	0.00	1	1.58	0.63	-1.79
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.27
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.84
Male genital system	15	0.71	28	0.91	11	0.79	15	1.51	69	75.71	0.91	-5.66
Prostate	15	0.72	28	0.92	11	0.79	15	1.52	69	74.98	0.92	-5.05
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.21
Urinary system	10	1.34	12	1.15	8	1.76	4	1.25	34	25.64	1.33	5.53
Urinary bladder	5	0.94	6	0.81	7	2.15	4	1.73	22	18.23	1.21	2.49
Kidney parenchyma	4	2.31	4	1.64	1	0.96	0	0.00	9	5.91	1.52	2.04
Renal pelvis, other urinary	1	2.26	2	3.29	0	0.00	0	0.00	3	1.49	2.01	1.00
Ureter	1	6.64	1	4.78	0	0.00	0	0.00	2	0.51	3.92	0.99
Bone, joints	0	0.00	1	10.60	0	0.00	0	0.00	1	0.23	4.40	0.51
Soft tissue including heart	0	0.00	1	2.27	1	5.19	0	0.00	2	1.08	1.84	0.61
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.25
Melanoma of skin	0	0.00	1	0.36	1	0.85	0	0.00	2	6.68	0.30	-3.10
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	0.00	-0.27
Brain, central nervous system	0	0.00	1	0.85	0	0.00	0	0.00	1	2.82	0.35	-1.20
Thyroid	1	2.85	0	0.00	0	0.00	0	0.00	1	1.17	0.86	-0.11
Lymphatic, hematopoietic	1	0.16*	8	0.94	4	1.06	2	0.77	15	20.95	0.72	-3.94
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.62	0.00	-0.41
Non-Hodgkin lymphoma	1	0.37	4	1.04	1	0.59	0	0.00	6	9.41	0.64	-2.25
Myeloma	0	0.00	2	1.40	0	0.00	1	2.31	3	3.51	0.85	-0.34
Leukemia	0	0.00	2	0.67	3	2.27	1	1.10	6	7.41	0.81	-0.94
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.13
Chronic lymphocytic	0	0.00	1	0.83	1	1.91	1	2.83	3	2.97	1.01	0.02
Acute non-lymphocytic	0	0.00	1	0.99	2	4.39	0	0.00	3	2.51	1.20	0.33
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	0.00	-0.66

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 3,262 PYR and for male cancers on 11,852 PYR.

Table 4.2.9: Risk of subsequent primary cancers after cancer of the stomach excluding cardia, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	198	0.67*	537	0.94	319	0.94	281	0.99	1,335	1,487.32	0.90*	-19.09
All excluding same site	195	0.68*	528	0.96	315	0.96	272	0.99	1,310	1,442.04	0.91*	-16.55
Buccal cavity, pharynx	9	1.17	10	0.71	5	0.65	7	1.17	31	35.45	0.87	-0.56
Lip	0	0.00	0	0.00	0	0.00	1	1.19	1	5.15	0.19	-0.52
Tongue	2	1.38	1	0.37	1	0.66	2	1.68	6	6.85	0.88	-0.11
Salivary gland	0	0.00	1	0.81	0	0.00	1	1.56	2	3.24	0.62	-0.16
Mouth	4	1.97	2	0.54	2	0.98	1	0.65	9	9.35	0.96	-0.04
Nasopharynx	1	2.43	1	1.29	1	2.45	1	3.32	4	1.89	2.11	0.26
Tonsil	1	1.49	4	3.28	0	0.00	0	0.00	5	3.02	1.66	0.25
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.96	0.00	-0.12
Hypopharynx	0	0.00	1	0.66	0	0.00	1	1.68	2	3.71	0.54	-0.21
Digestive system	41	0.55*	161	1.12	86	1.01	69	1.01	357	371.05	0.96	-1.76
Esophagus	3	0.84	8	1.18	6	1.57	5	1.58	22	17.33	1.27	0.59
Stomach	3	0.32*	9	0.51*	4	0.39	9	1.13	25	45.28	0.55*	-2.54
Small intestine	8	9.21*	3	1.76	1	0.95	2	2.15	14	4.55	3.07*	1.18
Colon	15	0.46*	66	1.04	39	1.02	32	1.03	152	165.91	0.92	-1.74
Rectum, rectosigmoid junction	6	0.49	33	1.43	12	0.91	15	1.47	66	58.74	1.12	0.91
Anus, anal canal	0	0.00	0	0.00	2	3.14	0	0.00	2	2.75	0.73	-0.09
Liver	1	0.35	4	0.71	3	0.91	2	0.71	10	14.53	0.69	-0.57
Gallbladder	0	0.00	1	0.45	1	0.77	0	0.00	2	5.64	0.35	-0.46
Bile ducts, other biliary	1	0.62	6	1.85	1	0.49	1	0.56	9	8.70	1.03	0.04
Pancreas	4	0.45	31	1.82*	17	1.68	3	0.37	55	44.29	1.24	1.34
Respiratory system	23	0.45*	93	0.97	49	0.88	67	1.46*	232	247.97	0.94	-2.00
Nose, nasal cavity, ear	0	0.00	2	2.28	0	0.00	0	0.00	2	2.26	0.89	-0.03
Larynx	4	1.19	5	0.82	6	1.82	6	2.34	21	15.37	1.37	0.71
Lung, bronchus	19	0.41*	86	0.97	43	0.84	61	1.43*	209	229.71	0.91	-2.60
Female breast	21	0.86	47	0.96	30	1.00	13	0.56*	111	126.87	0.87	-4.39
Female genital system	6	0.52	23	1.02	12	0.92	1	0.10*	42	56.75	0.74	-4.08
Cervix uteri	1	0.63	1	0.34	2	1.29	0	0.00	4	7.07	0.57	-0.85
Corpus uteri	4	0.71	9	0.83	3	0.49	0	0.00*	16	27.19	0.59*	-3.09
Ovary	1	0.30	8	1.23	4	1.02	1	0.34	14	16.62	0.84	-0.73
Vagina	0	0.00	1	2.26	1	3.77	0	0.00	2	1.12	1.78	0.24
Vulva	0	0.00	4	3.31	1	1.27	0	0.00	5	3.21	1.56	0.49
Male genital system	44	0.73*	96	0.82*	62	0.87	58	0.89	260	314.83	0.83*	-12.57
Prostate	44	0.74*	94	0.81*	62	0.88	58	0.89	258	312.01	0.83*	-12.38
Testis	0	0.00	1	3.42	0	0.00	0	0.00	1	0.69	1.44	0.07
Urinary system	20	0.87	47	1.07	25	0.96	26	1.16	118	115.15	1.02	0.36
Urinary bladder	10	0.62	32	1.05	20	1.10	18	1.14	80	80.70	0.99	-0.09
Kidney parenchyma	10	1.90	11	1.08	3	0.50	6	1.15	30	26.71	1.12	0.41
Renal pelvis, other urinary	0	0.00	4	1.33	2	1.16	2	1.42	8	7.73	1.03	0.03
Ureter	0	0.00	2	1.98	0	0.00	1	2.18	3	2.58	1.16	0.05
Bone, joints	0	0.00	0	0.00	0	0.00	1	5.32	1	1.11	0.90	-0.01
Soft tissue including heart	2	1.77	1	0.46	4	3.08	2	1.78	9	5.74	1.57	0.41
Kaposi sarcoma	0	0.00	1	1.70	0	0.00	0	0.00	1	1.51	0.66	-0.06
Melanoma of skin	5	1.11	7	0.79	5	0.90	5	0.95	22	24.17	0.91	-0.27
Eye, orbit	0	0.00	0	0.00	2	5.19	0	0.00	2	1.74	1.15	0.03
Brain, central nervous system	1	0.40	6	1.25	3	1.09	3	1.34	13	12.29	1.06	0.09
Thyroid	8	5.50*	2	0.71	4	2.54	0	0.00	14	7.05	1.99*	0.87
Lymphatic, hematopoietic	16	0.74	39	0.93	22	0.87	20	0.93	97	110.65	0.88	-1.71
Hodgkin lymphoma	0	0.00	1	0.85	1	1.60	0	0.00	2	2.91	0.69	-0.11
Non-Hodgkin lymphoma	7	0.78	17	0.95	10	0.91	7	0.72	41	47.59	0.86	-0.83
Myeloma	5	1.22	8	1.01	1	0.21	4	1.02	18	20.66	0.87	-0.33
Leukemia	4	0.50	13	0.86	10	1.11	9	1.21	36	39.49	0.91	-0.44
Acute lymphocytic	0	0.00	1	2.48	0	0.00	0	0.00	1	1.04	0.96	0.00
Chronic lymphocytic	1	0.32	6	1.04	0	0.00	4	1.44	11	15.02	0.73	-0.50
Acute non-lymphocytic	1	0.37	3	0.57	5	1.59	3	1.14	12	13.75	0.87	-0.22
Chronic myeloid	2	1.82	2	0.96	3	2.41	2	1.90	9	5.48	1.64	0.44

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 36,155 PYR and for male cancers on 43,624 PYR.

Small Intestine Both Sexes

Table 4.3.1: Characteristics of patients with an initial cancer of the small intestine, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	2,796	100.0	2,636	100.0	5,432	100.0
Initial treatment						
Any radiation	223	8.0	154	5.8	377	6.9
With surgery	140	5.0	97	3.7	237	4.4
Without surgery	83	3.0	57	2.2	140	2.6
No radiation	2,573	92.0	2,482	94.2	5,055	93.1
With surgery	2,164	77.4	2,051	77.8	4,215	77.6
Without surgery	409	14.6	431	16.4	840	15.5
Race						
White	2,317	82.9	2,174	82.5	4,491	82.7
Black	332	11.9	344	13.1	676	12.4
Other	143	5.1	110	4.2	253	4.7
Unknown	4	0.1	8	0.3	12	0.2
Age at 1st primary cancer diagnosis, years						
< 30	39	1.4	38	1.4	77	1.4
30–49	511	18.3	434	16.5	945	17.4
50–69	1,374	49.1	1,120	42.5	2,494	45.9
70–79	641	22.9	656	24.9	1,297	23.9
≥ 80	231	8.3	388	14.7	619	11.4
Number of patients with one or more primary cancers						
One primary cancer only	2,567	91.8	2,486	94.3	5,053	93.0
1st and 2nd cancers	204	7.3	139	5.3	343	6.3
1st, 2nd, and 3rd cancers	19	0.7	10	0.4	29	0.5
1st, 2nd, 3rd, and additional cancers	6	0.2	1	0.0	7	0.1
Other statistics						
Median age at 1st cancer diagnosis	63.1	—	66.3	—	64.5	—
Median year of 1st cancer diagnosis	1990.3	—	1990.7	—	1990.5	—
Median person-years at risk	2.2	—	2.5	—	2.4	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	95.2	—	95.3	—	95.3
1st, 2nd, and additional cancers	—	94.3	—	95.3	—	94.7
1st cancer only	—	4.4	—	4.7	—	4.5

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Table 4.3.2: Risk of subsequent primary cancers after cancer of the small intestine, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	68	1.26	165	1.06	104	1.08	85	1.15	422	379.79	1.11*	17.73
All excluding same site	68	1.26	160	1.03	102	1.07	83	1.13	413	378.55	1.09	14.47
Buccal cavity, pharynx	0	0.00	4	1.03	3	1.32	2	1.26	9	9.17	0.98	-0.07
Lip	0	0.00	1	1.85	0	0.00	0	0.00	1	1.28	0.78	-0.12
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	1.86	0.00	-0.78
Salivary gland	0	0.00	0	0.00	1	4.66	1	6.02	2	0.85	2.37	0.48
Mouth	0	0.00	0	0.00	1	1.66	1	2.39	2	2.44	0.82	-0.19
Nasopharynx	0	0.00	0	0.00	1	11.65	0	0.00	1	0.35	2.84	0.27
Tonsil	0	0.00	1	2.67	0	0.00	0	0.00	1	0.87	1.15	0.06
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.11
Hypopharynx	0	0.00	1	2.54	0	0.00	0	0.00	1	0.92	1.09	0.04
Digestive system	15	1.24	40	1.16	23	1.09	24	1.51	102	83.46	1.22	7.79
Esophagus	1	1.64	0	0.00	0	0.00	0	0.00	1	4.17	0.24	-1.33
Stomach	1	0.81	2	0.58	0	0.00	1	0.67	4	8.21	0.49	-1.77
Small intestine	0	0.00	5	9.92*	2	6.39	2	8.00	9	1.24	7.23*	3.26
Colon	8	1.46	21	1.33	11	1.13	10	1.35	50	38.39	1.30	4.88
Rectum, rectosigmoid junction	2	0.97	6	1.04	3	0.87	5	1.99	16	13.80	1.16	0.92
Anus, anal canal	0	0.00	1	3.02	1	4.97	1	6.57	3	0.80	3.75	0.92
Liver	1	2.46	1	0.86	0	0.00	2	3.62	4	2.84	1.41	0.49
Gallbladder	1	5.81	0	0.00	1	3.51	0	0.00	2	1.15	1.74	0.36
Bile ducts, other biliary	0	0.00	1	1.35	3	6.39*	1	2.64	5	1.84	2.71	1.33
Pancreas	1	0.68	3	0.71	2	0.78	2	1.02	8	10.19	0.78	-0.92
Respiratory system	12	1.29	19	0.72	11	0.68	7	0.57	49	64.33	0.76	-6.44
Nose, nasal cavity, ear	0	0.00	0	0.00	1	7.33	0	0.00	1	0.54	1.84	0.19
Larynx	1	1.60	1	0.58	0	0.00	0	0.00	2	4.05	0.49	-0.86
Lung, bronchus	11	1.28	18	0.73	10	0.67	7	0.61	46	59.58	0.77	-5.70
Female breast	4	0.66	15	0.85	7	0.67	7	0.85	33	42.44	0.78	-7.88
Female genital system	1	0.36	10	1.28	2	0.45	5	1.48	18	18.39	0.98	-0.33
Cervix uteri	0	0.00	2	2.25	0	0.00	0	0.00	2	2.00	1.00	0.00
Corpus uteri	1	0.72	5	1.27	2	0.89	3	1.74	11	9.30	1.18	1.42
Ovary	0	0.00	3	1.31	0	0.00	2	1.92	5	5.47	0.91	-0.40
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.24
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.90	0.00	-0.75
Male genital system	13	1.30	34	1.14	27	1.38	17	1.10	91	74.95	1.21	13.56
Prostate	13	1.31	32	1.08	27	1.39	17	1.11	89	74.20	1.20	12.51
Testis	0	0.00	2	14.34*	0	0.00	0	0.00	2	0.30	6.75	1.44
Urinary system	11	2.68*	15	1.26	13	1.74	5	0.87	44	29.20	1.51*	6.22
Urinary bladder	7	2.50*	6	0.74	10	1.94	3	0.76	26	19.99	1.30	2.52
Kidney parenchyma	4	3.80*	6	1.98	3	1.59	1	0.69	14	7.42	1.89*	2.77
Renal pelvis, other urinary	0	0.00	3	4.05	0	0.00	1	2.93	4	1.80	2.23	0.93
Ureter	0	0.00	1	4.16	0	0.00	1	9.09	2	0.58	3.43	0.60
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.13
Soft tissue including heart	1	4.68	1	1.64	2	5.41	1	3.55	5	1.48	3.39*	1.48
Kaposi sarcoma	0	0.00	2	8.82	0	0.00	0	0.00	2	0.51	3.96	0.63
Melanoma of skin	4	3.50	6	1.78	1	0.47	5	2.99	16	8.32	1.92*	3.22
Eye, orbit	0	0.00	0	0.00	1	7.78	0	0.00	1	0.52	1.94	0.20
Brain, central nervous system	1	1.83	2	1.29	1	1.08	1	1.47	5	3.70	1.35	0.55
Thyroid	2	6.44	1	1.15	0	0.00	0	0.00	3	2.04	1.47	0.40
Lymphatic, hematopoietic	4	0.99	9	0.78	10	1.39	7	1.26	30	28.38	1.06	0.68
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.85	0.00	-0.36
Non-Hodgkin lymphoma	2	1.12	3	0.57	5	1.53	4	1.55	14	12.85	1.09	0.48
Myeloma	0	0.00	3	1.46	2	1.58	0	0.00	5	5.03	0.99	-0.01
Leukemia	2	1.45	3	0.76	3	1.23	3	1.61	11	9.65	1.14	0.57
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.11
Chronic lymphocytic	1	1.82	2	1.27	1	1.03	1	1.36	5	3.84	1.30	0.49
Acute non-lymphocytic	1	2.14	1	0.74	0	0.00	1	1.55	3	3.29	0.91	-0.12
Chronic myeloid	0	0.00	0	0.00	2	5.96	1	3.92	3	1.32	2.27	0.70

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 11,972 PYR and for male cancers on 11,837 PYR.

