

## **GLOBAL STRATEGIES ARE REQUIRED TO CURE AND ELIMINATE HBV**

Affiliation: Victorian Infectious Disease Reference Laboratory, Royal Melbourne Hospital, at the Peter Doherty Institute for Infection and Immunity, Victoria, 3000, Australia.

More than 240 million people worldwide are chronically infected with hepatitis B virus (HBV), resulting in over 850,000 deaths per year from cirrhosis and liver cancer, the 5<sup>th</sup> most common cancer worldwide and the 3<sup>rd</sup> highest cause of cancer related mortality. Although there is an effective preventative vaccine and antivirals which reduce viral replication, there is no known cure for chronic HBV. This is largely due to (i) the continued presence of transcriptionally active DNA in the nucleus which is not directly targeted by current antiviral therapies and (ii) impaired immune responses in chronically infected individuals. The recent discovery of the HBV NTCP entry receptor has led to the development of cell culture and animal models permitting studies of the complete HBV lifecycle, leading to a rapid increase in research on novel approaches to HBV cure. Expectations of HBV cure have been further raised by the recent development of curative therapies for hepatitis C virus (HCV). However differences in the HBV and HCV lifecycles mean that curative approaches for HCV will not cure HBV infection. A number of the major challenges that must be overcome before HBV cure can be realised will be discussed.