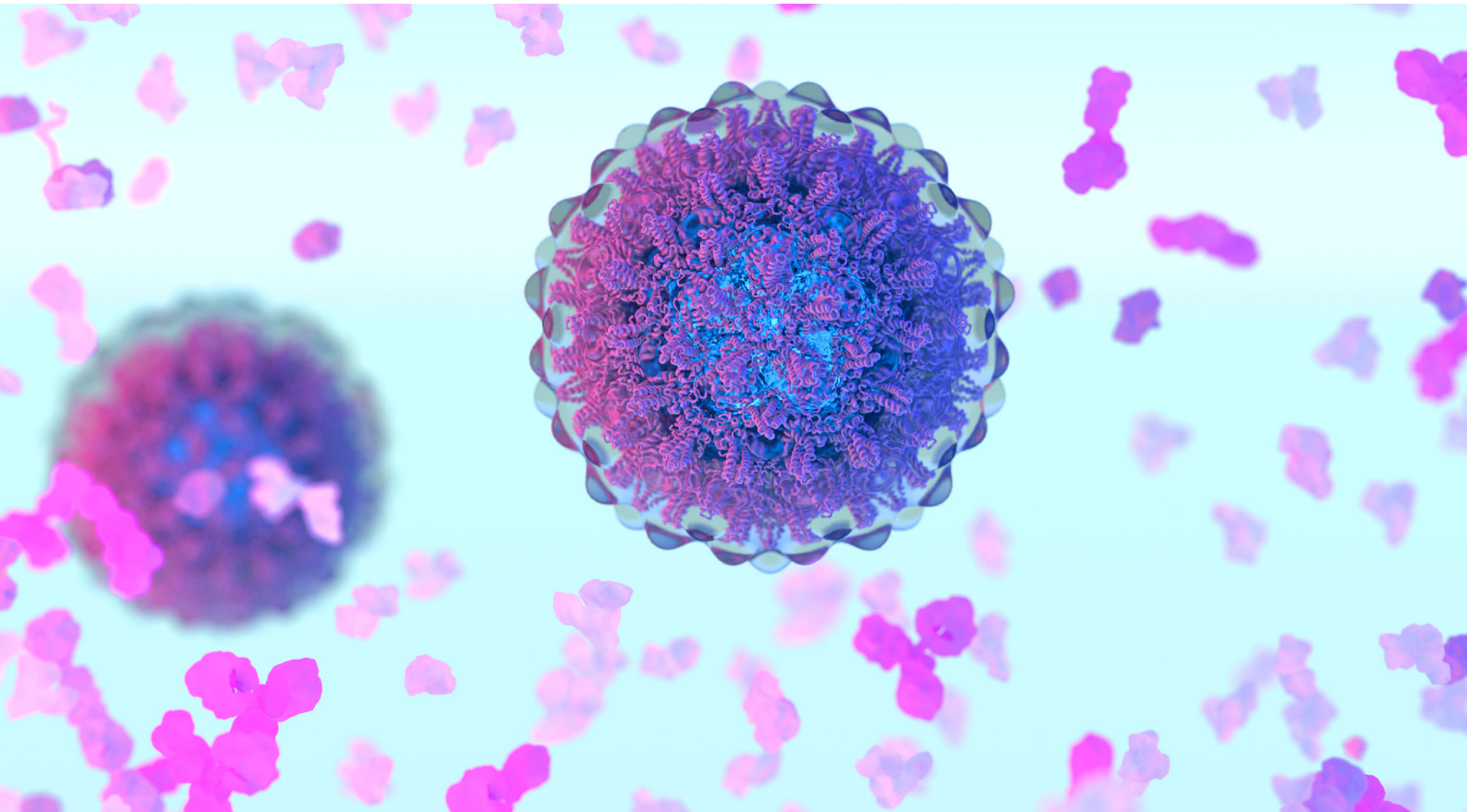




ICE-HBV

International Coalition to Eliminate HBV



Over 250 million people worldwide are chronically infected with hepatitis B virus (HBV) and even though a prophylactic vaccine and effective antiviral therapies have been developed, no cure currently exists.

HBV kills more people than malaria. Chronic HBV (CHB) infection results in 686,000 deaths per year from cirrhosis and liver cancer¹. No known cure for CHB exists due in part to the continued presence of a viral reservoir which is not targeted by current therapies. CHB persists despite even the best treatment and risks of liver cancer remain. Current treatments must generally be taken for life to remain effective and fewer than 1% of people living with CHB have access to them.