Small Intestine Females

Table 4.3.3: Risk of subsequent primary cancers after cancer of the small intestine, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
	2,636	1,847										
			1,959	5,173	869	2,895	387	2,056	2,636	11,972		
All subsequent cancers	24	1.11	59	0.95	37	1.00	42	1.43*	162	150.22	1.08	9.84
All excluding same site	24	1.12	58	0.93	36	0.98	41	1.40*	159	149.69	1.06	7.77
Buccal cavity, pharynx	0	0.00	2	1.81	1	1.56	1	2.02	4	2.63	1.52	1.15
Lip	0	0.00	1	13.26	0	0.00	0	0.00	1	0.18	5.47	0.68
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.58	0.00	-0.48
Salivary gland	0	0.00	0	0.00	0	0.00	1	17.54	1	0.29	3.39	0.59
Mouth	0	0.00	0	0.00	1	4.49	0	0.00	1	0.91	1.10	0.07
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.08
Tonsil	0	0.00	1	10.34	0	0.00	0	0.00	1	0.22	4.48	0.65
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.05
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.15
Digestive system	8	1.57	13	0.89	11	1.28	12	1.76	44	35.18	1.25	7.36
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	0.00	-0.84
Stomach	0	0.00	0	0.00	0	0.00	1	2.02	1	2.68	0.37	-1.40
Small intestine	0	0.00	1	4.62	1	7.78	1	9.27	3	0.53	5.69*	2.07
Colon	5	1.96	6	0.82	7	1.61	5	1.45	23	17.70	1.30	4.42
Rectum, rectosigmoid junction	2	2.53	4	1.78	1	0.77	2	2.00	9	5.34	1.69	3.06
Rectum	1	1.93	4	2.71	1	1.17	2	3.01	8	3.51	2.28	3.75
Anus, anal canal	0	0.00	1	5.20	0	0.00	1	10.95	2	0.46	4.30	1.28
Liver	0	0.00	1	3.22	0	0.00	1	6.26	2	0.77	2.61	1.03
Gallbladder	1	8.75	0	0.00	0	0.00	0	0.00	1	0.76	1.32	0.20
Bile ducts, other biliary	0	0.00	0	0.00	1	5.20	0	0.00	1	0.79	1.27	0.18
Pancreas	0	0.00	0	0.00	1	0.87	1	1.08	2	4.69	0.43	-2.25
Respiratory system	3	1.07	6	0.72	5	0.99	4	0.93	18	20.48	0.88	-2.07
Nose, nasal cavity, ear	0	0.00	0	0.00	1	19.80	0	0.00	1	0.21	4.87	0.66
Larynx	1	10.86	0	0.00	0	0.00	0	0.00	1	0.63	1.58	0.31
Lung, bronchus	2	0.75	6	0.75	4	0.83	4	0.97	16	19.59	0.82	-2.99
Female breast	4	0.66	15	0.85	7	0.67	7	0.85	33	42.44	0.78	-7.88
Female genital system	1	0.36	10	1.28	2	0.45	5	1.48	18	18.39	0.98	-0.33
Cervix uteri	0	0.00	2	2.25	0	0.00	0	0.00	2	2.00	1.00	0.00
Corpus uteri	1	0.72	5	1.27	2	0.89	3	1.74	11	9.30	1.18	1.42
Ovary	0	0.00	3	1.31	0	0.00	2	1.92	5	5.47	0.91	-0.40
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.24
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.90	0.00	-0.75
Urinary system	2	1.94	6	1.99	3	1.66	1	0.68	12	7.33	1.64	3.90
Urinary bladder	1	1.64	3	1.68	3	2.83	0	0.00	7	4.32	1.62	2.24
Kidney parenchyma	1	2.97	2	2.02	0	0.00	1	2.03	4	2.42	1.66	1.32
Renal pelvis, other urinary	0	0.00	1	4.03	0	0.00	0	0.00	1	0.60	1.67	0.34
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.15
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.11
Soft tissue including heart	0	0.00	0	0.00	1	6.80	1	8.53	2	0.60	3.31	1.17
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.05
Melanoma of skin	3	7.47*	2	1.66	0	0.00	3	5.14*	8	2.90	2.75*	4.26
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.18
Brain, central nervous system	0	0.00	1	1.59	0	0.00	0	0.00	1	1.51	0.66	-0.42
Thyroid	2	10.33*	0	0.00	0	0.00	0	0.00	2	1.29	1.55	0.59
Lymphatic, hematopoietic	1	0.60	0	0.00*	5	1.74	4	1.71	10	11.70	0.85	-1.42
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-0.28
Non-Hodgkin lymphoma	0	0.00	0	0.00	2	1.45	2	1.72	4	5.63	0.71	-1.36
Myeloma	0	0.00	0	0.00	1	1.97	0	0.00	1	2.08	0.48	-0.90
Leukemia	1	1.91	0	0.00	2	2.23	2	2.80	5	3.66	1.37	1.12
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.09
Chronic lymphocytic	0	0.00	0	0.00	1	2.89	1	3.64	2	1.41	1.42	0.49
Acute non-lymphocytic	1	5.39	0	0.00	0	0.00	0	0.00	1	1.30	0.77	-0.25
Chronic myeloid	0	0.00	0	0.00	1	8.04	1	10.24	2	0.51	3.94	1.25

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.3.4: Risk of subsequent primary cancers after cancer of the small intestine, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	44	1.35	106	1.13	67	1.13	43	0.97	260	229.57	1.13	25.71
All excluding same site	44	1.36	102	1.09	66	1.12	42	0.95	254	228.86	1.11	21.24
Buccal cavity, pharynx	0	0.00	2	0.72	2	1.22	1	0.91	5	6.54	0.76	-1.30
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.10	0.00	-0.93
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	1.28	0.00	-1.08
Salivary gland	0	0.00	0	0.00	1	6.99	0	0.00	1	0.55	1.82	0.38
Mouth	0	0.00	0	0.00	0	0.00	1	4.06	1	1.53	0.65	-0.45
Nasopharynx	0	0.00	0	0.00	1	16.37	0	0.00	1	0.25	3.98	0.63
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.65	0.00	-0.55
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.17
Hypopharynx	0	0.00	1	3.15	0	0.00	0	0.00	1	0.74	1.35	0.22
Digestive system	7	1.00	27	1.37	12	0.97	12	1.32	58	48.28	1.20	8.21
Esophagus	1	2.15	0	0.00	0	0.00	0	0.00	1	3.16	0.32	-1.83
Stomach	1	1.21	2	0.87	0	0.00	0	0.00	3	5.53	0.54	-2.14
Small intestine	0	0.00	4	13.92*	1	5.42	1	7.03	6	0.72	8.37*	4.46
Colon	3	1.02	15	1.79	4	0.74	5	1.26	27	20.68	1.31	5.34
Rectum, rectosigmoid junction	0	0.00	2	0.57	2	0.93	3	1.98	7	8.46	0.83	-1.23
Anus, anal canal	0	0.00	0	0.00	1	11.66	0	0.00	1	0.33	2.99	0.56
Liver	1	3.36	0	0.00	0	0.00	1	2.54	2	2.07	0.96	-0.06
Gallbladder	0	0.00	0	0.00	1	9.98	0	0.00	1	0.39	2.55	0.51
Bile ducts, other biliary	0	0.00	1	2.39	2	7.21	1	4.62	4	1.06	3.79*	2.49
Pancreas	1	1.24	3	1.33	1	0.71	1	0.97	6	5.50	1.09	0.42
Respiratory system	9	1.39	13	0.71	6	0.54	3	0.37	31	43.86	0.71	-10.86
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-0.28
Larynx	0	0.00	1	0.69	0	0.00	0	0.00	1	3.42	0.29	-2.04
Lung, bronchus	9	1.53	12	0.72	6	0.59	3	0.41	30	40.00	0.75	-8.45
Male breast	0	0.00	1	5.60	0	0.00	0	0.00	1	0.44	2.26	0.47
Male genital system	13	1.30	34	1.14	27	1.38	17	1.10	91	74.95	1.21	13.56
Prostate	13	1.31	32	1.08	27	1.39	17	1.11	89	74.20	1.20	12.51
Testis	0	0.00	2	14.34*	0	0.00	0	0.00	2	0.30	6.75	1.44
Urinary system	9	2.92*	9	1.02	10	1.76	4	0.94	32	21.87	1.46*	8.56
Urinary bladder	6	2.74*	3	0.48	7	1.71	3	0.97	19	15.67	1.21	2.81
Kidney parenchyma	3	4.20	4	1.95	3	2.33	0	0.00	10	5.00	2.00	4.22
Renal pelvis, other urinary	0	0.00	2	4.06	0	0.00	1	4.46	3	1.20	2.50	1.52
Ureter	0	0.00	1	6.06	0	0.00	1	13.42	2	0.40	4.98	1.35
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.15
Soft tissue including heart	1	7.90	1	2.80	1	4.50	0	0.00	3	0.87	3.44	1.80
Kaposi sarcoma	0	0.00	2	9.92*	0	0.00	0	0.00	2	0.45	4.49	1.31
Melanoma of skin	1	1.35	4	1.84	1	0.71	2	1.83	8	5.42	1.48	2.18
Eye, orbit	0	0.00	0	0.00	1	12.82	0	0.00	1	0.31	3.28	0.59
Brain, central nervous system	1	3.03	1	1.09	1	1.80	1	2.56	4	2.19	1.82	1.53
Thyroid	0	0.00	1	3.12	0	0.00	0	0.00	1	0.75	1.33	0.21
Lymphatic, hematopoietic	3	1.27	9	1.33	5	1.16	3	0.93	20	16.68	1.20	2.81
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.52	0.00	-0.44
Non-Hodgkin lymphoma	2	1.98	3	1.03	3	1.59	2	1.41	10	7.23	1.38	2.34
Myeloma	0	0.00	3	2.51	1	1.32	0	0.00	4	2.95	1.36	0.89
Leukemia	1	1.17	3	1.23	1	0.65	1	0.87	6	5.99	1.00	0.01
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.13
Chronic lymphocytic	1	2.88	2	2.02	0	0.00	0	0.00	3	2.43	1.24	0.49
Acute non-lymphocytic	0	0.00	1	1.24	0	0.00	1	2.58	2	1.99	1.01	0.01
Chronic myeloid	0	0.00	0	0.00	1	4.73	0	0.00	1	0.82	1.23	0.16

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Small Intestine Both Sexes, <50 Years of Age

Table 4.3.5: Risk of subsequent primary cancers after cancer of the small intestine, both sexes, <50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	8	4.45*	15	2.29*	16	2.41*	20	1.76*	59	26.36	2.24*	57.78
All excluding same site	8	4.47*	15	2.30*	15	2.26*	18	1.59	56	26.26	2.13*	52.65
Buccal cavity, pharynx	0	0.00	0	0.00	0	0.00	1	3.08	1	0.88	1.13	0.21
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.12
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.36
Salivary gland	0	0.00	0	0.00	0	0.00	1	36.92	1	0.07	13.50	1.64
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.40
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.09
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.22
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.05
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.14
Digestive system	3	12.37*	6	6.41*	4	3.84*	6	3.14*	19	4.13	4.60*	26.32
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.49
Stomach	1	37.19	2	20.70*	0	0.00	0	0.00	3	0.38	7.92*	4.64
Small intestine	0	0.00	0	0.00	1	37.33	2	49.43*	3	0.10	29.43*	5.13
Colon	2	22.95*	3	8.74*	3	7.65*	1	1.27	9	1.61	5.60*	13.09
Rectum, rectosigmoid junction	0	0.00	1	5.46	0	0.00	2	5.47	3	0.80	3.74	3.89
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.15
Liver	0	0.00	0	0.00	0	0.00	1	11.55	1	0.21	4.71	1.39
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.08
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.14
Pancreas	0	0.00	0	0.00	0	0.00	0	0.00	0	0.49	0.00	-0.86
Respiratory system	0	0.00	0	0.00	0	0.00	1	0.53	1	3.90	0.26	-5.14
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.08
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.59
Lung, bronchus	0	0.00	0	0.00	0	0.00	1	0.58	1	3.51	0.28	-4.44
Female breast	0	0.00	2	1.25	3	2.07	2	0.99	7	5.51	1.27	5.25
Female genital system	1	5.71	3	4.82	0	0.00	2	2.46	6	2.18	2.75*	13.44
Cervix uteri	0	0.00	1	5.78	0	0.00	0	0.00	1	0.45	2.21	1.93
Corpus uteri	1	18.10	2	8.84	0	0.00	1	2.41	4	0.94	4.24*	10.75
Ovary	0	0.00	0	0.00	0	0.00	1	4.09	1	0.66	1.53	1.21
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.08
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.23
Male genital system	0	0.00	1	2.60	1	1.57	1	0.55	3	2.92	1.03	0.28
Prostate	0	0.00	1	3.33	1	1.69	1	0.56	3	2.73	1.10	0.97
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.59
Urinary system	1	10.78	0	0.00	2	5.05	0	0.00	3	1.60	1.87	2.47
Urinary bladder	1	22.01	0	0.00	2	9.58*	0	0.00	3	0.88	3.40	3.75
Kidney parenchyma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.65	0.00	-1.16
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.13
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.03
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.08
Soft tissue including heart	1	63.08	1	19.49	1	24.30	1	19.80	4	0.16	25.19*	6.80
Kaposi sarcoma	0	0.00	1	9.37	0	0.00	0	0.00	1	0.23	4.37	1.37
Melanoma of skin	1	9.07	1	2.75	0	0.00	3	7.64*	5	1.17	4.27*	6.78
Eye, orbit	0	0.00	0	0.00	1	81.88*	0	0.00	1	0.05	21.36	1.69
Brain, central nervous system	1	26.20	0	0.00	1	9.18	0	0.00	2	0.41	4.83	2.81
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.48	0.00	-0.86
Lymphatic, hematopoietic	0	0.00	0	0.00	3	5.72*	2	2.50	5	2.08	2.41	5.18
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.29
Non-Hodgkin lymphoma	0	0.00	0	0.00	3	10.93*	2	4.86	5	1.08	4.62*	6.93
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.49
Leukemia	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-0.98
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.06
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.32
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.34
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.17

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 2,843 PYR and for male cancers on 2,805 PYR.

