

HEPATITIS C RESURGENCE IN THE U.S: A DETAILED STUDY OF INCIDENCE AND MORTALITY TRENDS (1990-2019)

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PURPOSE / OBJECTIVES

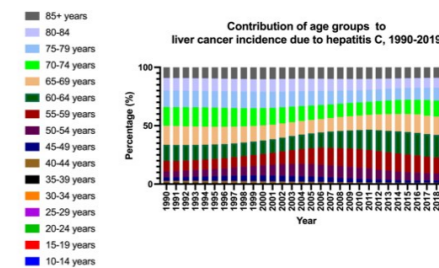
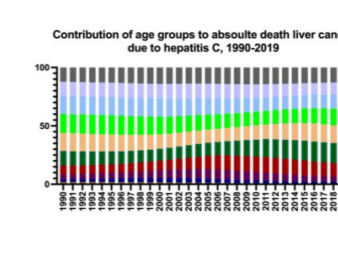
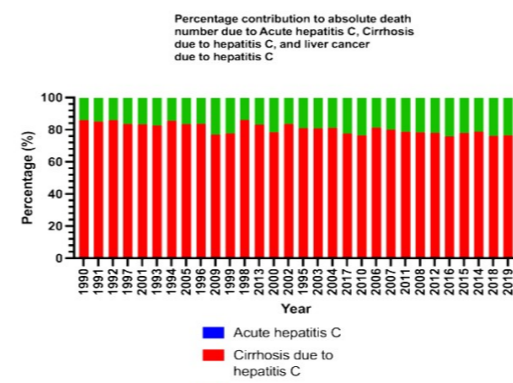
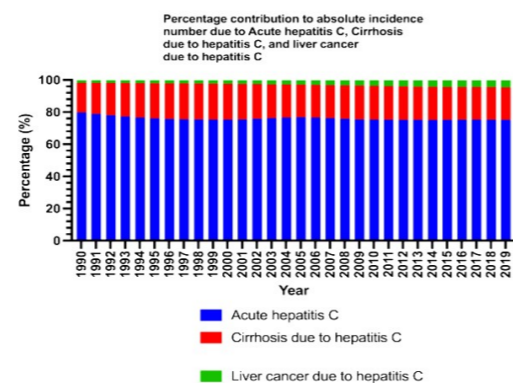
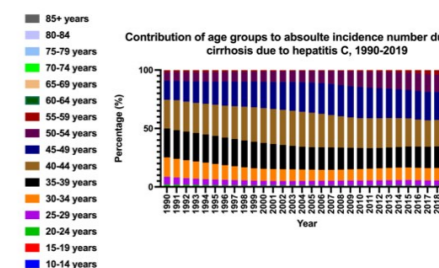
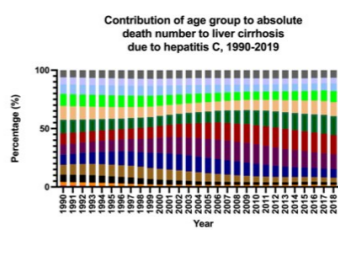
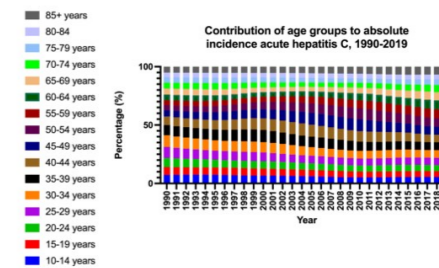
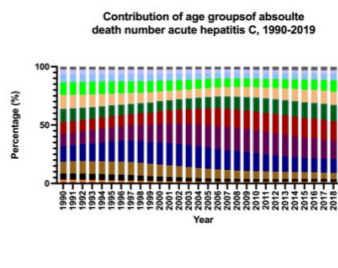
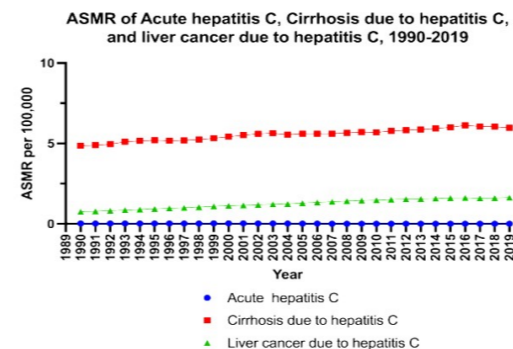
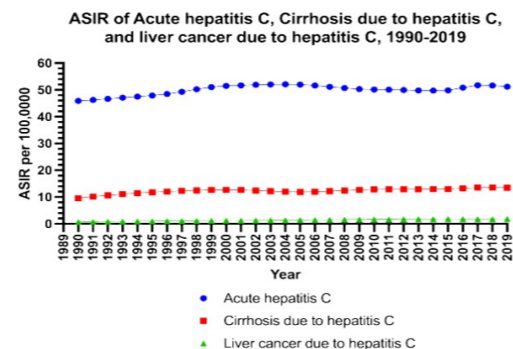
The Hepatitis C virus (HCV) is a leading bloodborne infection in the U.S., significantly affecting liver health and contributing to high morbidity and mortality rates. It is primarily transmitted through infected blood and has notably affected individuals born between 1945-1965, with approximately 3.5 million chronic cases reported in the late 2000s. Despite many being cured through direct-acting antivirals, HCV incidence rates have tripled, partly due to unsafe injection practices associated with the opioid crisis. This necessitates updated HCV infection estimates for effective policy-making and strategy planning to combat the disease. Our study aims to provide recent data on the burden of hepatitis C-related liver disease in the U.S.

