# Mortality related to HCV and other chronic liver diseases in Veneto (Italy), 2008-2021: Changes in trends and age-period-cohort effects.

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#### Abstract

#### Background and aims

The objective of this study was to assess the impact of the COVID-19 pandemic and direct-acting antiviral (DAA) agents on mortality related to chronic liver diseases (CLD).

#### Methods

Age-standardized mortality rates were computed based on CLD as the underlying cause of death (UCOD) and as any mention in death certificates (multiple causes of death-MCOD). Time trends in age-standardized mortality rates were investigated using generalized estimation equation models. Additionally, we conducted age, period, and birth cohort (APC) analyses on CLD-related mortality associated with alcohol and hepatitis C virus (HCV).

#### Results

Between 2008 and 2021, among residents in the Veneto region (Northeastern Italy) aged  $\geq$ 35 years, there were 20 409 deaths based on the UCOD and 30 069 deaths based on MCOD from all CLD. We observed a 4% annual decline in age-standardized MCOD-based mortality throughout 2008-2021, with minor peaks corresponding to COVID-19 epidemic waves. Starting in 2016, the decline in HCV-related mortality accelerated further (p < .001). A peak in HCV-related mortality in the 1963-1967 birth cohort was observed, which levelled off by the end of the study period. Mortality related to alcoholic liver disease declined at a slower pace, becoming the most common aetiology mentioned in death certificates.

## Conclusions

The study demonstrates a significant decrease in HCV-related mortality at the population level in Italy with the introduction of DAAs. Continuous monitoring of MCOD data is warranted to determine if this favourable trend will continue. Further studies utilizing additional health records are needed to clarify the role of other CLD etiologies.

Keywords: COVID-19; alcoholic liver disease; chronic liver disease; hepatitis C virus; multiple causes of death.

### **FULL TEXT**

https://pubmed.ncbi.nlm.nih.gov/38031995/