Table 4.3.6: Risk of subsequent primary cancers after cancer of the small intestine, both sexes, ≥50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	60	1.15	150	1.00	88	0.98	65	1.04	363	353.43	1.03	5.27
All excluding same site	60	1.15	145	0.97	87	0.98	65	1.05	357	352.29	1.01	2.60
Buccal cavity, pharynx	0	0.00	4	1.10	3	1.47	1	0.79	8	8.29	0.97	-0.16
Lip	0	0.00	1	1.92	0	0.00	0	0.00	1	1.21	0.83	-0.12
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	1.66	0.00	-0.91
Salivary gland	0	0.00	0	0.00	1	5.11	0	0.00	1	0.77	1.30	0.13
Mouth	0	0.00	0	0.00	1	1.85	1	2.98	2	2.22	0.90	-0.12
Nasopharynx	0	0.00	0	0.00	1	13.84	0	0.00	1	0.30	3.31	0.38
Tonsil	0	0.00	1	2.97	0	0.00	0	0.00	1	0.74	1.35	0.14
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.13
Hypopharynx	0	0.00	1	2.69	0	0.00	0	0.00	1	0.84	1.20	0.09
Digestive system	12	1.01	34	1.02	19	0.95	18	1.29	83	79.33	1.05	2.02
Esophagus	1	1.69	0	0.00	0	0.00	0	0.00	1	3.89	0.26	-1.59
Stomach	0	0.00	0	0.00	0	0.00	1	0.74	1	7.83	0.13*	-3.76
Small intestine	0	0.00	5	10.48*	1	3.49	0	0.00	6	1.14	5.25*	2.67
Colon	6	1.11	18	1.17	8	0.86	9	1.36	41	36.78	1.11	2.32
Rectum, rectosigmoid junction	2	0.99	5	0.90	3	0.92	3	1.40	13	13.00	1.00	0.00
Anus, anal canal	0	0.00	1	3.25	1	5.58	1	8.28	3	0.72	4.19	1.26
Liver	1	2.55	1	0.90	0	0.00	1	2.14	3	2.63	1.14	0.20
Gallbladder	1	5.89	0	0.00	1	3.65	0	0.00	2	1.11	1.81	0.49
Bile ducts, other biliary	0	0.00	1	1.38	3	6.66*	1	2.94	5	1.76	2.84	1.78
Pancreas	1	0.69	3	0.73	2	0.82	2	1.16	8	9.70	0.82	-0.94
Respiratory system	12	1.32	19	0.74	11	0.72	6	0.58	48	60.43	0.79	-6.84
Nose, nasal cavity, ear	0	0.00	0	0.00	1	8.03	0	0.00	1	0.50	2.01	0.28
Larynx	1	1.66	1	0.61	0	0.00	0	0.00	2	3.72	0.54	-0.95
Lung, bronchus	11	1.31	18	0.76	10	0.71	6	0.62	45	56.07	0.80	-6.10
Female breast	4	0.71	13	0.81	4	0.45	5	0.80	26	36.93	0.70	-11.98
Female genital system	0	0.00	7	0.97	2	0.51	3	1.17	12	16.21	0.74	-4.62
Cervix uteri	0	0.00	1	1.40	0	0.00	0	0.00	1	1.55	0.65	-0.60
Corpus uteri	0	0.00	3	0.81	2	1.00	2	1.53	7	8.36	0.84	-1.49
Ovary	0	0.00	3	1.42	0	0.00	1	1.25	4	4.82	0.83	-0.90
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-0.30
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.83	0.00	-0.91
Male genital system	13	1.31	33	1.12	26	1.38	16	1.18	88	72.03	1.22	17.69
Prostate	13	1.32	31	1.06	26	1.39	16	1.18	86	71.47	1.20	16.09
Testis	0	0.00	2	32.02*	0	0.00	0	0.00	2	0.13	15.43*	2.07
Urinary system	10	2.49*	15	1.30	11	1.55	5	1.00	41	27.60	1.49*	7.38
Urinary bladder	6	2.18	6	0.76	8	1.62	3	0.86	23	19.11	1.20	2.14
Kidney parenchyma	4	3.97*	6	2.09	3	1.75	1	0.85	14	6.76	2.07*	3.98
Renal pelvis, other urinary	0	0.00	3	4.14	0	0.00	1	3.27	4	1.73	2.32	1.25
Ureter	0	0.00	1	4.21	0	0.00	1	10.05	2	0.56	3.54	0.79
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-0.15
Soft tissue including heart	0	0.00	0	0.00	1	3.05	0	0.00	1	1.32	0.76	-0.17
Kaposi sarcoma	0	0.00	1	8.33	0	0.00	0	0.00	1	0.28	3.62	0.40
Melanoma of skin	3	2.91	5	1.66	1	0.55	2	1.56	11	7.15	1.54	2.12
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.47	0.00	-0.26
Brain, central nervous system	0	0.00	2	1.41	0	0.00	1	1.85	3	3.28	0.91	-0.16
Thyroid	2	7.82	1	1.43	0	0.00	0	0.00	3	1.56	1.92	0.79
Lymphatic, hematopoietic	4	1.04	9	0.82	7	1.05	5	1.05	25	26.31	0.95	-0.72
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.69	0.00	-0.38
Non-Hodgkin lymphoma	2	1.18	3	0.61	2	0.67	2	0.92	9	11.77	0.76	-1.53
Myeloma	0	0.00	3	1.50	2	1.67	0	0.00	5	4.75	1.05	0.14
Leukemia	2	1.49	3	0.79	3	1.30	3	1.84	11	9.10	1.21	1.05
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.13
Chronic lymphocytic	1	1.85	2	1.30	1	1.08	1	1.54	5	3.66	1.37	0.74
Acute non-lymphocytic	1	2.22	1	0.77	0	0.00	1	1.76	3	3.09	0.97	-0.05
Chronic myeloid	0	0.00	0	0.00	2	6.41	1	4.50	3	1.23	2.44	0.98

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 9,129 PYR and for male cancers on 9,032 PYR.

Small Intestine Adenocarcinoma, Both Sexes

Table 4.3.7: Risk of subsequent primary cancers after adenocarcinoma of the small intestine, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
	2,110	1,308								2,110	6,587	
All subsequent cancers	23	1.19	55	1.35*	28	1.07	31	1.32	137	109.60	1.25*	41.59
All excluding same site	23	1.20	51	1.26	27	1.03	30	1.29	131	109.24	1.20*	33.03
Buccal cavity, pharynx	0	0.00	1	0.98	1	1.64	1	2.03	3	2.62	1.14	0.57
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.38	0.00	-0.57
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.53	0.00	-0.80
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.36
Mouth	0	0.00	0	0.00	1	6.22	1	7.55	2	0.70	2.85	1.97
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.16
Tonsil	0	0.00	1	10.40	0	0.00	0	0.00	1	0.24	4.13	1.15
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.11
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.40
Digestive system	8	1.80	24	2.60*	9	1.54	9	1.70	50	24.81	2.01*	38.23
Esophagus	1	4.56	0	0.00	0	0.00	0	0.00	1	1.19	0.84	-0.29
Stomach	0	0.00	2	2.11	0	0.00	0	0.00	2	2.49	0.80	-0.75
Small intestine	0	0.00	4	30.61*	1	11.85	1	12.51	6	0.36	16.72*	8.56
Colon	6	2.97*	13	3.08*	5	1.84	6	2.39	30	11.46	2.62*	28.14
Rectum, rectosigmoid junction	0	0.00	4	2.58	0	0.00	2	2.43	6	4.09	1.47	2.90
Anus, anal canal	0	0.00	0	0.00	1	18.56	0	0.00	1	0.23	4.41	1.17
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.83	0.00	-1.26
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0.00	-0.54
Bile ducts, other biliary	0	0.00	0	0.00	2	15.39*	0	0.00	2	0.54	3.68	2.21
Pancreas	1	1.84	1	0.89	0	0.00	0	0.00	2	3.03	0.66	-1.56
Respiratory system	5	1.51	7	1.01	3	0.69	4	1.05	19	18.44	1.03	0.85
Nose, nasal cavity, ear	0	0.00	0	0.00	1	26.42	0	0.00	1	0.16	6.30	1.28
Larynx	0	0.00	1	2.22	0	0.00	0	0.00	1	1.15	0.87	-0.23
Lung, bronchus	5	1.63	6	0.94	2	0.49	4	1.12	17	17.08	1.00	-0.13
Female breast	2	0.96	1	0.22	1	0.37	2	0.76	6	11.92	0.50	-18.06
Female genital system	0	0.00	7	3.42*	1	0.84	1	0.93	9	5.28	1.70	11.33
Cervix uteri	0	0.00	2	8.03	0	0.00	0	0.00	2	0.59	3.38	4.29
Corpus uteri	0	0.00	2	1.94	1	1.67	1	1.85	4	2.66	1.50	4.09
Ovary	0	0.00	3	5.10*	0	0.00	0	0.00	3	1.55	1.93	4.41
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.28
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.80
Male genital system	2	0.56	7	0.90	6	1.10	5	1.08	20	21.42	0.93	-4.29
Prostate	2	0.57	7	0.91	6	1.11	5	1.08	20	21.21	0.94	-3.66
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.23
Urinary system	5	3.40*	2	0.65	3	1.44	3	1.64	13	8.48	1.53	6.87
Urinary bladder	4	3.98*	2	0.94	2	1.39	2	1.58	10	5.83	1.71	6.32
Kidney parenchyma	1	2.71	0	0.00	1	1.96	0	0.00	2	2.11	0.95	-0.16
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	1	8.94	1	0.53	1.87	0.71
Ureter	0	0.00	0	0.00	0	0.00	1	27.32	1	0.17	5.72	1.25
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.14
Soft tissue including heart	0	0.00	0	0.00	0	0.00	1	11.16	1	0.42	2.37	0.88
Kaposi sarcoma	0	0.00	1	18.02	0	0.00	0	0.00	1	0.14	7.28	1.31
Melanoma of skin	0	0.00	1	1.23	0	0.00	2	3.94	3	2.26	1.33	1.12
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.22
Brain, central nervous system	0	0.00	0	0.00	0	0.00	1	4.66	1	1.05	0.95	-0.08
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.56	0.00	-0.84
Lymphatic, hematopoietic	1	0.70	3	1.00	4	2.04	0	0.00	8	8.23	0.97	-0.35
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.36
Non-Hodgkin lymphoma	1	1.60	2	1.51	4	4.53*	0	0.00	7	3.68	1.90	5.05
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	1.48	0.00	-2.25
Leukemia	0	0.00	1	0.96	0	0.00	0	0.00	1	2.83	0.35	-2.78
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.12
Chronic lymphocytic	0	0.00	1	2.41	0	0.00	0	0.00	1	1.12	0.89	-0.19
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.97	0.00	-1.47
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.39	0.00	-0.59

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 3,281 PYR and for male cancers on 3,306 PYR.

Table 4.4.1: Characteristics of patients with an initial cancer of the liver or intrahepatic bile duct, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	7,511	100.0	3,989	100.0	11,500	100.0
Initial treatment						
Any radiation	875	11.6	450	11.3	1,325	11.5
With surgery	100	1.3	74	1.9	174	1.5
Without surgery	775	10.3	376	9.4	1,151	10.0
No radiation	6,636	88.4	3,539	88.7	10,175	88.5
With surgery	1,023	13.6	674	16.9	1,697	14.8
Without surgery	5,613	74.7	2,865	71.8	8,478	73.7
Race						
White	4,813	64.1	2,862	71.7	7,675	66.7
Black	855	11.4	366	9.2	1,221	10.6
Other	1,832	24.4	756	19.0	2,588	22.5
Unknown	11	0.1	5	0.1	16	0.1
Age at 1st primary cancer diagnosis, years						
< 30	243	3.2	211	5.3	454	3.9
30–49	1,047	13.9	436	10.9	1,483	12.9
50–69	3,708	49.4	1,456	36.5	5,164	44.9
70–79	1,846	24.6	1,179	29.6	3,025	26.3
≥ 80	667	8.9	707	17.7	1,374	11.9
Number of patients with one or more primary cancers						
One primary cancer only	7,408	98.6	3,937	98.7	11,345	98.7
1st and 2nd cancers	96	1.3	46	1.2	142	1.2
1st, 2nd, and 3rd cancers	7	0.1	6	0.2	13	0.1
1st, 2nd, 3rd, and additional cancers	0	0.0	0	0.0	0	0.0
Other statistics						
Median age at 1st cancer diagnosis	64.6	—	68.8	—	65.8	—
Median year of 1st cancer diagnosis	1992.8	—	1992.0	—	1992.5	—
Median person-years at risk	0.3	—	0.4	—	0.3	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	85.4	—	86.5	—	85.8
1st, 2nd, and additional cancers	—	85.4	—	86.5	—	85.8
1st cancer only	—	3.9	—	7.7	—	5.2

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Liver

Both Sexes

Table 4.4.2: Risk of subsequent primary cancers after cancer of the liver or intrahepatic bile duct, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	67	0.99	65	0.98	21	1.29	15	1.64	168	159.83	1.05	6.60
All excluding same site	67	1.00	64	0.98	21	1.31	14	1.55	166	157.62	1.05	6.78
Buccal cavity, pharynx	3	1.70	4	2.43	0	0.00	0	0.00	7	3.97	1.76	2.45
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.48	0.00	-0.38
Tongue	1	2.84	1	3.00	0	0.00	0	0.00	2	0.80	2.50	0.97
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0.00	-0.29
Mouth	1	2.27	3	7.28*	0	0.00	0	0.00	4	1.00	3.99*	2.42
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.24
Tonsil	1	6.05	0	0.00	0	0.00	0	0.00	1	0.37	2.71	0.51
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.09
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.34
Digestive system	12	0.76	13	0.85	5	1.34	3	1.44	33	36.97	0.89	-3.21
Esophagus	1	1.20	2	2.55	2	11.48*	0	0.00	5	1.88	2.67	2.53
Stomach	1	0.53	1	0.54	0	0.00	0	0.00	2	4.37	0.46	-1.91
Small intestine	1	4.72	1	4.80	0	0.00	0	0.00	2	0.51	3.96	1.21
Colon	5	0.74	4	0.61	3	1.82	1	1.05	13	15.83	0.82	-2.29
Rectum, rectosigmoid junction	1	0.38	1	0.40	0	0.00	0	0.00	2	6.06	0.33	-3.28
Anus, anal canal	0	0.00	1	7.92	0	0.00	0	0.00	1	0.31	3.24	0.56
Liver	0	0.00	1	1.20	0	0.00	1	11.54	2	1.92	1.04	0.06
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.52	0.00	-0.42
Bile ducts, other biliary	1	2.65	0	0.00	0	0.00	0	0.00	1	0.91	1.10	0.08
Pancreas	2	1.09	2	1.12	0	0.00	1	3.79	5	4.34	1.15	0.54
Respiratory system	13	1.10	8	0.71	3	1.14	4	2.81	28	27.12	1.03	0.71
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.20
Larynx	1	1.29	2	2.86	0	0.00	0	0.00	3	1.69	1.78	1.06
Lung, bronchus	12	1.10	6	0.58	3	1.22	4	2.99	25	25.11	1.00	-0.09
Female breast	4	0.77	6	1.02	3	1.50	3	1.82	16	14.74	1.09	2.32
Female genital system	1	0.43	4	1.55	3	3.43	0	0.00	8	6.45	1.24	2.87
Cervix uteri	0	0.00	1	3.07	0	0.00	0	0.00	1	0.81	1.24	0.36
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	3.17	0.00	-5.86
Ovary	1	1.48	3	3.95	2	7.63	0	0.00	6	1.91	3.15*	7.57
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.19
Vulva	0	0.00	0	0.00	1	23.32	0	0.00	1	0.31	3.23	1.28
Male genital system	14	0.89	10	0.68	0	0.00	1	0.90	25	34.56	0.72	-13.74
Prostate	14	0.90	10	0.68	0	0.00	1	0.91	25	34.19	0.73	-13.21
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.22
Urinary system	9	1.69	7	1.39	2	1.73	0	0.00	18	12.10	1.49	4.77
Urinary bladder	2	0.55	5	1.47	2	2.59	0	0.00	9	8.18	1.10	0.67
Kidney parenchyma	6	4.40*	2	1.51	0	0.00	0	0.00	8	3.16	2.53*	3.91
Renal pelvis, other urinary	1	3.00	0	0.00	0	0.00	0	0.00	1	0.76	1.31	0.19
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.21
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.11
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.66	0.00	-0.53
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.16
Melanoma of skin	0	0.00	0	0.00	0	0.00	1	5.16	1	3.21	0.31	-1.79
Eye, orbit	0	0.00	0	0.00	1	49.13	0	0.00	1	0.20	5.07	0.65
Brain, central nervous system	1	1.57	1	1.59	0	0.00	0	0.00	2	1.53	1.31	0.38
Thyroid	1	2.57	4	9.67*	1	8.69	0	0.00	6	1.00	6.01*	4.05
Lymphatic, hematopoietic	6	1.20	8	1.64	2	1.62	2	2.82	18	11.82	1.52	5.00
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.30
Non-Hodgkin lymphoma	3	1.32	2	0.88	1	1.74	1	2.97	7	5.46	1.28	1.25
Myeloma	2	2.28	3	3.56	0	0.00	0	0.00	5	2.05	2.44	2.39
Leukemia	1	0.59	3	1.84	1	2.47	1	4.53	6	3.94	1.52	1.67
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.13
Chronic lymphocytic	0	0.00	0	0.00	1	6.96	0	0.00	1	1.43	0.70	-0.34
Acute non-lymphocytic	0	0.00	3	5.13*	0	0.00	1	12.29	4	1.41	2.84	2.10
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-0.45

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 5,409 PYR and for male cancers on 6,954 PYR.