This high burden of disease, in spite of the availability of effective interventions to prevent infection and treat adverse outcomes in those affected, warrants a coordinated international public health approach to cure CHB.

WHY DO WE NEED TO CURE HBV?

The World Health Organization has stated that viral hepatitis is an international public health challenge comparable to other major communicable diseases, including HIV, tuberculosis and malaria². While these have become less lethal, the number of viral hepatitis related death is increasing.

Hepatitis B is responsible for 53% of all cases of liver cancer - which is the 3rd most common cause of cancer death worldwide - and 30% of all cirrhosis^{3,4}.

From a clinical point of view, not all people chronically infected with HBV fall within the current treatment guidelines. Even among those who achieve viro-suppression, the risk of cancer is still significant. Existing treatments must generally be taken for life, which represents a substantial financial and lifestyle burden on societies and individuals. Treatment today does not cover all categories of infected patients and it is not accessible worldwide.

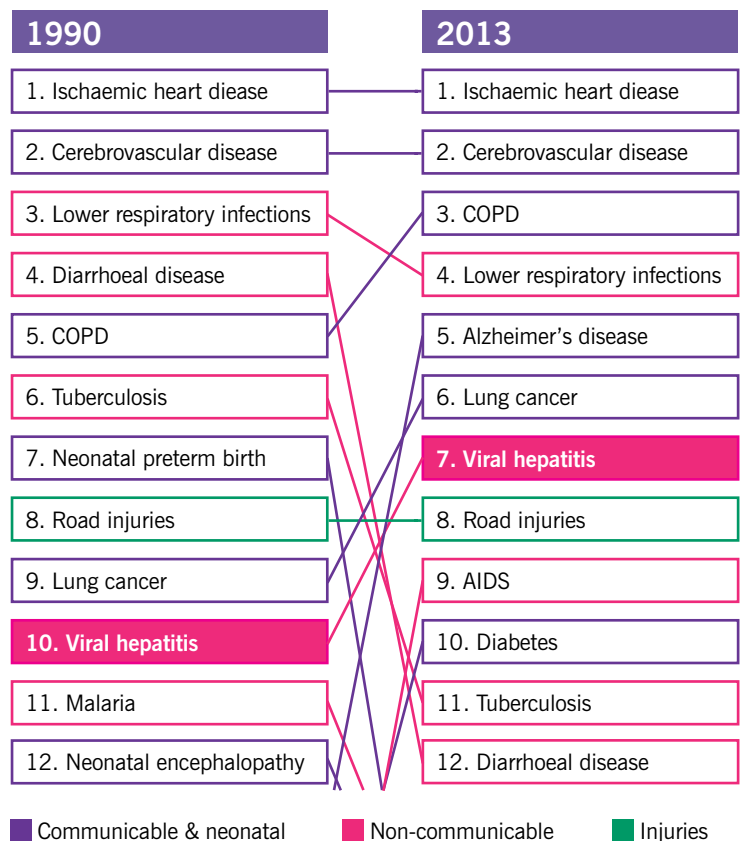
Experts estimate that liver cancer deaths will substantially increase in the next decades while most other cancers deaths are on the decrease.

WHY NOW?

The push for a cure for CHB infection is particularly timely and builds upon a solid momentum:

Scientifically, recent discoveries such as the identification of the NTCP receptor – the point of entry that the virus uses to infect cells, improved cell culture and animal models, the characterization of the function of HBx – the viral protein that favours the replication of the virus - and increased knowledge of HBV minichromosome biology are all elements enabling for a new era in HBV research.

The global momentum to promote the fight against viral hepatitis and the effective curative treatment of hepatitis C virus (HCV) creates a fertile ground for a global push for an HBV cure.



Leading causes of mortality and trends, 1990-2013. The global burden of viral hepatitis from 1990 to 2013: findings from the Global Burden of Disease Study 2013. Stanaway, Jeffrey D et al. *The Lancet*, Volume 388 NB: HBV causes approximately half of all viral hepatitis-related deaths.

“ Building on the current momentum, there could be a cure for HBV within a decade, which would save millions of lives and could reduce the economic burden of life-long therapy for CHB. ”



Fabien Zoulim, ICE-HBV Vice-Chair



HOW WE CAN CURE HBV

The ultimate aim of HBV cure regimens should be the eradication of the virus, and all its replicative intermediates. However, since even natural clearance of acute HBV does not always result in eradication of the reservoir cccDNA, complete eradication may be an unrealistic outcome. Functional cure, defined by ICE-HCV members as “sustained durable HBsAg loss with undetectable serum DNA allowing treatment cessation” may be a more realistic goal. A combination of strategies which target both the viral replication cycle and enhance the immune response to viral antigens will most likely be required⁵.

