



**Cancer of the liver and biliary tract**

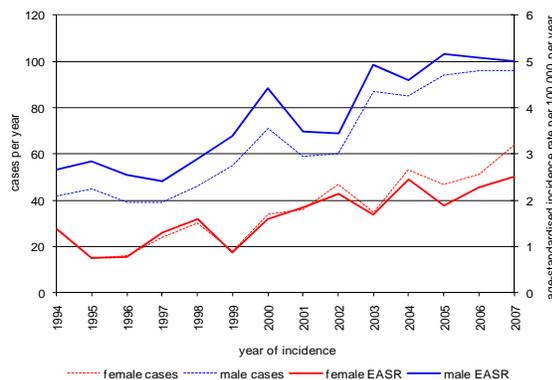
**Incidence trends: all liver cancer**

Liver cancer consists of two main types—hepatocellular carcinoma (HCC) which accounts for about 60% of cases, and intrahepatic bile duct cholangiocarcinoma (ICC), which accounts for about 20%. The liver is one of the less common cancer sites, about 0.8% of the total in 2007, excluding non-melanoma skin. However since 1994 there has been a considerable increase in the number of liver cancers registered in Ireland, by about 10% annually in women and 8% in men. The age-standardised incidence rates have also increased, by 8% annually in women and 6% in men (Figure 1). ICC has contributed most of the increase since 2000 (Figure 2)<sup>1</sup> although HCC remains the commonest type of liver cancer.

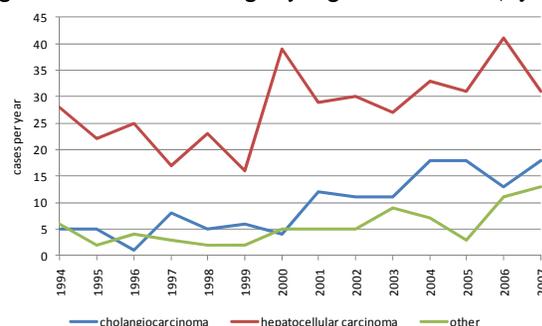
**Trends in cholangiocarcinoma of the liver and biliary tract**

Although the majority of cholangiocarcinoma (CC) is intrahepatic, cases also arise in the gallbladder and bile duct. Diagnoses of histologically confirmed CC, both intrahepatic (ICC) and extrahepatic (ECC), increased by 15% annually between 1994 and 2007. The rate of increase was 15% for liver and 12% for gallbladder and extra-hepatic bile duct combined, although the number of ECC cases was small. Male cases were predominantly in the liver and extrahepatic bile duct; female cases in liver and gallbladder (Table 1). The European age-standardised incidence rate of all CC in Ireland in 2001-2007 was 0.51 cases per 100,000 per year for women, 0.60 for men. The incidence rate for ICC was 0.36 per 100,000 per year for women and 0.44 per 100,000 per year for men.

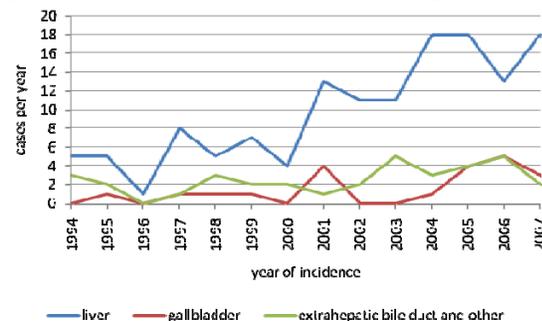
**Figure 1. Time trends in liver cancer incidence**  
(EASR=age-standardised incidence rate, European standard population)



**Figure 2. Time trends in histologically diagnosed<sup>1</sup> liver cancer, by sex**



**Figure 3. Time trends in cholangiocarcinoma (histologically verified)**



**Table 1. Histologically verified<sup>1</sup> CC diagnosed in 1998-2007, by sex**

	female		male	
liver	49	69%	69	73%
gallbladder	12	17%	7	7%
extrahepatic bile duct	10	14%	19	20%

<sup>1</sup> Figures 2 and 3 and Table 1 include only cases which were histologically confirmed (44% of the total)

Liver cancer facts at a glance	females	males
Number of liver cancer cases 2007	64	96
Number of liver cancer deaths 2006 <sup>2</sup>	91	101
Age-standardised incidence rate 2007	2.5	5.0
Age-standardised mortality rate 2006 <sup>2</sup>	3.7	5.2
Risk of developing liver cancer before age 75	0.16%	0.42%
Risk of dying of liver cancer before age 75 <sup>2</sup>	0.25%	0.39%

<sup>2</sup> Source: Central Statistics Office "Annual Report on Vital Statistics 2006". This figure includes cases where it was not specified if the cancer was primary or secondary.

**Long-term mortality trends**

Data from the World Health Organisation (Figure 4) show that mortality from liver cancer<sup>1</sup> in Ireland has risen steeply since the mid-1990s. The age-standardised mortality rate has increased by an average of 14% annually for men and 13% annually for women since 1995. Hepatocellular carcinoma mortality has increased by 2% a year, while that from ICC has increased by 12% annually. Some of these changes may be due to improvements in diagnosis and in the quality of death certification, as it can be seen that the number of deaths due to “liver cancer, not known if primary or secondary” has dropped. Recent trends in mortality are similar to those for incidence, although mortality from ICC is higher than for HCC, which would not be expected from incidence rates. Five-year survival rates for ICC and HCC are similar, at 12-13%.