Table 4.4.3: Risk of subsequent primary cancers after cancer of the liver or intrahepatic bile duct, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	15	0.79	21	0.99	11	1.52	11	1.85	58	53.17	1.09	8.93
All excluding same site	15	0.80	21	1.00	11	1.54	11	1.87	58	52.68	1.10	9.84
Buccal cavity, pharynx	0	0.00	1	2.72	0	0.00	0	0.00	1	0.92	1.08	0.14
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.11
Tongue	0	0.00	1	12.07	0	0.00	0	0.00	1	0.21	4.81	1.46
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.19
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.31	0.00	-0.58
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.10
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.14
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.04
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.11
Digestive system	4	0.86	3	0.59	3	1.73	2	1.43	12	12.92	0.93	-1.69
Esophagus	0	0.00	1	7.48	0	0.00	0	0.00	1	0.34	2.93	1.22
Stomach	0	0.00	0	0.00	0	0.00	0	0.00	0	1.21	0.00	-2.24
Small intestine	1	15.78	0	0.00	0	0.00	0	0.00	1	0.18	5.54	1.51
Colon	3	1.33	1	0.41	3	3.56	1	1.48	8	6.23	1.28	3.27
Rectum, rectosigmoid junction	0	0.00	0	0.00	0	0.00	0	0.00	0	1.91	0.00	-3.53
Rectum	0	0.00	0	0.00	0	0.00	0	0.00	0	1.27	0.00	-2.34
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.29
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.39	0.00	-0.72
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.55
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.60
Pancreas	0	0.00	1	1.50	0	0.00	1	5.36	2	1.70	1.18	0.56
Respiratory system	1	0.40	3	1.07	1	1.03	3	3.61	8	7.10	1.13	1.67
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.14
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.38
Lung, bronchus	1	0.42	3	1.12	1	1.08	3	3.77	8	6.79	1.18	2.23
Female breast	4	0.77	6	1.02	3	1.50	3	1.82	16	14.74	1.09	2.32
Female genital system	1	0.43	4	1.55	3	3.43	0	0.00	8	6.45	1.24	2.87
Cervix uteri	0	0.00	1	3.07	0	0.00	0	0.00	1	0.81	1.24	0.36
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	3.17	0.00	-5.86
Ovary	1	1.48	3	3.95	2	7.63	0	0.00	6	1.91	3.15*	7.57
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.19
Vulva	0	0.00	0	0.00	1	23.32	0	0.00	1	0.31	3.23	1.28
Urinary system	1	1.11	2	2.00	0	0.00	0	0.00	3	2.53	1.19	0.87
Urinary bladder	0	0.00	1	1.72	0	0.00	0	0.00	1	1.47	0.68	-0.88
Kidney parenchyma	1	3.38	1	3.00	0	0.00	0	0.00	2	0.84	2.38	2.14
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.40
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.13
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.10
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.42
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.04
Melanoma of skin	0	0.00	0	0.00	0	0.00	1	8.02	1	0.99	1.01	0.03
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.13
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	0.53	0.00	-0.99
Thyroid	1	5.22	2	8.76	0	0.00	0	0.00	3	0.57	5.29*	4.50
Lymphatic, hematopoietic	2	1.37	0	0.00	1	1.75	1	2.14	4	4.13	0.97	-0.25
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.25
Non-Hodgkin lymphoma	2	2.83	0	0.00	1	3.64	0	0.00	3	2.00	1.50	1.85
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.72	0.00	-1.34
Leukemia	0	0.00	0	0.00	0	0.00	1	7.09	1	1.27	0.78	-0.51
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.11
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.83
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	1	18.94	1	0.47	2.12	0.98
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.33

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.4.4: Risk of subsequent primary cancers after cancer of the liver or intrahepatic bile duct, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	7,511		2,089		245		83		7,511			
Person-years in interval	2,932		2,884		729		410		6,954			
All subsequent cancers	52	1.06	44	0.97	10	1.10	4	1.24	110	106.66	1.03	4.80
All excluding same site	52	1.08	43	0.97	10	1.12	3	0.94	108	104.95	1.03	4.39
Buccal cavity, pharynx	3	2.09	3	2.34	0	0.00	0	0.00	6	3.05	1.97	4.24
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.60
Tongue	1	3.59	0	0.00	0	0.00	0	0.00	1	0.59	1.68	0.58
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.36
Mouth	1	3.04	3	10.41*	0	0.00	0	0.00	4	0.69	5.79*	4.76
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.35
Tonsil	1	7.20	0	0.00	0	0.00	0	0.00	1	0.29	3.41	1.02
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.13
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.53
Digestive system	8	0.72	10	0.97	2	1.00	1	1.46	21	24.05	0.87	-4.39
Esophagus	1	1.40	1	1.54	2	15.70*	0	0.00	4	1.54	2.61	3.54
Stomach	1	0.69	1	0.74	0	0.00	0	0.00	2	3.16	0.63	-1.66
Small intestine	0	0.00	1	7.27	0	0.00	0	0.00	1	0.32	3.08	0.97
Colon	2	0.45	3	0.74	0	0.00	0	0.00	5	9.59	0.52	-6.60
Rectum, rectosigmoid junction	1	0.52	1	0.57	0	0.00	0	0.00	2	4.14	0.48	-3.08
Anus, anal canal	0	0.00	1	15.70	0	0.00	0	0.00	1	0.15	6.66	1.22
Liver	0	0.00	1	1.48	0	0.00	1	22.42	2	1.53	1.31	0.68
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.32
Bile ducts, other biliary	1	3.82	0	0.00	0	0.00	0	0.00	1	0.58	1.72	0.60
Pancreas	2	1.63	1	0.89	0	0.00	0	0.00	3	2.64	1.14	0.52
Respiratory system	12	1.29	5	0.59	2	1.20	1	1.69	20	20.02	1.00	-0.04
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.25
Larynx	1	1.43	2	3.23	0	0.00	0	0.00	3	1.48	2.02	2.18
Lung, bronchus	11	1.29	3	0.39	2	1.31	1	1.84	17	18.32	0.93	-1.90
Male breast	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.27
Male genital system	14	0.89	10	0.68	0	0.00	1	0.90	25	34.56	0.72	-13.74
Prostate	14	0.90	10	0.68	0	0.00	1	0.91	25	34.19	0.73	-13.21
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.22
Urinary system	8	1.80	5	1.24	2	2.45	0	0.00	15	9.57	1.57	7.81
Urinary bladder	2	0.64	4	1.42	2	3.50	0	0.00	8	6.70	1.19	1.87
Kidney parenchyma	5	4.69*	1	1.01	0	0.00	0	0.00	6	2.32	2.58	5.29
Renal pelvis, other urinary	1	3.93	0	0.00	0	0.00	0	0.00	1	0.55	1.83	0.65
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.27
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.13
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.43	0.00	-0.62
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.25
Melanoma of skin	0	0.00	0	0.00	0	0.00	0	0.00	0	2.23	0.00	-3.20
Eye, orbit	0	0.00	0	0.00	1	94.57*	0	0.00	1	0.13	7.93	1.26
Brain, central nervous system	1	2.21	1	2.39	0	0.00	0	0.00	2	0.99	2.01	1.45
Thyroid	0	0.00	2	10.79*	1	27.39	0	0.00	3	0.43	6.96*	3.69
Lymphatic, hematopoietic	4	1.14	8	2.46*	1	1.51	1	4.14	14	7.68	1.82	9.08
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.34
Non-Hodgkin lymphoma	1	0.64	2	1.35	0	0.00	1	9.21	4	3.46	1.16	0.78
Myeloma	2	3.25	3	5.37*	0	0.00	0	0.00	5	1.32	3.77*	5.28
Leukemia	1	0.81	3	2.67	1	4.38	0	0.00	5	2.66	1.88	3.36
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.15
Chronic lymphocytic	0	0.00	0	0.00	1	12.28	0	0.00	1	0.98	1.03	0.04
Acute non-lymphocytic	0	0.00	3	7.53*	0	0.00	0	0.00	3	0.94	3.20	2.97
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.38	0.00	-0.54

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.4.5: Risk of subsequent primary cancers after cancer of the liver or intrahepatic bile duct, both sexes, <50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	4	2.44	12	4.89*	1	0.84	6	2.97*	23	7.31	3.15*	39.57
All excluding same site	4	2.49	11	4.56*	1	0.85	6	3.00*	22	7.20	3.05*	37.32
Buccal cavity, pharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.62
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.03
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.13
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.06
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.13
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.10
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.08
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.02
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.05
Digestive system	1	3.78	5	13.64*	0	0.00	1	3.14	7	1.11	6.29*	14.85
Esophagus	0	0.00	1	44.69	0	0.00	0	0.00	1	0.06	15.82	2.36
Stomach	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.29
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.07
Colon	1	12.08	2	16.64*	0	0.00	1	7.50	4	0.40	10.08*	9.09
Rectum, rectosigmoid junction	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.54
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.06
Liver	0	0.00	1	25.99	0	0.00	0	0.00	1	0.10	10.08	2.27
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.03
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.06
Pancreas	0	0.00	1	26.84	0	0.00	0	0.00	1	0.12	8.37	2.22
Respiratory system	1	5.35	0	0.00	0	0.00	0	0.00	1	0.86	1.16	0.34
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.04
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.17
Lung, bronchus	1	6.19	0	0.00	0	0.00	0	0.00	1	0.77	1.29	0.57
Female breast	0	0.00	1	1.92	0	0.00	1	1.73	2	1.75	1.14	1.28
Female genital system	1	7.64	3	13.76*	0	0.00	0	0.00	4	0.73	5.47*	16.78
Cervix uteri	0	0.00	1	15.44	0	0.00	0	0.00	1	0.19	5.37	4.18
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-1.45
Ovary	1	25.46	2	30.14*	0	0.00	0	0.00	3	0.22	13.55*	14.26
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.04
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.11
Male genital system	0	0.00	0	0.00	0	0.00	0	0.00	0	0.43	0.00	-2.15
Prostate	0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-1.69
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.42
Urinary system	0	0.00	2	14.81*	1	19.45	0	0.00	3	0.37	8.14*	6.64
Urinary bladder	0	0.00	1	16.17	1	41.02	0	0.00	2	0.17	11.46*	4.60
Kidney parenchyma	0	0.00	1	14.61	0	0.00	0	0.00	1	0.18	5.59	2.07
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.04
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	-0.01
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.07
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.17
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.20
Melanoma of skin	0	0.00	0	0.00	0	0.00	1	14.33	1	0.36	2.75	1.60
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.05
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.43
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.54
Lymphatic, hematopoietic	1	5.68	1	3.96	0	0.00	2	12.70*	4	0.70	5.75*	8.33
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.22
Non-Hodgkin lymphoma	1	11.39	0	0.00	0	0.00	1	13.95	2	0.32	6.17	4.23
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.17
Leukemia	0	0.00	1	11.81	0	0.00	1	22.66	2	0.22	9.24*	4.50
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.16
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.09
Acute non-lymphocytic	0	0.00	1	37.61	0	0.00	1	59.27	2	0.07	27.37*	4.86
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.08

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 1,948 PYR and for male cancers on 2,016 PYR.

Liver

Both Sexes, ≥50 Years of Age

Table 4.4.6: Risk of subsequent primary cancers after cancer of the liver or intrahepatic bile duct, both sexes, ≥50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	9,563		2,607		294		86		9,563			
Person-years in interval	3,697		3,538		804		359		8,398			
All subsequent cancers	63	0.95	53	0.83	20	1.32	9	1.26	145	152.52	0.95	-8.96
All excluding same site	63	0.96	53	0.84	20	1.34	8	1.13	144	150.42	0.96	-7.64
Buccal cavity, pharynx	3	1.77	4	2.57	0	0.00	0	0.00	7	3.73	1.88	3.90
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-0.55
Tongue	1	2.98	1	3.20	0	0.00	0	0.00	2	0.75	2.67	1.49
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.39
Mouth	1	2.35	3	7.64*	0	0.00	0	0.00	4	0.95	4.21*	3.63
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.31
Tonsil	1	6.48	0	0.00	0	0.00	0	0.00	1	0.34	2.98	0.79
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.13
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.41	0.00	-0.48
Digestive system	11	0.71	8	0.53	5	1.40	2	1.13	26	35.86	0.73	-11.74
Esophagus	1	1.22	1	1.31	2	12.04*	0	0.00	4	1.81	2.21	2.60
Stomach	1	0.54	1	0.56	0	0.00	0	0.00	2	4.25	0.47	-2.68
Small intestine	1	4.88	1	5.02	0	0.00	0	0.00	2	0.48	4.18	1.81
Colon	4	0.60	2	0.31	3	1.89	0	0.00	9	15.43	0.58	-7.65
Rectum, rectosigmoid junction	1	0.39	1	0.41	0	0.00	0	0.00	2	5.84	0.34	-4.57
Anus, anal canal	0	0.00	1	8.46	0	0.00	0	0.00	1	0.28	3.51	0.85
Liver	0	0.00	0	0.00	0	0.00	1	14.38	1	1.82	0.55	-0.98
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0.00	-0.60
Bile ducts, other biliary	1	2.69	0	0.00	0	0.00	0	0.00	1	0.88	1.13	0.14
Pancreas	2	1.10	1	0.57	0	0.00	1	4.45	4	4.22	0.95	-0.26
Respiratory system	12	1.03	8	0.73	3	1.20	4	3.49	27	26.26	1.03	0.88
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.28
Larynx	1	1.33	2	2.96	0	0.00	0	0.00	3	1.62	1.85	1.64
Lung, bronchus	11	1.02	6	0.59	3	1.28	4	3.70	24	24.34	0.99	-0.41
Female breast	4	0.82	5	0.93	3	1.81	2	1.87	14	12.99	1.08	2.91
Female genital system	0	0.00	1	0.42	3	4.10	0	0.00	4	5.72	0.70	-4.96
Cervix uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.62	0.00	-1.79
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	2.89	0.00	-8.34
Ovary	0	0.00	1	1.44	2	9.15*	0	0.00	3	1.69	1.78	3.80
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.28
Vulva	0	0.00	0	0.00	1	25.62	0	0.00	1	0.29	3.46	2.05
Male genital system	14	0.90	10	0.69	0	0.00	1	0.98	25	34.12	0.73	-18.48
Prostate	14	0.91	10	0.69	0	0.00	1	0.99	25	33.85	0.74	-17.92
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.13
Urinary system	9	1.72	5	1.02	1	0.90	0	0.00	15	11.73	1.28	3.89
Urinary bladder	2	0.56	4	1.20	1	1.34	0	0.00	7	8.00	0.87	-1.19
Kidney parenchyma	6	4.57*	1	0.80	0	0.00	0	0.00	7	2.98	2.35	4.78
Renal pelvis, other urinary	1	3.03	0	0.00	0	0.00	0	0.00	1	0.75	1.34	0.30
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.30
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.14
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.70
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.14
Melanoma of skin	0	0.00	0	0.00	0	0.00	0	0.00	0	2.85	0.00	-3.39
Eye, orbit	0	0.00	0	0.00	1	55.81	0	0.00	1	0.18	5.59	0.98
Brain, central nervous system	1	1.68	1	1.77	0	0.00	0	0.00	2	1.36	1.47	0.77
Thyroid	1	2.99	4	11.93*	1	12.99	0	0.00	6	0.78	7.66*	6.21
Lymphatic, hematopoietic	5	1.04	7	1.51	2	1.78	0	0.00	14	11.12	1.26	3.43
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.34
Non-Hodgkin lymphoma	2	0.91	2	0.93	1	1.90	0	0.00	5	5.13	0.97	-0.16
Myeloma	2	2.32	3	3.65	0	0.00	0	0.00	5	1.98	2.52	3.59
Leukemia	1	0.61	2	1.30	1	2.71	0	0.00	4	3.72	1.08	0.33
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.12
Chronic lymphocytic	0	0.00	0	0.00	1	7.23	0	0.00	1	1.39	0.72	-0.47
Acute non-lymphocytic	0	0.00	2	3.58	0	0.00	0	0.00	2	1.34	1.50	0.79
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.52	0.00	-0.62

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 3,461 PYR and for male cancers on 4,937 PYR.

