

# Trends in incidence of primary liver cancer subtypes

## NCIN Data Briefing

### Background

Primary liver cancer incidence is increasing in England. The most common subtypes are hepatocellular carcinoma (ICD10 C22.0, cancer occurring in the liver cells), and intrahepatic bile duct carcinoma (ICD10 C22.1, cancer originating in the sections of bile ducts that are inside the liver). Hepatocellular carcinoma makes up more than 85% of primary liver cancer diagnoses worldwide and occurs mainly in developing regions. Known risk factors are alcoholic cirrhosis, chronic hepatitis B and C infection, and exposure to dietary aflatoxins. Intrahepatic bile duct carcinoma is the second most common primary liver cancer subtype and the causes of this cancer are unclear.

### Results

There were 23,269 patients diagnosed with primary liver cancer between 1998 and 2007 in England. Hepatocellular carcinoma (ICD10 C22.0) and intrahepatic bile duct carcinoma (ICD10 C22.1) were the largest subtypes (Table 1).

#### Hepatocellular carcinoma (ICD10 C22.0)

This subtype made up 55.3% of male and 28.2% of female primary liver cancer diagnoses for the period 1998-2007. Age-standardised incidence rates (ASR(E)) increased in both men and women, however incidence was found to be much higher in men (Figure 1). From 1998 to 2007 the ASR(E) for men increased from 2.0 per 100,000 in 1998 to 3.4 in 2007. For women this increase was from 0.6 to 0.9 per 100,000.

#### Intrahepatic bile duct carcinoma (ICD10 C22.1)

This subtype made up 30.6% of male and 55.5% of female primary liver cancer diagnoses for the period 1998-2007. Age-standardised incidence rates were similar in both sexes (Figure 2). From 1998 to 2007 the age-standardised incidence rates for men were quite stable with a small increase from 1.2 per 100,000 in 1998 to 1.6 in 2007. For women this increase was from 1.0 to 1.5 per 100,000.

#### KEY MESSAGE:

*Hepatocellular carcinoma is more common in men whereas intrahepatic bile duct carcinoma is more common in women. Incidence is increasing for both subtypes.*

*Variation in the prevalence of known risk factors such as alcoholic cirrhosis and chronic hepatitis B and C infection may explain these patterns.*

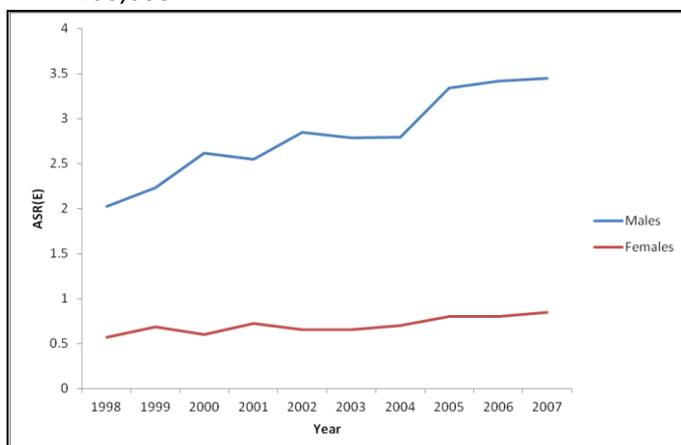


Figure 1 Age-standardised incidence rates for hepatocellular carcinoma (C22.0), England 1998-2007

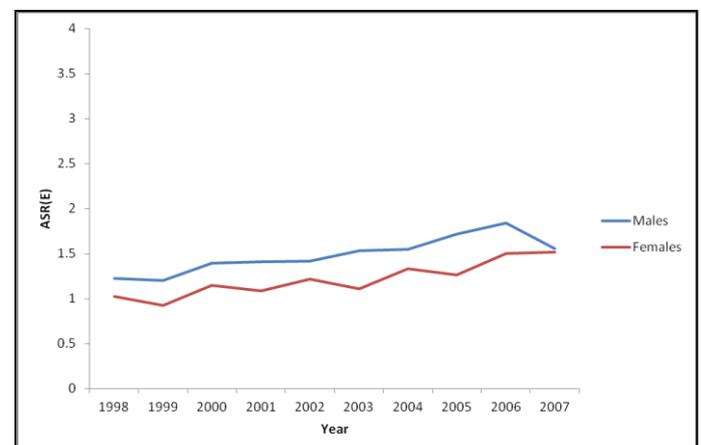


Figure 2 Age-standardised incidence rates for intrahepatic bile duct carcinoma (C22.1), England 1998-2007

## Methods

Data on patients diagnosed with primary liver cancer (International Classification of Diseases (ICD10) C22.0-C22.9) in England between 1998 and 2007 were extracted from the National Cancer Data Repository. The dataset consisted of 23,269 patients with primary liver cancer (Table 1).

**Table 1 Breakdown of primary liver cancer subtypes for patients diagnosed in England between 1998 and 2007, by sex**

Subtype	ICD10 code	Males		Females	
		Number	Percent	Number	Percent
Hepatocellular carcinoma	C22.0	7,947	55.3	2,503	28.2
Intrahepatic bile duct carcinoma	C22.1	4,396	30.6	4,934	55.5
Hepatoblastoma	C22.2	75	0.5	54	0.6
Angiosarcoma of liver	C22.3	40	0.3	26	0.3
Other sarcomas of liver	C22.4	44	0.3	27	0.3
Other specified carcinomas of liver	C22.7	439	3.1	368	4.1
Malignant neoplasm of liver, unspecified	C22.9	1,443	10.0	973	11.0
<b>Total</b>		<b>14,384</b>	<b>100.0</b>	<b>8,885</b>	<b>100.0</b>

Age-standardised incidence rates per 100,000 European standard population (ASR(E)), were calculated for men and women, for hepatocellular carcinoma (C22.0) and intrahepatic bile duct carcinoma (C22.1), by year of diagnosis.

## Final note

Generally it is reported that hepatocellular carcinoma is the most common primary liver cancer subtype. However our data shows that this is not the case in England when examined in men and women separately. Hepatocellular carcinoma is the most common subtype in men but intrahepatic bile duct carcinoma is the largest subtype in women. The incidence of hepatocellular carcinoma has increased in males between 1998 and 2007. In England, this subtype is known to be associated with alcoholic cirrhosis and chronic hepatitis B and C infection.

The trends found in this analysis have not frequently been reported in England or elsewhere. As different trends between men and women were seen, it is unlikely that changes in coding explained these observed patterns. It would be valuable to examine these trends worldwide using more recent data.

### FIND OUT MORE:

[Thames Cancer Registry](#)

Thames Cancer Registry is the lead cancer registry for upper gastrointestinal cancers

<http://www.tcr.org.uk>

### Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

<http://info.cancerresearchuk.org/cancerstats/>

The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.