**Why are cholangiocarcinoma incidence rates increasing?**

The incidence of ICC in Ireland is comparable to that in other developed countries. 1990-2001 incidence rates in the US were 1.1 per 100,000 for Hispanics, 0.8 per 100,000 for Whites and 0.6 per 100,000 for Blacks, compared to the Irish figure of 0.7 per 100,000. A Danish paper reported an incidence rate of 0.46 per 100,000.

Increases in ICC have been noted in many countries, although the Danish paper noted a fall between 1978 and 2002. Increases in ECC occurrence have been less widely reported, and in some cases a decrease in ECC seems to accompany the increase in ICC.

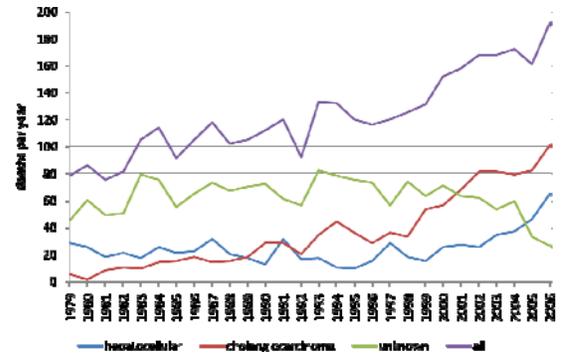
Case-control studies have suggested many possible aetiological agents for ICC and ECC, but the reason for the recent increase in incidence has not been confidently identified. Increased and more accurate diagnosis, due to the more widespread use of endoscopy and imaging, may play a part, but in Ireland the percentage of histologically verified cases has remained fairly constant since 1994, at 40-50%, suggesting that more accurate diagnosis is not a factor in the increase.

**Liver cancer and socioeconomic status**

With the exception of hepatocellular carcinoma in men, there is no relationship in Ireland between the incidence of either type of liver cancer with the deprivation category of the area in which the patients live (Figure 7).

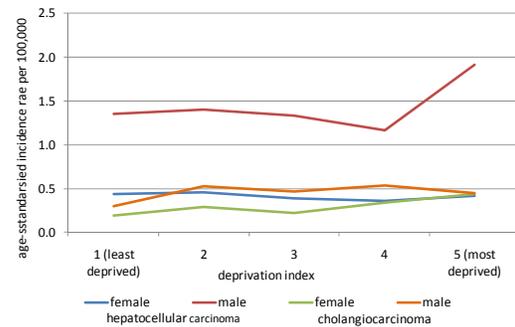
Internationally, there is a very wide range of mortality from liver cancer; from an age-standardised rate of 93 deaths per 100,000 for males in Mongolia to 0.2 per 100,000 females in Guyana (Figure 6).

Figure 4. Time trends in liver cancer<sup>1</sup> mortality 1978-2006



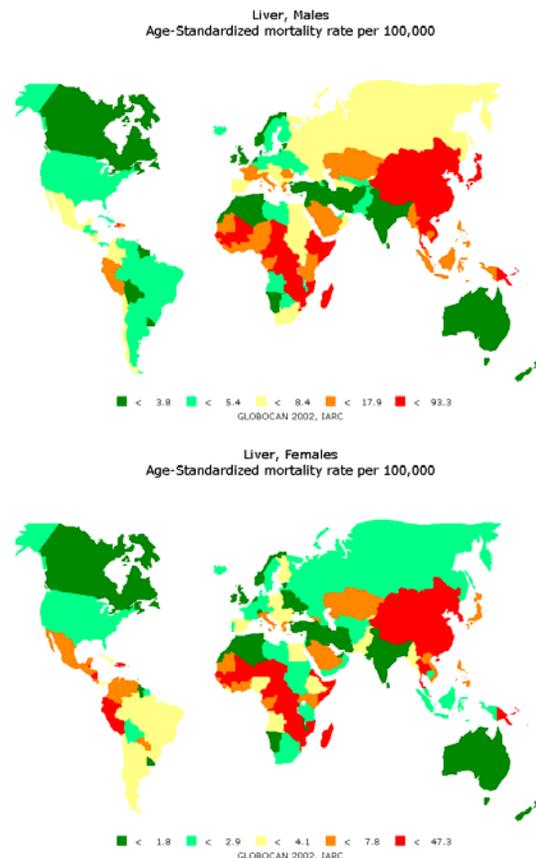
Source: WHO Mortality databank.  
<sup>1</sup> “Unknown” includes the category “not known if primary or secondary”

Figure 5. Liver cancer incidence and deprivation: histologically confirmed cases, 1994-2007



The deprivation index for 2002 was supplied by SAHRU, Trinity College, Dublin

Figure 6. Liver cancer mortality worldwide—estimates for 2002



Source: International Agency for Research on Cancer, GLOBOCAN 2002