Table 4.5.1: Characteristics of patients with an initial cancer of the gallbladder, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	1,413	100.0	3,930	100.0	5,343	100.0
Initial treatment						
Any radiation	268	19.0	705	17.9	973	18.2
With surgery	190	13.4	520	13.2	710	13.3
Without surgery	78	5.5	185	4.7	263	4.9
No radiation	1,145	81.0	3,225	82.1	4,370	81.8
With surgery	764	54.1	2,237	56.9	3,001	56.2
Without surgery	381	27.0	988	25.1	1,369	25.6
Race						
White	1,125	79.6	3,339	85.0	4,464	83.5
Black	98	6.9	241	6.1	339	6.3
Other	189	13.4	345	8.8	534	10.0
Unknown	1	0.1	5	0.1	6	0.1
Age at 1st primary cancer diagnosis, years						
< 30	1	0.1	5	0.1	6	0.1
30–49	79	5.6	191	4.9	270	5.1
50–69	603	42.7	1,467	37.3	2,070	38.7
70–79	484	34.3	1,286	32.7	1,770	33.1
≥ 80	246	17.4	981	25.0	1,227	23.0
Number of patients with one or more primary cancers						
One primary cancer only	1,356	96.0	3,832	97.5	5,188	97.1
1st and 2nd cancers	52	3.7	91	2.3	143	2.7
1st, 2nd, and 3rd cancers	5	0.4	7	0.2	12	0.2
1st, 2nd, 3rd, and additional cancers	0	0.0	0	0.0	0	0.0
Other statistics						
Median age at 1st cancer diagnosis	70.5	—	72.4	—	71.8	—
Median year of 1st cancer diagnosis	1987.0	—	1987.0	—	1987.0	—
Median person-years at risk	0.4	—	0.4	—	0.4	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	91.2	—	84.7	—	87.1
1st, 2nd, and additional cancers	—	91.2	—	84.7	—	87.1
1st cancer only	—	7.0	—	15.3	—	12.3

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Gallbladder Both Sexes

Table 4.5.2: Risk of subsequent primary cancers after cancer of the gallbladder, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	41	1.09	65	1.10	43	1.31	18	0.80	167	152.46	1.10	16.15
All excluding same site	40	1.07	65	1.10	43	1.31	18	0.80	166	151.71	1.09	15.88
Buccal cavity, pharynx	1	1.23	0	0.00	0	0.00	0	0.00	1	3.13	0.32	-2.37
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	0.00	-0.45
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.64	0.00	-0.71
Salivary gland	1	12.68	0	0.00	0	0.00	0	0.00	1	0.32	3.11	0.75
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.93	0.00	-1.03
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.16
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.27
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.09
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.29
Digestive system	15	1.57	22	1.45	19	2.23*	7	1.24	63	38.89	1.62*	26.79
Esophagus	0	0.00	1	1.89	0	0.00	0	0.00	1	1.36	0.74	-0.40
Stomach	2	2.04	1	0.64	2	2.37	2	3.75	7	3.93	1.78	3.42
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.48	0.00	-0.53
Colon	3	0.66	8	1.10	6	1.45	2	0.73	19	18.70	1.02	0.33
Rectum, rectosigmoid junction	1	0.65	4	1.66	1	0.78	1	1.23	7	6.04	1.16	1.06
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.36	0.00	-0.40
Liver	1	3.64	0	0.00	1	3.98	1	5.57	3	1.16	2.59	2.05
Gallbladder	1	5.10	0	0.00	0	0.00	0	0.00	1	0.76	1.32	0.27
Bile ducts, other biliary	3	14.18*	4	11.47*	3	14.60*	1	6.72	11	0.91	12.03*	11.21
Pancreas	4	3.42	4	2.16	6	5.69*	0	0.00	14	4.78	2.93*	10.24
Respiratory system	5	0.91	6	0.70	5	1.06	0	0.00	16	22.18	0.72	-6.87
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.22	0.00	-0.25
Larynx	0	0.00	0	0.00	1	4.70	0	0.00	1	1.06	0.94	-0.07
Lung, bronchus	5	0.97	6	0.74	4	0.90	0	0.00	15	20.84	0.72	-6.49
Female breast	6	0.95	5	0.51	4	0.72	1	0.27	16	25.32	0.63	-14.01
Female genital system	6	2.06	16	3.71*	2	0.86	2	1.33	26	11.06	2.35*	22.46
Cervix uteri	1	3.04	3	6.48*	0	0.00	0	0.00	4	1.15	3.48	4.29
Corpus uteri	1	0.68	5	2.34	0	0.00	1	1.37	7	5.45	1.28	2.33
Ovary	4	4.74*	8	6.25*	2	2.80	1	2.10	15	3.31	4.53*	17.57
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.31
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.65	0.00	-0.98
Male genital system	4	0.95	3	0.43	6	1.59	3	1.04	16	17.85	0.90	-7.87
Prostate	4	0.96	3	0.43	6	1.60	3	1.05	16	17.69	0.90	-7.21
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.16
Urinary system	1	0.40	6	1.51	2	0.91	3	1.96	12	10.20	1.18	2.00
Urinary bladder	0	0.00	3	1.11	2	1.35	1	0.97	6	6.91	0.87	-1.01
Kidney parenchyma	0	0.00	2	2.04	0	0.00	1	2.55	3	2.54	1.18	0.51
Renal pelvis, other urinary	1	5.32	1	3.38	0	0.00	1	9.43	3	0.75	3.99	2.50
Ureter	0	0.00	1	10.07	0	0.00	0	0.00	1	0.25	4.01	0.83
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.14
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.66
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.13
Melanoma of skin	0	0.00	1	0.98	1	1.72	0	0.00	2	2.69	0.74	-0.76
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.22
Brain, central nervous system	0	0.00	0	0.00	0	0.00	1	5.20	1	1.35	0.74	-0.39
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.87	0.00	-0.96
Lymphatic, hematopoietic	2	0.69	5	1.09	4	1.53	1	0.55	12	11.94	1.00	0.07
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.34
Non-Hodgkin lymphoma	1	0.78	4	1.93	4	3.35	0	0.00	9	5.40	1.67	4.00
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	2.08	0.00	-2.31
Leukemia	1	0.98	1	0.62	0	0.00	1	1.63	3	4.16	0.72	-1.29
Acute lymphocytic	0	0.00	1	22.96	0	0.00	0	0.00	1	0.11	9.01	0.99
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	1.60	0.00	-1.78
Acute non-lymphocytic	1	2.85	0	0.00	0	0.00	1	4.63	2	1.44	1.39	0.62
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.57	0.00	-0.63

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 6,652 PYR and for male cancers on 2,347 PYR.

Table 4.5.3: Risk of subsequent primary cancers after cancer of the gallbladder, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	26	1.09	43	1.16	27	1.26	9	0.63	105	96.85	1.08	12.25
All excluding same site	25	1.05	43	1.16	27	1.27	9	0.63	104	96.22	1.08	11.69
Buccal cavity, pharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	1.66	0.00	-2.50
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.20
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.37	0.00	-0.55
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.29
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.89
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.11
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.18
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.06
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.14
Digestive system	10	1.57	11	1.09	13	2.22*	4	1.06	38	26.07	1.46*	17.93
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	0.64	0.00	-0.95
Stomach	1	1.77	1	1.12	0	0.00	1	3.32	3	2.26	1.33	1.11
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.48
Colon	1	0.31	3	0.59	6	2.01	1	0.52	11	13.19	0.83	-3.29
Rectum, rectosigmoid junction	1	1.02	3	1.98	0	0.00	1	1.92	5	3.87	1.29	1.71
Rectum	0	0.00	3	3.00	0	0.00	1	2.83	4	2.56	1.56	2.17
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.44
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.58	0.00	-0.87
Gallbladder	1	6.15	0	0.00	0	0.00	0	0.00	1	0.63	1.59	0.56
Bile ducts, other biliary	3	21.15*	2	8.59	2	13.97*	1	9.86	8	0.62	12.92*	11.10
Pancreas	3	3.68	2	1.55	5	6.56*	0	0.00	10	3.37	2.97*	9.97
Respiratory system	3	1.05	3	0.67	3	1.14	0	0.00	9	11.88	0.76	-4.33
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.21
Larynx	0	0.00	0	0.00	1	14.67	0	0.00	1	0.33	3.04	1.01
Lung, bronchus	3	1.10	3	0.70	2	0.79	0	0.00	8	11.38	0.70	-5.08
Female breast	6	0.95	5	0.51	4	0.72	1	0.27	16	25.32	0.63	-14.01
Female genital system	6	2.06	16	3.71*	2	0.86	2	1.33	26	11.06	2.35*	22.46
Cervix uteri	1	3.04	3	6.48*	0	0.00	0	0.00	4	1.15	3.48	4.29
Corpus uteri	1	0.68	5	2.34	0	0.00	1	1.37	7	5.45	1.28	2.33
Ovary	4	4.74*	8	6.25*	2	2.80	1	2.10	15	3.31	4.53*	17.57
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.31
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.65	0.00	-0.98
Urinary system	1	0.83	5	2.64	1	0.90	0	0.00	7	4.95	1.41	3.08
Urinary bladder	0	0.00	2	1.70	1	1.45	0	0.00	3	3.06	0.98	-0.10
Kidney parenchyma	0	0.00	2	3.64	0	0.00	0	0.00	2	1.45	1.38	0.82
Renal pelvis, other urinary	1	9.28	1	5.90	0	0.00	0	0.00	2	0.44	4.57	2.35
Ureter	0	0.00	1	18.04	0	0.00	0	0.00	1	0.14	7.03	1.29
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.13
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.39	0.00	-0.58
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.08
Melanoma of skin	0	0.00	1	1.63	1	2.71	0	0.00	2	1.64	1.22	0.54
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.20
Brain, central nervous system	0	0.00	0	0.00	0	0.00	1	7.78	1	0.89	1.12	0.17
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.70	0.00	-1.05
Lymphatic, hematopoietic	0	0.00	2	0.66	3	1.68	1	0.83	6	7.94	0.76	-2.92
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.30
Non-Hodgkin lymphoma	0	0.00	2	1.42	3	3.54	0	0.00	5	3.73	1.34	1.91
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	1.36	0.00	-2.04
Leukemia	0	0.00	0	0.00	0	0.00	1	2.52	1	2.65	0.38	-2.49
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.11
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	1.02	0.00	-1.53
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	1	7.13	1	0.93	1.08	0.11
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.36	0.00	-0.55

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Gallbladder Males

Table 4.5.4: Risk of subsequent primary cancers after cancer of the gallbladder, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	15	1.09	22	1.00	16	1.38	9	1.08	62	55.61	1.11	27.20
All excluding same site	15	1.10	22	1.00	16	1.39	9	1.09	62	55.49	1.12	27.75
Buccal cavity, pharynx	1	2.55	0	0.00	0	0.00	0	0.00	1	1.46	0.68	-1.98
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-1.15
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.27	0.00	-1.15
Salivary gland	1	31.30	0	0.00	0	0.00	0	0.00	1	0.13	7.64	3.70
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-1.44
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.32
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.52
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.17
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.71
Digestive system	5	1.56	11	2.15*	6	2.26	3	1.63	25	12.82	1.95*	51.90
Esophagus	0	0.00	1	3.49	0	0.00	0	0.00	1	0.72	1.38	1.17
Stomach	1	2.42	0	0.00	2	5.82	1	4.32	4	1.67	2.40	9.95
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.67
Colon	2	1.47	5	2.29	0	0.00	1	1.24	8	5.51	1.45	10.62
Rectum, rectosigmoid junction	0	0.00	1	1.13	1	2.26	0	0.00	2	2.18	0.92	-0.76
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.30
Liver	1	7.34	0	0.00	1	8.26	1	10.85	3	0.58	5.20*	10.32
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.55
Bile ducts, other biliary	0	0.00	2	17.24*	1	16.05	0	0.00	3	0.30	10.16*	11.52
Pancreas	1	2.81	2	3.54	1	3.42	0	0.00	4	1.42	2.82	11.00
Respiratory system	2	0.76	3	0.73	2	0.95	0	0.00	7	10.30	0.68	-14.08
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.36
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.73	0.00	-3.12
Lung, bronchus	2	0.83	3	0.79	2	1.03	0	0.00	7	9.46	0.74	-10.49
Male breast	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.43
Male genital system	4	0.95	3	0.43	6	1.59	3	1.04	16	17.85	0.90	-7.87
Prostate	4	0.96	3	0.43	6	1.60	3	1.05	16	17.69	0.90	-7.21
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.16
Urinary system	0	0.00	1	0.48	1	0.92	3	3.86	5	5.25	0.95	-1.05
Urinary bladder	0	0.00	1	0.66	1	1.26	1	1.75	3	3.84	0.78	-3.59
Kidney parenchyma	0	0.00	0	0.00	0	0.00	1	6.09	1	1.09	0.92	-0.38
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	1	23.29	1	0.31	3.19	2.92
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	0.00	-0.46
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.17
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.87
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.30
Melanoma of skin	0	0.00	0	0.00	0	0.00	0	0.00	0	1.05	0.00	-4.46
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.28
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-1.96
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.71
Lymphatic, hematopoietic	2	2.02	3	1.90	1	1.21	0	0.00	6	4.00	1.50	8.52
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.45
Non-Hodgkin lymphoma	1	2.46	2	3.04	1	2.89	0	0.00	4	1.67	2.39	9.93
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.72	0.00	-3.08
Leukemia	1	2.64	1	1.68	0	0.00	0	0.00	2	1.50	1.33	2.11
Acute lymphocytic	0	0.00	1	64.55	0	0.00	0	0.00	1	0.04	26.10	4.10
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-2.50
Acute non-lymphocytic	1	7.87	0	0.00	0	0.00	0	0.00	1	0.51	1.95	2.07
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.87

