

Addressing the increasing global burden of viral hepatitis

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Viral hepatitis is a major cause of death worldwide (1). Despite considerable morbidity and mortality associated with hepatitis B and hepatitis C globally, there has been a lack of funding for, and focus on, eliminating viral hepatitis (2). In the past, the effort to combat viral hepatitis has been heavily reliant on reducing new infections through improved infection control and blood safety, harm reduction approaches to injecting drug use, and promoting widespread access to hepatitis B vaccination, especially for infants. These public health interventions have made important contributions to reducing the future burden of disease.

However, the major causes of morbidity and mortality attributable to viral hepatitis, including cirrhosis and liver cancer, typically occur many years after infection, and efforts to prevent the increasing number of deaths projected in coming decades will require a profound increase in access to testing, care, and treatment (3). The Global Burden of Disease (GBD) study has played a pivotal role in illustrating that chronic viral hepatitis and its sequelae are critical public health issues, and demonstrating the importance of accurate and localised data in guiding responses.

The GBD study is a worldwide collaboration collecting comprehensive epidemiological morbidity and mortality data on 291 diseases across 195 countries and territories (4). In 2013, the GBD study included 23 years of retrospective data ranking diseases by their relative importance, providing important insights on disease trends and priorities for improving public health.

In contrast to reducing mortality for many other

communicable diseases, each subsequent release of GBD estimates has demonstrated a continued upward trend in viral hepatitis burden of disease and attributable mortality (4-6). In GBD 2010 viral hepatitis was the 10th leading cause of death worldwide, rising to seventh in GBD 2013 (1,6). This increase has continued since 2013, with viral hepatitis becoming the sixth leading cause of global deaths in 2015, having overtaken deaths due to human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS), malaria, or tuberculosis, which now rank 7th, 9th and 12th, respectively (6). In 2013, 1.4 million deaths globally were attributable to viral hepatitis, almost double the number of deaths attributable to malaria; see *Table 1* (7,8).

In 2013, when examined together, hepatitis B virus (HBV) and hepatitis C virus (HCV) accounted for 96% of viral hepatitis related mortality globally, predominantly due to sequelae of chronic infection including cirrhosis and liver cancer (1). In 2015, cancer was the second leading cause of death worldwide with liver cancer the third most common cause of all cancer deaths—indeed, 1 in every 10 cancer deaths is due to liver cancer (6). Over half of all liver cancer deaths (and deaths due to cirrhosis) globally are attributable to chronic viral hepatitis (6). These deaths can be prevented through increased access to diagnosis, monitoring and treatment for people with hepatitis B and hepatitis C infection, as mandated in the Global Health Sector Strategy on Viral Hepatitis (9). Recent therapeutic advances enable effective control of hepatitis B, and high probabilities of

Table 1 Global deaths related to viral hepatitis, HIV/AIDS, tuberculosis, and malaria in 2013

Disease	Deaths in 2005	Deaths in 2013	Change 2005–2013	Change 2005–2013 (%)
Viral hepatitis	1,263,000	1,454,000	191,000	15
HIV/AIDS	1,438,800	1,341,000	–97,800	–7
Tuberculosis	1,347,000	1,290,300	–56,700	–4
Malaria	1,166,700	854,600	–312,100	–27

HIV/AIDS, human immunodeficiency virus infection and acquired immune deficiency syndrome.

cure of hepatitis C. However major challenges to ensuring universal access to treatment lie ahead, given in 2015 less than 5% of people living with viral hepatitis knew their status, and less than 1% were receiving treatment (9).

The increasing evidence that viral hepatitis represents a leading cause of human mortality and is resulting in rising numbers of deaths has led to international public health responses. In July 2012, the World Health Organisation (WHO) created the inaugural Framework for Global Action on Prevention and Control of Viral Hepatitis. This was followed by the first Global Health Sector Strategy on Viral Hepatitis in June 2016 (9). Other WHO guidelines for surveillance, diagnosis and treatment of viral hepatitis have been released in recent years to assist countries in developing comprehensive responses to viral hepatitis in the context of their own epidemiological, clinical and financial context.

Such regional and national strategic approaches are particularly crucial given profound geographic disparities in the burden of chronic viral hepatitis mortality. Liver cancer is the leading cause of cancer death in a range of countries in South Asia, South East Asia, North Africa and the Middle East, and sub-Saharan Africa, while not ranking among the top 10 causes of cancer death in parts of Europe and North America (5). In China, where liver cancer is the second most common cause of cancer death, 435,814 people were estimated to have lost their lives to viral hepatitis related cirrhosis and liver cancer in 2013, representing 30% of all chronic viral hepatitis deaths globally (1).

It is imperative that equitable access to diagnosis and care is delivered in areas where viral hepatitis is endemic and the burden of attributable disease is highest. Viral hepatitis deaths disproportionately occur in low and middle income countries; therefore global partnership and action will be required to address this urgent public health priority. In coming years, GBD estimates will allow ongoing assessment of the impact of international efforts to reverse the trends in viral hepatitis mortality, as can be observed for HIV/AIDS,

tuberculosis and malaria over the last decade (10).

Improvements in epidemiological data helped stimulate a renewed focus on viral hepatitis as a global health priority in this decade; optimal use of such strategic information to evaluate and refine public health approaches in the coming decade will be central to achieving our global goal of eliminating viral hepatitis as a public health concern by 2030 (9).

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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