MATERIAL & METHODS

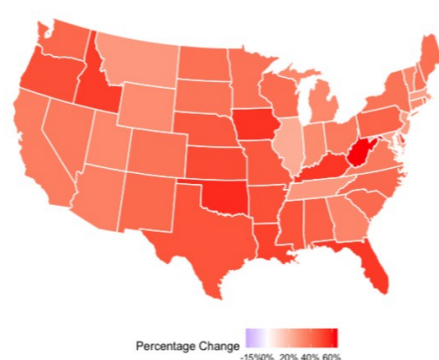
We analyzed the burden of hepatitis C in the United States using the 2019 Global Burden of Disease (GBD) study results. This analysis included case numbers and age-standardized rates of incidence and mortality. We also examined hepatitis C trends across different genders and age groups. For a detailed trend analysis, we used Joinpoint regression to assess epidemiological trends in total hepatitis C, acute hepatitis C, liver cirrhosis, and liver cancer due to hepatitis C.

RESULTS

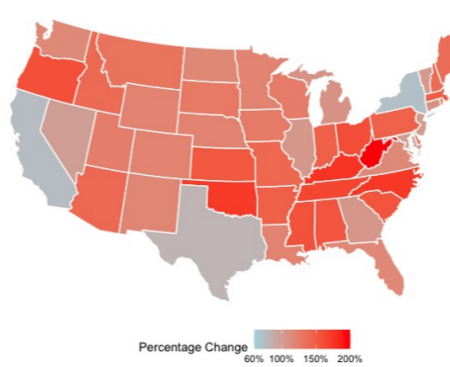
- 1. Increase in Hepatitis C Incidence and Mortality (1990-2019):** There was a significant increase in both the incidence and mortality of liver disease due to hepatitis C in the United States over the nearly three-decade period. The incidence rose from 145,407 cases in 1990 to 230,090 cases in 2019, marking a 58.24% increase, while mortality more than doubled from 16,950 deaths in 1990 to 39,157 in 2019.
- 2. Gradual Increase in Age-Standardized Rates:** The age-standardized incidence rate (ASIR) and mortality rate (ASMR) for liver disease also increased during this period. The ASIR rose slightly from 66.5 per 100,000 in 1990 to 74.0 per 100,000 in 2019 for males and from 59.1 per 100,000 for females, indicating a consistent rise. The ASMR showed a more pronounced annual increase from 5.6 per 100,000 in 1990 to 7.6 per 100,000 in 2019.
- 3. Gender Disparities:** Males consistently showed a higher burden of liver disease than females in terms of both incidence and mortality. For instance, in 2019, the incidence among males was 124,746 compared to 105,345 for females, and mortality figures were similarly higher for males (25,408) compared to females (13,750).
- 4. Divergent Trends in Acute Hepatitis C:** While the incidence of acute hepatitis C increased significantly from 116,077 cases in 1990 to 173,043 cases in 2019, mortality associated with acute hepatitis C notably decreased from 56 deaths to 20 deaths during the same period, reflecting significant improvements in management and treatment strategies.
- 5. Rising Trends in Cirrhosis due to Hepatitis C:** The incidence and mortality associated with cirrhosis due to hepatitis C also increased, from 26,846 cases in 1990 to 46,639 cases in 2019 for incidence, and a steady rise in mortality rates, underscoring ongoing challenges in managing long-term consequences of hepatitis C infection.



ASIR of Acute hepatitis C, Percentage Change by State, 1990 to 2019



ASIR of Cirrhosis due to Hepatitis C, Percentage Change by State, 1990 to 2019



SUMMARY / CONCLUSION

The data indicates a significant rise in both the incidence and mortality of liver disease due to hepatitis C in the United States from 1990 to 2019. Males were disproportionately affected compared to females. While the incidence of acute hepatitis C increased substantially, mortality from this condition saw a marked decrease, suggesting improved management or treatment strategies. Overall, the liver disease burden from hepatitis C has grown, necessitating continued efforts in prevention, diagnosis, and treatment.