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.6.1: Characteristics of patients with an initial cancer of the extrahepatic bile duct or other biliary tract, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	2,817	100.0	2,681	100.0	5,498	100.0
Initial treatment						
Any radiation	705	25.0	587	21.9	1,292	23.5
With surgery	323	11.5	226	8.4	549	10.0
Without surgery	382	13.6	361	13.5	743	13.5
No radiation	2,112	75.0	2,094	78.1	4,206	76.5
With surgery	1,057	37.5	874	32.6	1,931	35.1
Without surgery	1,055	37.5	1,220	45.5	2,275	41.4
Race						
White	2,372	84.2	2,246	83.8	4,618	84.0
Black	137	4.9	157	5.9	294	5.3
Other	306	10.9	276	10.3	582	10.6
Unknown	2	0.1	2	0.1	4	0.1
Age at 1st primary cancer diagnosis, years						
< 30	16	0.6	4	0.1	20	0.4
30–49	246	8.7	165	6.2	411	7.5
50–69	1,279	45.4	975	36.4	2,254	41.0
70–79	830	29.5	843	31.4	1,673	30.4
≥ 80	446	15.8	694	25.9	1,140	20.7
Number of patients with one or more primary cancers						
One primary cancer only	2,710	96.2	2,619	97.7	5,329	96.9
1st and 2nd cancers	102	3.6	61	2.3	163	3.0
1st, 2nd, and 3rd cancers	5	0.2	1	0.0	6	0.1
1st, 2nd, 3rd, and additional cancers	0	0.0	0	0.0	0	0.0
Other statistics						
Median age at 1st cancer diagnosis	68.5	—	72.3	—	70.3	—
Median year of 1st cancer diagnosis	1988.4	—	1988.3	—	1988.4	—
Median person-years at risk	0.9	—	0.7	—	0.8	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	90.7	—	93.5	—	91.7
1st, 2nd, and additional cancers	—	90.7	—	91.9	—	91.1
1st cancer only	—	2.8	—	0.0	—	1.8

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Other Biliary Tract Both Sexes

Table 4.6.2: Risk of subsequent primary cancers after cancer of the extrahepatic bile duct or other biliary tract, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis													
	<1 year		1-4 years		5-9 years		≥10 years		Total					
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR		
All subsequent cancers	5,498	3,115	37	0.70*	73	0.88	46	1.23	19	0.63*	175	203.42	0.86*	-24.89
All excluding same site			37	0.70*	73	0.88	45	1.20	18	0.60*	173	202.62	0.85*	-25.94
Buccal cavity, pharynx			2	1.50	1	0.47	0	0.00	0	0.00	3	5.00	0.60	-1.75
Lip			0	0.00	0	0.00	0	0.00	0	0.00	0	0.78	0.00	-0.68
Tongue			1	3.88	1	2.41	0	0.00	0	0.00	2	0.98	2.03	0.89
Salivary gland			0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-0.40
Mouth			0	0.00	0	0.00	0	0.00	0	0.00	0	1.31	0.00	-1.15
Nasopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.23	0.00	-0.20
Tonsil			1	8.76	0	0.00	0	0.00	0	0.00	1	0.43	2.33	0.50
Oropharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.13	0.00	-0.12
Hypopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0.00	-0.44
Digestive system			13	1.02	17	0.88	15	1.73	6	0.87	51	47.75	1.07	2.84
Esophagus			0	0.00	0	0.00	1	2.45	0	0.00	1	2.20	0.45	-1.05
Stomach			1	0.71	1	0.47	2	2.17	0	0.00	4	5.16	0.77	-1.02
Small intestine			0	0.00	2	7.96	0	0.00	1	10.32	3	0.62	4.82	2.08
Colon			6	1.04	6	0.68	7	1.77	3	0.94	22	21.71	1.01	0.25
Rectum, rectosigmoid junction			4	1.86	5	1.52	3	2.09	1	0.91	13	7.96	1.63	4.41
Anus, anal canal			1	9.55	0	0.00	0	0.00	0	0.00	1	0.40	2.51	0.53
Liver			0	0.00	1	1.43	0	0.00	0	0.00	1	1.73	0.58	-0.64
Gallbladder			0	0.00	0	0.00	0	0.00	0	0.00	0	0.71	0.00	-0.62
Bile ducts, other biliary			0	0.00	0	0.00	1	4.81	1	5.54	2	1.12	1.78	0.77
Pancreas			1	0.66	2	0.87	1	0.96	0	0.00	4	5.68	0.70	-1.47
Respiratory system			1	0.11*	13	0.92	10	1.57	3	0.60	27	34.32	0.79	-6.41
Nose, nasal cavity, ear			0	0.00	0	0.00	2	36.35*	0	0.00	2	0.30	6.60	1.49
Larynx			0	0.00	0	0.00	0	0.00	0	0.00	0	2.15	0.00	-1.89
Lung, bronchus			1	0.12*	13	1.00	8	1.36	3	0.64	25	31.78	0.79	-5.94
Female breast			5	0.97	5	0.62	4	1.15	2	0.84	16	19.13	0.84	-6.11
Female genital system			1	0.42	2	0.55	3	2.04	1	1.04	7	8.44	0.83	-2.81
Cervix uteri			0	0.00	0	0.00	1	6.81	1	11.77	2	0.90	2.23	2.15
Corpus uteri			1	0.83	0	0.00	0	0.00	0	0.00	1	4.23	0.24	-6.30
Ovary			0	0.00	2	1.87	2	4.47	0	0.00	4	2.51	1.60	2.92
Vagina			0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.29
Vulva			0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.88
Male genital system			7	0.69	12	0.74	7	0.89	3	0.42	29	41.23	0.70	-19.42
Prostate			7	0.70	12	0.75	7	0.90	3	0.43	29	40.85	0.71	-18.81
Testis			0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.19
Urinary system			6	1.42	6	0.90	4	1.31	2	0.78	18	16.47	1.09	1.34
Urinary bladder			4	1.35	3	0.65	2	0.93	2	1.10	11	11.55	0.95	-0.48
Kidney parenchyma			1	1.03	3	1.90	2	2.75	0	0.00	6	3.86	1.55	1.87
Renal pelvis, other urinary			1	3.57	0	0.00	0	0.00	0	0.00	1	1.05	0.95	-0.05
Ureter			0	0.00	0	0.00	0	0.00	0	0.00	0	0.36	0.00	-0.31
Bone, joints			0	0.00	0	0.00	0	0.00	0	0.00	0	0.16	0.00	-0.14
Soft tissue including heart			0	0.00	0	0.00	0	0.00	0	0.00	0	0.79	0.00	-0.69
Kaposi sarcoma			0	0.00	1	11.13	0	0.00	0	0.00	1	0.21	4.86	0.70
Melanoma of skin			0	0.00	1	0.59	0	0.00	2	3.00	3	4.20	0.71	-1.05
Eye, orbit			0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.24
Brain, central nervous system			0	0.00	1	1.24	0	0.00	0	0.00	1	1.92	0.52	-0.81
Thyroid			0	0.00	0	0.00	0	0.00	0	0.00	0	0.99	0.00	-0.87
Lymphatic, hematopoietic			1	0.25	10	1.60	2	0.70	0	0.00	13	15.40	0.84	-2.10
Hodgkin lymphoma			0	0.00	1	5.44	0	0.00	0	0.00	1	0.43	2.32	0.50
Non-Hodgkin lymphoma			0	0.00	2	0.72	0	0.00	0	0.00	2	6.91	0.29	-4.30
Myeloma			0	0.00	3	2.81	0	0.00	0	0.00	3	2.63	1.14	0.32
Leukemia			1	0.70	4	1.82	2	2.02	0	0.00	7	5.42	1.29	1.38
Acute lymphocytic			0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.13
Chronic lymphocytic			1	1.77	1	1.16	0	0.00	0	0.00	2	2.13	0.94	-0.11
Acute non-lymphocytic			0	0.00	1	1.33	2	5.85	0	0.00	3	1.86	1.61	0.99
Chronic myeloid			0	0.00	2	6.80	0	0.00	0	0.00	2	0.73	2.73	1.11

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 5,124 PYR and for male cancers on 6,298 PYR.

Table 4.6.3: Risk of subsequent primary cancers after cancer of the extrahepatic bile duct or other biliary tract, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	16	0.82	24	0.79	15	1.14	8	0.86	63	72.17	0.87	-17.90
All excluding same site	16	0.82	24	0.80	15	1.15	7	0.76	62	71.85	0.86	-19.22
Buccal cavity, pharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	1.25	0.00	-2.45
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.18
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.54
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.28
Mouth	0	0.00	0	0.00	0	0.00	0	0.00	0	0.44	0.00	-0.86
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.11
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.19
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.06
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0.00	-0.15
Digestive system	9	1.75	7	0.90	3	0.88	2	0.81	21	18.78	1.12	4.33
Esophagus	0	0.00	0	0.00	0	0.00	0	0.00	0	0.48	0.00	-0.93
Stomach	1	2.15	0	0.00	0	0.00	0	0.00	1	1.66	0.60	-1.30
Small intestine	0	0.00	2	19.89*	0	0.00	0	0.00	2	0.24	8.21	3.43
Colon	5	1.95	3	0.78	2	1.17	1	0.80	11	9.36	1.17	3.19
Rectum, rectosigmoid junction	2	2.55	2	1.71	1	2.01	0	0.00	5	2.79	1.79	4.31
Rectum	2	3.90	2	2.61	1	3.05	0	0.00	5	1.84	2.72	6.18
Anus, anal canal	1	17.12	0	0.00	0	0.00	0	0.00	1	0.22	4.61	1.53
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.88
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.87
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	1	15.12	1	0.45	2.21	1.07
Pancreas	0	0.00	0	0.00	0	0.00	0	0.00	0	2.45	0.00	-4.77
Respiratory system	0	0.00	3	0.77	3	1.73	1	0.79	7	9.33	0.75	-4.55
Nose, nasal cavity, ear	0	0.00	0	0.00	2	105.32*	0	0.00	2	0.10	19.33*	3.70
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.52
Lung, bronchus	0	0.00	3	0.80	1	0.60	1	0.82	5	8.94	0.56	-7.69
Female breast	5	0.97	5	0.62	4	1.15	2	0.84	16	19.13	0.84	-6.11
Female genital system	1	0.42	2	0.55	3	2.04	1	1.04	7	8.44	0.83	-2.81
Cervix uteri	0	0.00	0	0.00	1	6.81	1	11.77	2	0.90	2.23	2.15
Corpus uteri	1	0.83	0	0.00	0	0.00	0	0.00	1	4.23	0.24	-6.30
Ovary	0	0.00	2	1.87	2	4.47	0	0.00	4	2.51	1.60	2.92
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.29
Vulva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.45	0.00	-0.88
Urinary system	0	0.00	1	0.67	0	0.00	0	0.00	1	3.63	0.28	-5.13
Urinary bladder	0	0.00	0	0.00	0	0.00	0	0.00	0	2.20	0.00	-4.29
Kidney parenchyma	0	0.00	1	2.15	0	0.00	0	0.00	1	1.11	0.90	-0.21
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.62
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.20
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.12
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.56
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.06
Melanoma of skin	0	0.00	0	0.00	0	0.00	2	12.28*	2	1.22	1.64	1.52
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.19
Brain, central nervous system	0	0.00	1	3.41	0	0.00	0	0.00	1	0.69	1.46	0.61
Thyroid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.55	0.00	-1.08
Lymphatic, hematopoietic	0	0.00	3	1.26	2	1.88	0	0.00	5	5.80	0.86	-1.56
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.29
Non-Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	2.76	0.00	-5.38
Myeloma	0	0.00	2	4.73	0	0.00	0	0.00	2	1.02	1.97	1.92
Leukemia	0	0.00	1	1.30	2	5.86	0	0.00	3	1.87	1.60	2.20
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.10
Chronic lymphocytic	0	0.00	1	3.41	0	0.00	0	0.00	1	0.71	1.40	0.56
Acute non-lymphocytic	0	0.00	0	0.00	2	16.39*	0	0.00	2	0.67	2.99	2.60
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.50

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Other Biliary Tract Males

Table 4.6.4: Risk of subsequent primary cancers after cancer of the extrahepatic bile duct or other biliary tract, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis													
	<1 year		1-4 years		5-9 years		≥10 years		Total					
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR		
All subsequent cancers	2,817	1,660	21	0.63*	49	0.93	31	1.27	11	0.53*	112	131.25	0.85	-30.57
All excluding same site			21	0.63*	49	0.93	30	1.23	11	0.53*	111	130.78	0.85	-31.40
Buccal cavity, pharynx	2,817	1,660	2	2.02	1	0.64	0	0.00	0	0.00	3	3.75	0.80	-1.18
Lip			0	0.00	0	0.00	0	0.00	0	0.00	0	0.69	0.00	-1.09
Tongue			1	5.48	1	3.36	0	0.00	0	0.00	2	0.71	2.82	2.05
Salivary gland			0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.51
Mouth			0	0.00	0	0.00	0	0.00	0	0.00	0	0.87	0.00	-1.38
Nasopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	0.00	-0.28
Tonsil			1	11.53	0	0.00	0	0.00	0	0.00	1	0.33	3.02	1.06
Oropharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.17
Hypopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	0.00	-0.67
Digestive system	2,817	1,660	4	0.53	10	0.86	12	2.28*	4	0.90	30	28.97	1.04	1.64
Esophagus			0	0.00	0	0.00	1	3.11	0	0.00	1	1.73	0.58	-1.15
Stomach			0	0.00	1	0.71	2	3.21	0	0.00	3	3.50	0.86	-0.79
Small intestine			0	0.00	0	0.00	0	0.00	1	16.17	1	0.38	2.64	0.99
Colon			1	0.31	3	0.61	5	2.22	2	1.03	11	12.35	0.89	-2.14
Rectum, rectosigmoid junction			2	1.47	3	1.42	2	2.13	1	1.32	8	5.17	1.55	4.49
Anus, anal canal			0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.29
Liver			0	0.00	1	1.95	0	0.00	0	0.00	1	1.28	0.78	-0.44
Gallbladder			0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.42
Bile ducts, other biliary			0	0.00	0	0.00	1	8.17	0	0.00	1	0.67	1.49	0.52
Pancreas			1	1.18	2	1.53	1	1.71	0	0.00	4	3.23	1.24	1.22
Respiratory system	2,817	1,660	1	0.16*	10	0.98	7	1.51	2	0.54	20	24.99	0.80	-7.93
Nose, nasal cavity, ear			0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.32
Larynx			0	0.00	0	0.00	0	0.00	0	0.00	0	1.89	0.00	-3.00
Lung, bronchus			1	0.17*	10	1.07	7	1.65	2	0.58	20	22.84	0.88	-4.51
Male breast	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.39
Male genital system	2,817	1,660	7	0.69	12	0.74	7	0.89	3	0.42	29	41.23	0.70	-19.42
Prostate			7	0.70	12	0.75	7	0.90	3	0.43	29	40.85	0.71	-18.81
Testis			0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.19
Urinary system	2,817	1,660	6	1.85	5	0.97	4	1.67	2	0.97	17	12.84	1.32	6.60
Urinary bladder			4	1.68	3	0.81	2	1.15	2	1.31	11	9.35	1.18	2.62
Kidney parenchyma			1	1.47	2	1.79	2	3.83	0	0.00	5	2.75	1.82	3.57
Renal pelvis, other urinary			1	5.17	0	0.00	0	0.00	0	0.00	1	0.74	1.36	0.42
Ureter			0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.40
Bone, joints	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.16
Soft tissue including heart	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0.00	-0.80
Kaposi sarcoma	2,817	1,660	0	0.00	1	13.05	0	0.00	0	0.00	1	0.17	5.80	1.31
Melanoma of skin	2,817	1,660	0	0.00	1	0.84	0	0.00	0	0.00	1	2.97	0.34	-3.14
Eye, orbit	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	0.18	0.00	-0.28
Brain, central nervous system	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	1.24	0.00	-1.96
Thyroid	2,817	1,660	0	0.00	0	0.00	0	0.00	0	0.00	0	0.43	0.00	-0.69
Lymphatic, hematopoietic	2,817	1,660	1	0.41	7	1.82	0	0.00	0	0.00	8	9.60	0.83	-2.54
Hodgkin lymphoma			0	0.00	1	8.40	0	0.00	0	0.00	1	0.28	3.56	1.14
Non-Hodgkin lymphoma			0	0.00	2	1.21	0	0.00	0	0.00	2	4.16	0.48	-3.42
Myeloma			0	0.00	1	1.55	0	0.00	0	0.00	1	1.61	0.62	-0.97
Leukemia			1	1.08	3	2.10	0	0.00	0	0.00	4	3.55	1.13	0.71
Acute lymphocytic			0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.15
Chronic lymphocytic			1	2.72	0	0.00	0	0.00	0	0.00	1	1.41	0.71	-0.66
Acute non-lymphocytic			0	0.00	1	2.10	0	0.00	0	0.00	1	1.20	0.84	-0.31
Chronic myeloid			0	0.00	2	10.53*	0	0.00	0	0.00	2	0.48	4.19	2.42

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.7.1: Characteristics of patients with an initial cancer of the pancreas, both sexes, SEER 1973-2000.

