risks for fatty liver disease by addressing obesity and by controlling diabetes, hypertension and cholesterol problems.

The significant contribution of alcohol consumption to liver disease was first acknowledged more than 200 years ago (Smart & Mann 1992). At a population health level, it is reasonable to expect mortality from alcohol-related liver disease to decline with **strategies to reduce per capita alcohol consumption** (Duggan & Duggan 2011).

The *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* inform the community about reducing alcohol-related harm (NHMRC 2009). A National Alcohol Strategy for 2016–2021 (in development) will aim to minimise the harmful effects of alcohol consumption on Australian society (Department of Health 2015a).

Government initiatives also target alcohol consumption through more indirect measures, such as encouraging responsible advertising of alcohol and responsible sponsorship of sporting and cultural events. This is achieved through a combination of legislation and industry self-regulation.

Hepatitis C virus (HCV) is targeted in the *Fourth National Hepatitis C Strategy 2014–2017*, as one of the most common notifiable infectious diseases in Australia (Department of Health 2015b). At least half of all people infected with HCV will develop liver disease (O'Brien et al. 2007). HCV is transmitted by blood, most commonly by injecting drug use (for example, by contaminated needles).

Prisoners are one of several priority populations in the HCV strategy. Unsafe injecting and tattooing practices have led to high rates of infection and transmission among prisoners, with 22% of prison entrants testing positive to the hepatitis C antibody in 2012 (AIHW 2013).

Prevention of liver disease may also target a cause, such as intentional or unintentional consumption or inhalation of certain chemicals/drugs/toxins (for example, paracetamol overdose). However, rarer causes of liver disease, which include auto-immune hepatitis or inherited conditions such as haemochromatosis and Wilson Disease, are not amenable to primary prevention.

How have premature death rates due to liver disease changed over time?

Overall, the age-standardised rate of premature deaths due to liver disease peaked in 1980 (at 10 deaths per 100,000 population) and nearly halved to 5.1 per 100,000 in 2012. Most of the decreasing trend was due to improvements in male death rates during the 1980s and 1990s (Figure 2).

In the last decade, the age-standardised rate decreased slightly for males (from 8.6 deaths per 100,000 population in 2003 to 7.2 per 100,000 in 2012) and remained steady for females (at about 3.1 deaths per 100,000).

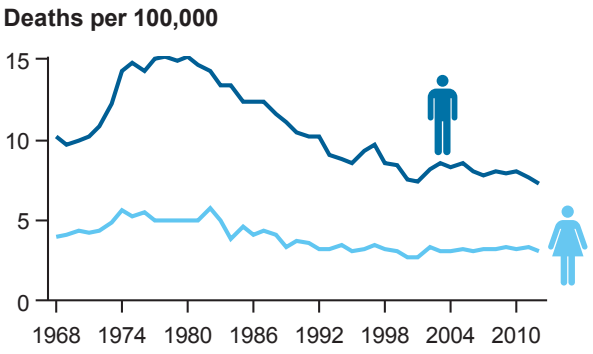

Figure 2: Age-standardised rate of premature deaths due to liver disease, by sex, 1968–2012

What has influenced trends in premature deaths due to liver disease?

It is possible that advances in disease management have contributed to the trend of declining premature mortality due to liver disease. The decrease in the premature mortality rate from 1983 to 2005 corresponded with an increase in hospitalisation for alcoholic liver failure. While this would increase the incidence rate for liver disease, it may also indicate that more people with liver disease were undergoing treatment. It has been suggested that increased hospitalisations may reflect an increase in screening of alcohol-related harms in primary care settings and in referral for treatment (Liang et al. 2011).

Where can I find out more?

Premature mortality in Australia (including references):
<http://www.aihw.gov.au/deaths/premature-mortality/>.

AIHW GRIM books:
<http://www.aihw.gov.au/deaths/grim-books/>.

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