

## **ONGOING BURDEN OF ADVANCED LIVER DISEASE COMPLICATIONS DESPITE RAPID HCV TREATMENT SCALE-UP**

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### **Background:**

A major WHO hepatitis C (HCV) elimination goal is a 65% reduction in liver-related mortality by 2030. In Australia, an estimated 70% of people with HCV-related cirrhosis have already received direct-acting antiviral (DAA) therapy. Patients with cirrhosis remain at risk of complications when cured, albeit a lower risk than HCV viraemic individuals. We estimated the number of new cases of decompensated cirrhosis (DC), hepatocellular carcinoma (HCC), liver-related deaths among the HCV cured and viraemic populations in Australia from 2016 to 2030.

### **Methods:**

We used a previously developed mathematical model and assumed a DAA treatment scenario incorporating the known 2016 treated number of 32,550 followed by declining numbers (2017=27,900; 2018=23,250; 2019 and later years=18,600), with initial relative prioritization for those with advanced fibrosis. We assumed an 85% and 70% relative reduction in progression to DC and HCC among those with cirrhosis who were cured versus viraemic.

### **Results:**

The incidence (total cases per year) of DC, HCC, and liver-related mortality among the HCV viraemic population decreased rapidly with the DAA treatment due to the reduction in those remaining viraemic with advanced fibrosis (with liver-related mortality almost eliminated by 2030). In contrast, despite the reduced risk of progression among those with cirrhosis who were cured, the growing population size of people with advanced fibrosis among the cured population meant that DC, HCC, and liver-related mortality declined slowly. In 2030, we estimated there will still be 120 new cases of DC, 320 new cases of HCC, and 428 liver-related deaths among the cured population, respectively. The estimated reduction in liver-related mortality from 2016 to 2030 among the combined viraemic and cured population is 40%.

### **Conclusion:**

Although individual-level risk of advanced liver disease complications is reduced considerably among people with HCV-related cirrhosis following cure, the large population size will lead to continued DC, HCC and liver-related mortality.

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