Characteristics	Males		Females		Total	
	No.	%	No.	%	No.	%
Number of patients with 1st primary cancer						
Total	18,914	100.0	19,437	100.0	38,351	100.0
Initial treatment						
Any radiation	4,602	24.3	4,014	20.7	8,616	22.5
With surgery	817	4.3	760	3.9	1,577	4.1
Without surgery	3,785	20.0	3,254	16.7	7,039	18.4
No radiation	14,312	75.7	15,423	79.3	29,735	77.5
With surgery	1,610	8.5	1,725	8.9	3,335	8.7
Without surgery	12,702	67.2	13,698	70.5	26,400	68.8
Race						
White	15,717	83.1	16,192	83.3	31,909	83.2
Black	1,981	10.5	2,140	11.0	4,121	10.7
Other	1,196	6.3	1,083	5.6	2,279	5.9
Unknown	20	0.1	22	0.1	42	0.1
Age at 1st primary cancer diagnosis, years						
< 30	40	0.2	72	0.4	112	0.3
30–49	1,699	9.0	1,168	6.0	2,867	7.5
50–69	9,799	51.8	7,833	40.3	17,632	46.0
70–79	5,262	27.8	6,187	31.8	11,449	29.9
≥ 80	2,114	11.2	4,177	21.5	6,291	16.4
Number of patients with one or more primary cancers						
One primary cancer only	18,705	98.9	19,288	99.2	37,993	99.1
1st and 2nd cancers	201	1.1	139	0.7	340	0.9
1st, 2nd, and 3rd cancers	7	0.0	10	0.1	17	0.0
1st, 2nd, 3rd, and additional cancers	1	0.0	0	0.0	1	0.0
Other statistics						
Median age at 1st cancer diagnosis	66.8	—	71.0	—	68.8	—
Median year of 1st cancer diagnosis	1988.0	—	1988.5	—	1988.2	—
Median person-years at risk	0.3	—	0.3	—	0.3	—
Percent histologically confirmed*						
Both 1st and 2nd cancers	—	79.9	—	75.2	—	77.9
1st, 2nd, and additional cancers	—	79.9	—	74.5	—	77.7
1st cancer only	—	2.4	—	5.4	—	3.6

*Percent histologically confirmed among patients who developed a subsequent primary cancer.

Pancreas
Both Sexes

Table 4.7.2: Risk of subsequent primary cancers after cancer of the pancreas, both sexes, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis													
	<1 year		1-4 years		5-9 years		≥10 years		Total					
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR		
All subsequent cancers	38,351	14,736	141	0.59*	149	0.87	64	1.07	23	0.62*	377	505.82	0.75*	-40.92
All excluding same site			140	0.61*	149	0.90	64	1.11	23	0.64*	376	491.26	0.77*	-36.61
Buccal cavity, pharynx			1	0.16*	3	0.71	2	1.45	1	1.25	7	12.51	0.56	-1.75
Lip			0	0.00	0	0.00	0	0.00	0	0.00	0	1.83	0.00	-0.58
Tongue			0	0.00	0	0.00	0	0.00	0	0.00	0	2.48	0.00	-0.79
Salivary gland			0	0.00	0	0.00	0	0.00	0	0.00	0	1.11	0.00	-0.35
Mouth			0	0.00	2	1.74	0	0.00	1	4.61	3	3.39	0.88	-0.12
Nasopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0.00	-0.16
Tonsil			1	1.78	1	2.52	1	7.92	0	0.00	3	1.16	2.60	0.59
Oropharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.34	0.00	-0.11
Hypopharynx			0	0.00	0	0.00	1	7.42	0	0.00	1	1.25	0.80	-0.08
Digestive system			35	0.62*	38	0.95	8	0.57	2	0.24*	83	118.59	0.70*	-11.31
Esophagus			2	0.76	4	2.13	0	0.00	1	2.55	7	5.55	1.26	0.46
Stomach			7	1.19	3	0.72	3	2.06	1	1.17	14	12.38	1.13	0.52
Small intestine			2	2.74	5	9.31*	0	0.00	0	0.00	7	1.59	4.39*	1.72
Colon			17	0.66	16	0.87	3	0.46	0	0.00*	36	54.48	0.66*	-5.87
Rectum, rectosigmoid junction			3	0.32*	9	1.36	2	0.91	0	0.00	14	19.58	0.72	-1.77
Anus, anal canal			1	2.00	1	2.73	0	0.00	0	0.00	2	1.07	1.87	0.29
Liver			0	0.00	0	0.00	0	0.00	0	0.00	0	3.87	0.00*	-1.23
Gallbladder			1	1.15	0	0.00	0	0.00	0	0.00	1	1.80	0.56	-0.25
Bile ducts, other biliary			1	0.85	0	0.00	0	0.00	0	0.00	1	2.56	0.39	-0.50
Pancreas			1	0.15*	0	0.00*	0	0.00	0	0.00	1	14.57	0.07*	-4.31
Respiratory system			14	0.35*	23	0.81	22	2.29*	6	1.01	65	84.26	0.77*	-6.12
Nose, nasal cavity, ear			0	0.00	0	0.00	0	0.00	0	0.00	0	0.74	0.00	-0.24
Larynx			1	0.38	0	0.00	1	1.72	0	0.00	2	5.36	0.37	-1.07
Lung, bronchus			12	0.32*	23	0.87	21	2.35*	6	1.08	62	77.95	0.80	-5.07
Female breast			13	0.48*	25	1.27	5	0.71	4	0.93	47	57.95	0.81	-6.63
Female genital system			6	0.48	11	1.25	2	0.67	1	0.57	20	26.02	0.77	-3.65
Cervix uteri			1	0.69	0	0.00	0	0.00	0	0.00	1	3.06	0.33	-1.24
Corpus uteri			0	0.00*	2	0.46	1	0.69	0	0.00	3	12.97	0.23*	-6.04
Ovary			4	1.12	8	3.10*	1	1.11	0	0.00	13	7.59	1.71	3.27
Vagina			1	4.68	0	0.00	0	0.00	0	0.00	1	0.46	2.20	0.33
Vulva			0	0.00	1	2.27	0	0.00	1	9.94	2	1.31	1.53	0.42
Male genital system			42	1.00	23	0.75	13	1.18	1	0.14*	79	91.21	0.87	-8.16
Prostate			42	1.01	22	0.72	12	1.10	1	0.14*	77	90.27	0.85	-8.87
Testis			0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.22
Urinary system			8	0.44*	7	0.54	5	1.12	1	0.35	21	38.38	0.55*	-5.52
Urinary bladder			4	0.32*	4	0.45	4	1.31	0	0.00	12	26.40	0.45*	-4.58
Kidney parenchyma			4	0.90	2	0.62	1	0.90	1	1.39	8	9.46	0.85	-0.46
Renal pelvis, other urinary			0	0.00	1	1.18	0	0.00	0	0.00	1	2.51	0.40	-0.48
Ureter			0	0.00	0	0.00	0	0.00	0	0.00	0	0.82	0.00	-0.26
Bone, joints			1	4.96	0	0.00	0	0.00	0	0.00	1	0.42	2.38	0.18
Soft tissue including heart			0	0.00	2	2.98	0	0.00	0	0.00	2	1.97	1.02	0.01
Kaposi sarcoma			0	0.00	0	0.00	0	0.00	0	0.00	0	0.59	0.00	-0.19
Melanoma of skin			3	0.67	1	0.30	0	0.00	2	2.49	6	9.88	0.61	-1.23
Eye, orbit			0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.22
Brain, central nervous system			0	0.00	2	1.23	0	0.00	0	0.00	2	4.78	0.42	-0.88
Thyroid			11	8.95*	0	0.00	1	3.10	0	0.00	12	2.68	4.48*	2.96
Lymphatic, hematopoietic			4	0.23*	8	0.62	6	1.33	5	1.76	23	38.01	0.61*	-4.77
Hodgkin lymphoma			0	0.00	0	0.00	0	0.00	0	0.00	0	1.15	0.00	-0.36
Non-Hodgkin lymphoma			3	0.39	6	1.06	3	1.52	2	1.55	14	16.65	0.84	-0.84
Myeloma			0	0.00	0	0.00	0	0.00	1	1.93	1	6.87	0.15*	-1.87
Leukemia			1	0.16*	2	0.44	3	1.90	2	2.08	8	13.34	0.60	-1.70
Acute lymphocytic			0	0.00	0	0.00	1	22.46	0	0.00	1	0.36	2.77	0.20
Chronic lymphocytic			1	0.40	1	0.56	0	0.00	0	0.00	2	5.30	0.38	-1.05
Acute non-lymphocytic			0	0.00	1	0.66	2	3.76	2	6.01	5	4.50	1.11	0.16
Chronic myeloid			0	0.00	0	0.00	0	0.00	0	0.00	0	1.82	0.00	-0.58

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 16,515 PYR and for male cancers on 14,964 PYR.

Table 4.7.3: Risk of subsequent primary cancers after cancer of the pancreas, females, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	47	0.47*	72	0.99	27	1.04	13	0.82	159	214.06	0.74*	-33.34
All excluding same site	46	0.48*	72	1.03	27	1.08	13	0.85	158	206.86	0.76*	-29.59
Buccal cavity, pharynx	0	0.00	2	1.59	0	0.00	0	0.00	2	3.72	0.54	-1.04
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.26	0.00	-0.16
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.81	0.00	-0.49
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.41	0.00	-0.25
Mouth	0	0.00	2	4.54	0	0.00	0	0.00	2	1.31	1.53	0.42
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.09
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.31	0.00	-0.19
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.09	0.00	-0.05
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.24	0.00	-0.15
Digestive system	12	0.47*	17	0.93	4	0.61	1	0.25	34	54.21	0.63*	-12.24
Esophagus	1	1.45	2	4.00	0	0.00	0	0.00	3	1.48	2.02	0.92
Stomach	0	0.00	1	0.65	1	1.78	1	2.95	3	4.57	0.66	-0.95
Small intestine	1	3.04	2	8.13	0	0.00	0	0.00	3	0.73	4.10	1.37
Colon	7	0.55	9	0.99	1	0.30	0	0.00	17	27.14	0.63	-6.14
Rectum, rectosigmoid junction	0	0.00*	2	0.73	2	2.13	0	0.00	4	8.13	0.49	-2.50
Rectum	0	0.00	1	0.56	1	1.62	0	0.00	2	5.33	0.38	-2.02
Anus, anal canal	0	0.00	1	4.50	0	0.00	0	0.00	1	0.65	1.53	0.21
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	1.20	0.00	-0.73
Gallbladder	1	1.67	0	0.00	0	0.00	0	0.00	1	1.23	0.81	-0.14
Bile ducts, other biliary	1	1.83	0	0.00	0	0.00	0	0.00	1	1.20	0.84	-0.12
Pancreas	1	0.30	0	0.00	0	0.00	0	0.00	1	7.20	0.14*	-3.76
Respiratory system	7	0.55	9	0.96	13	3.86*	4	1.88	33	27.47	1.20	3.35
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0.00	-0.18
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.85	0.00	-0.52
Lung, bronchus	7	0.58	9	1.01	13	4.03*	4	1.96	33	26.25	1.26	4.09
Female breast	13	0.48*	25	1.27	5	0.71	4	0.93	47	57.95	0.81	-6.63
Female genital system	6	0.48	11	1.25	2	0.67	1	0.57	20	26.02	0.77	-3.65
Cervix uteri	1	0.69	0	0.00	0	0.00	0	0.00	1	3.06	0.33	-1.24
Corpus uteri	0	0.00*	2	0.46	1	0.69	0	0.00	3	12.97	0.23*	-6.04
Ovary	4	1.12	8	3.10*	1	1.11	0	0.00	13	7.59	1.71	3.27
Vagina	1	4.68	0	0.00	0	0.00	0	0.00	1	0.46	2.20	0.33
Vulva	0	0.00	1	2.27	0	0.00	1	9.94	2	1.31	1.53	0.42
Urinary system	1	0.20	1	0.28	1	0.78	0	0.00	3	10.58	0.28*	-4.59
Urinary bladder	0	0.00	1	0.47	1	1.30	0	0.00	2	6.35	0.31	-2.64
Kidney parenchyma	1	0.66	0	0.00	0	0.00	0	0.00	1	3.32	0.30	-1.41
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.90	0.00	-0.55
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.28	0.00	-0.17
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.11
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.86	0.00	-0.52
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.06
Melanoma of skin	2	1.21	0	0.00	0	0.00	2	7.09	4	3.66	1.09	0.21
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.18
Brain, central nervous system	0	0.00	2	2.87	0	0.00	0	0.00	2	2.05	0.98	-0.03
Thyroid	3	3.88	0	0.00	0	0.00	0	0.00	3	1.72	1.74	0.77
Lymphatic, hematopoietic	1	0.13*	3	0.52	2	0.96	1	0.78	7	16.92	0.41*	-6.00
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.47	0.00	-0.29
Non-Hodgkin lymphoma	1	0.28	2	0.75	0	0.00	1	1.66	4	7.83	0.51	-2.32
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	3.15	0.00	-1.91
Leukemia	0	0.00	1	0.54	2	3.00	0	0.00	3	5.47	0.55	-1.49
Acute lymphocytic	0	0.00	0	0.00	1	50.49	0	0.00	1	0.15	6.48	0.51
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	2.11	0.00	-1.28
Acute non-lymphocytic	0	0.00	1	1.55	1	4.25	0	0.00	2	1.92	1.04	0.05
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.76	0.00	-0.46

