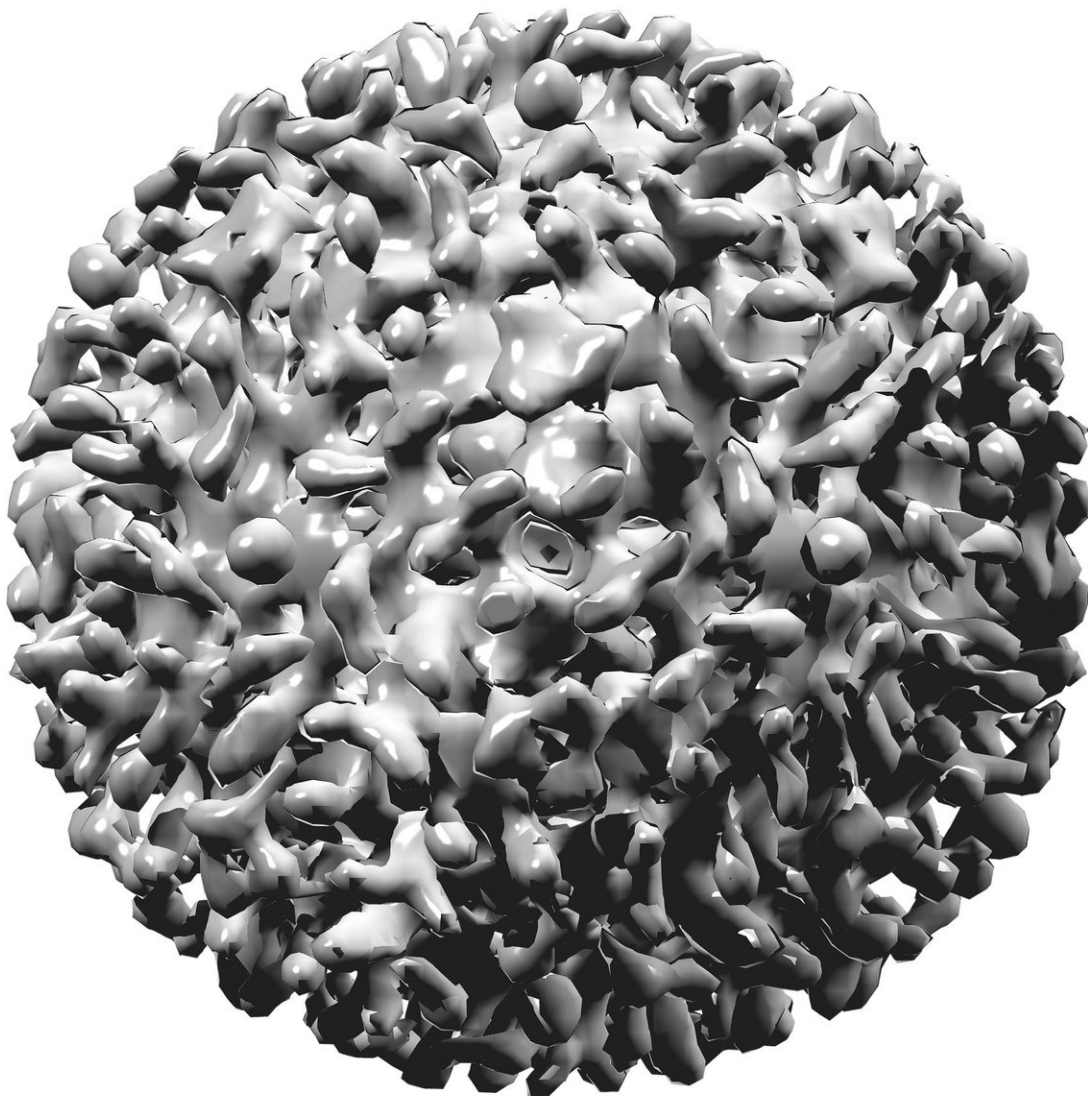


People with a hepatitis C cure still face substantial risk of death

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Individuals who have been cured of hepatitis C infection still face a substantially greater risk of death compared with the general population—between 3 and 14 times higher depending on liver disease stage, finds the largest study of its kind published by *The BMJ* today.

Based on data from more than 20,000 [patients](#) with a hepatitis C cure, the results show that drug and [liver](#)-related causes of death were the main drivers of excess deaths—and highlight the importance of continued support to fully realize the benefits of a hepatitis C cure.

Hepatitis C is a virus that can infect the liver which, if left untreated, can cause serious and potentially life-threatening liver damage over many years.

Historically, hepatitis C was treated with interferon-based therapy, which was often ineffective. But in 2011, new medications called direct acting antivirals (DAA) were developed. Now more than 95% of patients treated with DAAs achieve a "virological cure" and have a significantly lower risk of death than untreated patients.

Yet the question of what prognosis cured patients can expect compared with the [general population](#) remains the subject of debate.

To explore this further, a team of UK and Canadian researchers set out to measure [mortality rates](#) in individuals with a hepatitis C cure and assess how these rates compare with the general population.

They analyzed data from three population studies carried out in British Columbia (Canada), Scotland and England involving 21,790 individuals

who achieved a hepatitis C cure between 2014 and 2019.

Individuals were grouped by the severity of liver disease at the time of cure: pre-cirrhosis (British Columbia and Scotland studies only), compensated cirrhosis, and end stage liver disease.

Data were then linked to national medical registries and several causes of death were examined, including liver cancer, liver failure, drug-related death, external causes (mainly accidents, homicides and suicides) and diseases of the circulatory system, over an average follow-up period of 2-4 years.

Most participants did not have cirrhosis at cure. The average age of pre-cirrhosis patients in Scotland was 44 years and 56 years in British Columbia, and males outnumbered females across all studies and disease severity groups (65-75%).

A total of 1,572 (7%) of participants died during follow-up. The leading causes of death were drug related (24%), liver failure (18%) and liver cancer (16%).

After taking account of age, [death rates](#) were considerably higher than the general population across all disease severity groups and settings.

For example, in Scotland, the rate for all patients was 4.5 times greater than the general population (442 deaths observed versus 98 expected), while in British Columbia, rates were 3.9 times greater (821 deaths observed versus 209 expected).

Rates also increased appreciably with liver disease severity. For example, in British Columbia rates were 3 times higher in people without cirrhosis and 14 times higher for patients with end stage liver disease.

For patients without cirrhosis, the leading cause of excess death was drug related, whereas in patients with cirrhosis, the two leading drivers were [liver cancer](#) and [liver failure](#).

Across all disease stages and settings, older age, recent substance use, alcohol use and pre-existing conditions (comorbidities) were associated with [higher death rates](#).

These are observational findings and the researchers acknowledge that they may not apply to all settings, particularly where injecting drug use is not the dominant mode of hepatitis C transmission.

However, this is the largest and most representative study performed to date and the researchers say their results "show unequivocally that cured patients continue to face substantial mortality rates, driven by liver and drug-related causes."

As such, they highlight the importance of establishing robust post-cure follow-up pathways, as well as services and interventions to prevent drug and alcohol-related harms, to fully realize the benefits of a hepatitis C cure.

More information: Mortality rates among patients achieving a hepatitis C cure in the interferon-free treatment era: population based cohort study, *The BMJ* (2023). [DOI: 10.1136/bmj-2023-074001](https://doi.org/10.1136/bmj-2023-074001)

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