HTLV-I infection is geographically localized and is most common in southern Japan and the Caribbean; infected individuals in the US tend to be descendants or immigrants from endemic regions.

**Early detection:** Leukemia can be difficult to diagnose early because symptoms often resemble those of other, less serious conditions. When a physician does suspect leukemia, diagnosis can be made using blood tests and a bone marrow biopsy.

**Treatment:** Chemotherapy is the most effective method of treating leukemia. Various anticancer drugs are used, either in combination or as single agents. Imatinib (Gleevec), nilotinib (Tasigna), and dasatinib (Sprycel) are very effective targeted drugs for the treatment of CML. These drugs are also sometimes used to treat a certain type of ALL. Recent clinical trials have shown that adults with AML who are treated with twice the conventional dose of daunorubicin experience higher and more rapid rates of remission. Antibiotics and transfusions of blood components are used as supportive treatments. Under appropriate conditions, stem cell transplantation may be useful in treating certain types of leukemia.

**Survival:** Survival rates vary substantially by leukemia type, ranging from a 5-year relative survival of 24% for patients diagnosed with AML to 80% for those with CLL. Advances in treatment have resulted in a dramatic improvement in survival over the past three decades for most types of leukemia. From 1975-1977 to 1999-2006, the 5-year relative survival rate for ALL increased from 42% to 66% overall and from 58% to 89% among children. In large part due to the discovery of the targeted cancer drug Gleevec, 5-year survival rates for CML have increased from 33% for cases diagnosed during 1990-1992 to 55% for those diagnosed during 1999-2006.

**Liver**

**New Cases:** An estimated 26,190 new cases of liver cancer (including intrahepatic bile duct cancers) are expected to occur in the US during 2011. More than 80% of these cases are hepatocellular carcinoma (HCC), originating from hepatocytes, the predominant type of cell in the liver. The incidence of liver cancer has been increasing by 3.4% per year in men and by 3.0% per year in women since 1992. In contrast to most common cancer sites, incidence rates are highest among Asian Americans/Pacific Islanders and Hispanics.

**Deaths:** An estimated 19,590 liver cancer deaths (6,330 women, 13,260 men) are expected in 2011. Since 1998, death rates for liver cancer have increased by 2.1% per year in men and by 1.3% per year in women. Incidence and mortality rates are more than twice as high in men as in women.

**Signs and symptoms:** Common symptoms include abdominal pain and/or swelling, weight loss, weakness, loss of appetite, jaundice (a yellowish discoloration of the skin and eyes), and fever. Enlargement of the liver is the most common physical sign, occurring in 50%-90% of patients.