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Pancreas
Males

Table 4.7.4: Risk of subsequent primary cancers after cancer of the pancreas, males, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
Number starting interval	18,914		4,436		531		183		18,914			
Person-years in interval	7,186		5,172		1,628		977		14,964			
All subsequent cancers	94	0.68*	77	0.78*	37	1.10	10	0.47*	218	291.76	0.75*	-49.29
All excluding same site	94	0.70*	77	0.80	37	1.13	10	0.48*	218	284.40	0.77*	-44.37
Buccal cavity, pharynx	1	0.23	1	0.33	2	2.11	1	1.83	5	8.79	0.57	-2.53
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	1.56	0.00	-1.04
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	1.67	0.00	-1.11
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.69	0.00	-0.46
Mouth	0	0.00	0	0.00	0	0.00	1	7.91	1	2.09	0.48	-0.73
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0.00	-0.23
Tonsil	1	2.44	1	3.45	1	10.97	0	0.00	3	0.84	3.55	1.44
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.17
Hypopharynx	0	0.00	0	0.00	1	9.26	0	0.00	1	1.01	0.99	0.00
Digestive system	23	0.75	21	0.96	4	0.54	1	0.22	49	64.38	0.76	-10.28
Esophagus	1	0.51	2	1.45	0	0.00	1	3.58	4	4.07	0.98	-0.04
Stomach	7	1.86	2	0.76	2	2.23	0	0.00	11	7.81	1.41	2.13
Small intestine	1	2.49	3	10.30*	0	0.00	0	0.00	4	0.86	4.64*	2.10
Colon	10	0.77	7	0.76	2	0.62	0	0.00	19	27.34	0.69	-5.57
Rectum, rectosigmoid junction	3	0.54	7	1.81	0	0.00	0	0.00	10	11.44	0.87	-0.96
Anus, anal canal	1	5.09	0	0.00	0	0.00	0	0.00	1	0.42	2.39	0.39
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	2.67	0.00	-1.79
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.56	0.00	-0.38
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	1.36	0.00	-0.91
Pancreas	0	0.00	0	0.00	0	0.00	0	0.00	0	7.37	0.00*	-4.92
Respiratory system	7	0.25*	14	0.73	9	1.44	2	0.52	32	56.79	0.56*	-16.57
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.44	0.00	-0.30
Larynx	1	0.45	0	0.00	1	2.07	0	0.00	2	4.50	0.44	-1.67
Lung, bronchus	5	0.20*	14	0.80	8	1.40	2	0.57	29	51.70	0.56*	-15.17
Male breast	0	0.00	0	0.00	0	0.00	0	0.00	0	0.56	0.00	-0.37
Male genital system	42	1.00	23	0.75	13	1.18	1	0.14*	79	91.21	0.87	-8.16
Prostate	42	1.01	22	0.72	12	1.10	1	0.14*	77	90.27	0.85	-8.87
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	0.00	-0.22
Urinary system	7	0.53	6	0.64	4	1.26	1	0.49	18	27.80	0.65	-6.55
Urinary bladder	4	0.42	3	0.44	3	1.31	0	0.00	10	20.05	0.50*	-6.72
Kidney parenchyma	3	1.04	2	0.96	1	1.42	1	2.19	7	6.14	1.14	0.57
Renal pelvis, other urinary	0	0.00	1	1.84	0	0.00	0	0.00	1	1.61	0.62	-0.41
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.54	0.00	-0.36
Bone, joints	1	8.91	0	0.00	0	0.00	0	0.00	1	0.23	4.33	0.51
Soft tissue including heart	0	0.00	2	5.30	0	0.00	0	0.00	2	1.10	1.81	0.60
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.49	0.00	-0.33
Melanoma of skin	1	0.35	1	0.47	0	0.00	0	0.00	2	6.22	0.32	-2.82
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.39	0.00	-0.26
Brain, central nervous system	0	0.00	0	0.00	0	0.00	0	0.00	0	2.73	0.00	-1.83
Thyroid	8	17.58*	0	0.00	1	9.52	0	0.00	9	0.96	9.39*	5.37
Lymphatic, hematopoietic	3	0.30*	5	0.70	4	1.64	4	2.56	16	21.10	0.76	-3.41
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.68	0.00	-0.45
Non-Hodgkin lymphoma	2	0.49	4	1.33	3	2.95	1	1.45	10	8.82	1.13	0.79
Myeloma	0	0.00	0	0.00	0	0.00	1	3.65	1	3.73	0.27	-1.82
Leukemia	1	0.27	1	0.37	1	1.10	2	3.57	5	7.87	0.64	-1.92
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.21	0.00	-0.14
Chronic lymphocytic	1	0.66	1	0.93	0	0.00	0	0.00	2	3.19	0.63	-0.79
Acute non-lymphocytic	0	0.00	0	0.00	1	3.36	2	10.66*	3	2.58	1.16	0.28
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	1.07	0.00	-0.71

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000.

Table 4.7.5: Risk of subsequent primary cancers after cancer of the pancreas, both sexes, <50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis											
	<1 year		1-4 years		5-9 years		≥10 years		Total			
	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	4	1.13	6	1.17	2	0.49	12	1.97*	24	18.85	1.27	10.35
All excluding same site	4	1.15	6	1.19	2	0.50	12	2.01*	24	18.50	1.30	11.05
Buccal cavity, pharynx	0	0.00	1	4.73	0	0.00	0	0.00	1	0.69	1.45	0.62
Lip	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.12
Tongue	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.31
Salivary gland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.12
Mouth	0	0.00	1	18.43	0	0.00	0	0.00	1	0.18	5.60	1.65
Nasopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.08
Tonsil	0	0.00	0	0.00	0	0.00	0	0.00	0	0.10	0.00	-0.20
Oropharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.04
Hypopharynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.13
Digestive system	0	0.00	1	1.32	0	0.00	1	0.96	2	2.95	0.68	-1.90
Esophagus	0	0.00	0	0.00	0	0.00	1	14.75	1	0.21	4.67	1.58
Stomach	0	0.00	0	0.00	0	0.00	0	0.00	0	0.29	0.00	-0.59
Small intestine	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.14
Colon	0	0.00	1	3.67	0	0.00	0	0.00	1	1.12	0.89	-0.24
Rectum, rectosigmoid junction	0	0.00	0	0.00	0	0.00	0	0.00	0	0.56	0.00	-1.14
Anus, anal canal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.06	0.00	-0.12
Liver	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.29
Gallbladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.06
Bile ducts, other biliary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.11
Pancreas	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0.00	-0.70
Respiratory system	0	0.00	1	1.43	2	3.24	4	4.02*	7	2.77	2.53*	8.51
Nose, nasal cavity, ear	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.07
Larynx	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0.00	-0.51
Lung, bronchus	0	0.00	1	1.63	2	3.64	4	4.40*	7	2.47	2.84*	9.11
Female breast	0	0.00	1	0.86	0	0.00	3	2.70	4	4.03	0.99	-0.11
Female genital system	2	6.11	0	0.00	0	0.00	1	2.24	3	1.61	1.86	5.31
Cervix uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.41	0.00	-1.58
Corpus uteri	0	0.00	0	0.00	0	0.00	0	0.00	0	0.63	0.00	-2.40
Ovary	2	20.61*	0	0.00	0	0.00	0	0.00	2	0.48	4.21	5.83
Vagina	0	0.00	0	0.00	0	0.00	0	0.00	0	0.02	0.00	-0.07
Vulva	0	0.00	0	0.00	0	0.00	1	72.01	1	0.05	21.22	3.64
Male genital system	0	0.00	0	0.00	0	0.00	0	0.00	0	1.69	0.00	-7.16
Prostate	0	0.00	0	0.00	0	0.00	0	0.00	0	1.53	0.00	-6.47
Testis	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.60
Urinary system	0	0.00	0	0.00	0	0.00	1	2.51	1	1.12	0.89	-0.25
Urinary bladder	0	0.00	0	0.00	0	0.00	0	0.00	0	0.61	0.00	-1.22
Kidney parenchyma	0	0.00	0	0.00	0	0.00	1	6.88	1	0.47	2.15	1.07
Renal pelvis, other urinary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	0.00	-0.10
Ureter	0	0.00	0	0.00	0	0.00	0	0.00	0	0.01	0.00	-0.02
Bone, joints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.07
Soft tissue including heart	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.25
Kaposi sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.38
Melanoma of skin	0	0.00	0	0.00	0	0.00	2	9.45*	2	0.90	2.22	2.21
Eye, orbit	0	0.00	0	0.00	0	0.00	0	0.00	0	0.04	0.00	-0.07
Brain, central nervous system	0	0.00	1	9.80	0	0.00	0	0.00	1	0.32	3.10	1.36
Thyroid	2	19.36*	0	0.00	0	0.00	0	0.00	2	0.41	4.91	3.20
Lymphatic, hematopoietic	0	0.00	1	2.22	0	0.00	0	0.00	1	1.53	0.65	-1.06
Hodgkin lymphoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.14	0.00	-0.29
Non-Hodgkin lymphoma	0	0.00	1	4.34	0	0.00	0	0.00	1	0.78	1.28	0.44
Myeloma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0.00	-0.40
Leukemia	0	0.00	0	0.00	0	0.00	0	0.00	0	0.41	0.00	-0.82
Acute lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.03	0.00	-0.06
Chronic lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.12	0.00	-0.25
Acute non-lymphocytic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.15	0.00	-0.29
Chronic myeloid	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0.00	-0.14

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 2,615 PYR and for male cancers on 2,361 PYR.

Pancreas

Both Sexes, ≥50 Years of Age

Table 4.7.6: Risk of subsequent primary cancers after cancer of the pancreas, both sexes, ≥50 years of age, SEER 1973-2000.

Subsequent primary cancer	Years after first primary cancer diagnosis													
	<1 year		1-4 years		5-9 years		≥10 years		Total					
	Number starting interval	Person-years in interval	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR		
All subsequent cancers	35,372	13,342	137	0.58*	143	0.86	62	1.12	11	0.35*	353	486.97	0.72*	-50.55
All excluding same site			136	0.60*	143	0.89	62	1.15	11	0.36*	352	472.75	0.74*	-45.56
Buccal cavity, pharynx			1	0.17*	2	0.50	2	1.63	1	1.60	6	11.82	0.51	-2.20
Lip			0	0.00	0	0.00	0	0.00	0	0.00	0	1.77	0.00	-0.67
Tongue			0	0.00	0	0.00	0	0.00	0	0.00	0	2.33	0.00	-0.88
Salivary gland			0	0.00	0	0.00	0	0.00	0	0.00	0	1.05	0.00	-0.40
Mouth			0	0.00	1	0.91	0	0.00	1	5.84	2	3.21	0.62	-0.46
Nasopharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.46	0.00	-0.17
Tonsil			1	1.86	1	2.74	1	9.60	0	0.00	3	1.06	2.84	0.73
Oropharynx			0	0.00	0	0.00	0	0.00	0	0.00	0	0.32	0.00	-0.12
Hypopharynx			0	0.00	0	0.00	1	8.36	0	0.00	1	1.19	0.84	-0.07
Digestive system			35	0.63*	37	0.94	8	0.60	1	0.13*	81	115.64	0.70*	-13.07
Esophagus			2	0.77	4	2.20	0	0.00	0	0.00	6	5.33	1.12	0.25
Stomach			7	1.20	3	0.73	3	2.15	1	1.31	14	12.08	1.16	0.72
Small intestine			2	2.79	5	9.67*	0	0.00	0	0.00	7	1.52	4.60*	2.07
Colon			17	0.67	15	0.83	3	0.48	0	0.00	35	53.36	0.66*	-6.93
Rectum, rectosigmoid junction			3	0.32*	9	1.39	2	0.97	0	0.00	14	19.01	0.74	-1.89
Anus, anal canal			1	2.05	1	2.87	0	0.00	0	0.00	2	1.01	1.98	0.37
Liver			0	0.00	0	0.00	0	0.00	0	0.00	0	3.73	0.00*	-1.41
Gallbladder			1	1.16	0	0.00	0	0.00	0	0.00	1	1.77	0.57	-0.29
Bile ducts, other biliary			1	0.86	0	0.00	0	0.00	0	0.00	1	2.50	0.40	-0.57
Pancreas			1	0.15*	0	0.00*	0	0.00	0	0.00	1	14.22	0.07*	-4.99
Respiratory system			14	0.35*	22	0.79	20	2.22*	2	0.40	58	81.50	0.71*	-8.87
Nose, nasal cavity, ear			0	0.00	0	0.00	0	0.00	0	0.00	0	0.71	0.00	-0.27
Larynx			1	0.39	0	0.00	1	1.91	0	0.00	2	5.10	0.39	-1.17
Lung, bronchus			12	0.33*	22	0.86	19	2.27*	2	0.43	55	75.48	0.73*	-7.73
Female breast			13	0.50*	24	1.29	5	0.82	1	0.32	43	53.92	0.80	-7.86
Female genital system			4	0.33*	11	1.32	2	0.76	0	0.00	17	24.41	0.70	-5.33
Cervix uteri			1	0.74	0	0.00	0	0.00	0	0.00	1	2.64	0.38	-1.18
Corpus uteri			0	0.00*	2	0.47	1	0.77	0	0.00	3	12.34	0.24*	-6.72
Ovary			2	0.57	8	3.28*	1	1.27	0	0.00	11	7.12	1.55	2.79
Vagina			1	4.74	0	0.00	0	0.00	0	0.00	1	0.44	2.28	0.40
Vulva			0	0.00	1	2.35	0	0.00	0	0.00	1	1.26	0.79	-0.19
Male genital system			42	1.00	23	0.76	13	1.22	1	0.15*	79	89.52	0.88	-8.35
Prostate			42	1.01	22	0.73	12	1.13	1	0.16*	77	88.74	0.87	-9.31
Testis			0	0.00	0	0.00	0	0.00	0	0.00	0	0.19	0.00	-0.15
Urinary system			8	0.45*	7	0.55	5	1.19	0	0.00	20	37.25	0.54*	-6.51
Urinary bladder			4	0.32*	4	0.46	4	1.36	0	0.00	12	25.80	0.47*	-5.21
Kidney parenchyma			4	0.92	2	0.65	1	0.99	0	0.00	7	9.00	0.78	-0.75
Renal pelvis, other urinary			0	0.00	1	1.20	0	0.00	0	0.00	1	2.46	0.41	-0.55
Ureter			0	0.00	0	0.00	0	0.00	0	0.00	0	0.80	0.00	-0.30
Bone, joints			1	5.19	0	0.00	0	0.00	0	0.00	1	0.39	2.59	0.23
Soft tissue including heart			0	0.00	2	3.17	0	0.00	0	0.00	2	1.84	1.08	0.06
Kaposi sarcoma			0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	0.00	-0.15
Melanoma of skin			3	0.70	1	0.32	0	0.00	0	0.00	4	8.98	0.45	-1.88
Eye, orbit			0	0.00	0	0.00	0	0.00	0	0.00	0	0.65	0.00	-0.24
Brain, central nervous system			0	0.00	1	0.66	0	0.00	0	0.00	1	4.46	0.22	-1.31
Thyroid			9	8.00*	0	0.00	1	4.19	0	0.00	10	2.27	4.40*	2.92
Lymphatic, hematopoietic			4	0.23*	7	0.56	6	1.43	5	2.08	22	36.49	0.60*	-5.47
Hodgkin lymphoma			0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	0.00	-0.38
Non-Hodgkin lymphoma			3	0.40	5	0.92	3	1.65	2	1.88	13	15.87	0.82	-1.08
Myeloma			0	0.00	0	0.00	0	0.00	1	2.23	1	6.68	0.15*	-2.14
Leukemia			1	0.16*	2	0.45	3	2.01	2	2.39	8	12.93	0.62	-1.86
Acute lymphocytic			0	0.00	0	0.00	1	25.78	0	0.00	1	0.33	3.00	0.25
Chronic lymphocytic			1	0.40	1	0.57	0	0.00	0	0.00	2	5.18	0.39	-1.20
Acute non-lymphocytic			0	0.00	1	0.68	2	3.97	2	6.89	5	4.35	1.15	0.24
Chronic myeloid			0	0.00	0	0.00	0	0.00	0	0.00	0	1.75	0.00	-0.66

*P < 0.05. Notes: See Appendices for definitions of cancer sites and "all excluding same site." Abbreviations: O = observed number of subsequent (2nd, 3rd, etc.) primary cancers; E = expected number of subsequent primary cancers; O/E = ratio of observed to expected cancers; PYR = person-years at risk; EAR = excess absolute risk per 10,000 person-years = [(O-E)/PYR] × 10,000. EAR for female cancers is based on 13,899 PYR and for male cancers on 12,603 PYR.