HEPATITIS C MORTALITY TRENDS IN THE ERA OF VIRAL HEPATITIS ELIMINATION IN NEW SOUTH WALES, AUSTRALIA

Authors:
Tillakeratne S[1], Alavi M[1], Hajarizadeh B[1], Martinello M[1], Law M[1], George J[3], Amin J[4], Matthews G[1], Grebely J[1], Valerio H[1] Pearson SA[2], Dore GJ[1]

[1]The Kirby Institute, UNSW Sydney, Australia, [2]School of population health, UNSW Sydney, Australia, [3]Storr Liver Centre, Westmead Millennium Institute, University of Sydney and Westmead Hospital, Westmead, Australia, [4]Department of Health Systems and Populations, Faculty of Medicine and Health Sciences, Macquarie University, Sydney, NSW, Australia

Background:
The World Health Organization aims to eliminate viral hepatitis by 2030, targeting hepatitis C virus (HCV)-related deaths to ≤2 per 100,000 population. While recent evidence report reduced HCV-related morbidity and mortality, overall mortality rates among HCV-notified individuals remain high, suggesting potential unaddressed comorbidities despite direct-acting antiviral (DAA) availability. This population-based study examined cause-specific mortality trends among individuals with HCV notification in New South Wales (NSW), Australia, during the viral hepatitis elimination era (January 1, 2015 – 30 December 2021).

Methods:
HCV notifications in NSW, Australia (1995-2022) were linked to hospitalisation records and linked cause-specific mortality records. Mortality trends during the elimination era were examined. Cox proportional hazard models were used to assess associated factors with mortality during the viral hepatitis elimination era.

Results:
During 2002-2021, there were 112,046 people with an HCV notification in NSW. During the elimination era (2015-2021), the all-cause mortality rate was 119.7 per 10,000 person-years (PY). Cause-specific mortality rates per 10,000 PY were: liver-related (27.7), drug-related (19.0), circulatory system-related (15.8), cancer-related (23.9), and other cause-related (33.1). Standardised mortality ratios (SMRs) were elevated for liver-related (18.7, 95% CI 17.8-19.6), drug-related (33.3, 95% CI 31.4-35.3), circulatory system-related (1.2, 95% CI 1.2-1.3), cancer-related (1.8, 95% CI 1.7-1.9), and other cause-related deaths (2.3, 95% CI 2.2-2.4). Factors associated with mortality during the elimination era included: recent injecting drug use (adjusted Hazard Ratio [aHR] 7.22, 95% CI 6.84-7.62), recent alcohol use disorder (aHR 3.17, 95% CI 2.97-3.37), and Charlson comorbidity index 3+ (aHR 4.42, 95% CI 4.17-4.69). Recent opioid agonist therapy (aHR 0.47, 95% CI 0.43-0.51) was associated with lower mortality risk.

Conclusion:
Despite advancements in HCV treatment, individuals with HCV in NSW continue to experience elevated mortality risks. Understanding trends are crucial for addressing preventable deaths and improving health outcomes in the viral hepatitis elimination era.

Disclosure of Interest Statement*:*
Dore GJ reports research support from Gilead and AbbVie. Valerio H has received honoraria from Gilead Sciences. Grebely J is a consultant or adviser for and has received research grants from AbbVie, Biolytical, Camurus, Cepheid, Gilead Sciences, Hologic, Indivior and Merck, and has received honoraria from AbbVie, Cepheid, Gilead Sciences and Merck outside the submitted work. George J reports funding from MSD, AbbVie, BMS, Pharmaxis, Novartis, Cincera, Pfizer, Roche, Eisai and Bayer

outside the submitted work. Hajarizadeh B reports grants from NSW Health and Cancer Council NSW. Matthews G reports research support from Gilead and AbbVie. All remaining authors have no potential conflicts to declare.