WHAT WE DO

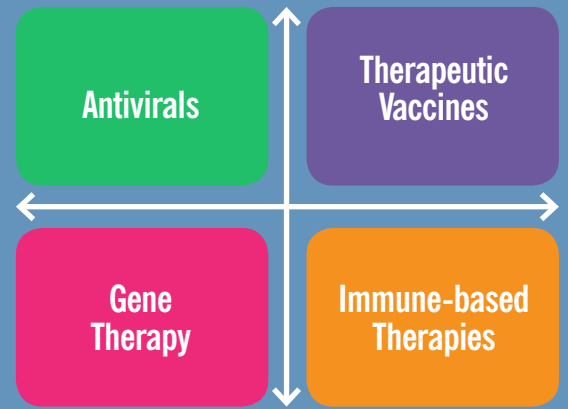
To advance HBV cure research we are creating international working groups on virology, immunology, innovative tools and clinical trials to identify research gaps needed to be addressed for an HBV Cure and perform the research needed to address these gaps, including, but not restricted to:

- Standardized cccDNA assays
- Immunological biomarkers of HBV natural history, treatment response and disease progression
- New HBV biomarkers predicting cure of infection

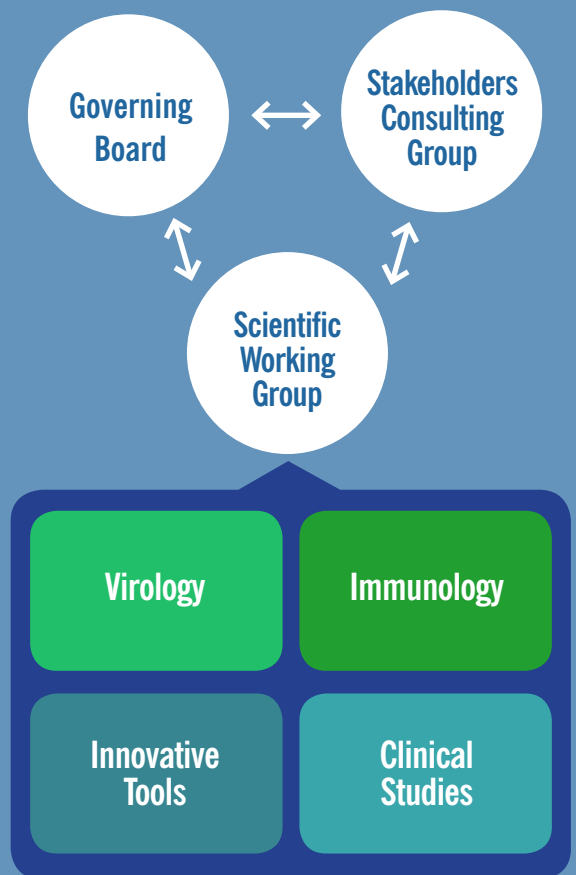
We collaborate with key stakeholders, including, among others, patient representatives, research agencies, global health organisations, foundations and pharmaceutical industry to accelerate research in HBV cure, by developing the following activities:

- Promotion and coordination of existing HBV cure events worldwide
- Scholarship programmes for junior scientists and researchers from developing countries
- HBV cure prize for young investigators

HBV CURE STRATEGIES



ICE-HBV STRUCTURE



RESEARCH

EDUCATION

COLLABORATION

INNOVATION

“ Our aim is to support the discovery of a safe, affordable, scalable and effective cure, available to all persons living with CHB including children. To reach this, our vision is to create an international, independent, research based and patient centered forum in order to coordinate, promote and foster collaborative partnerships working towards a cure for HBV.

Peter Revill, ICE-HBV Chair



HBV PREVENTION, CARE, TREATMENT, AND CURE

ICE-HBV supports the Global Health Sector Strategy on Viral Hepatitis (WHO, 2016). By no means should the strengthening of HBV cure research direct resources away from HBV prevention, care and treatment programmes. However, the HBV scientific community believes that government, foundations and other research sponsors should make a substantial investment in HBV cure research now. HBV research has been largely underfunded compared to other diseases; enhanced investments could make a big difference and create important resources savings within 10 years. Coupled with the implementation of the 2016 Global Health Sector Strategy on Viral Hepatitis, an HBV cure could help fully eradicate HBV thus saving millions of lives.

SPONSORS



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Innovative Tools

Jianming Hu, University of Pennsylvania, USA

Fengmin Lu, Wuhan University, China

WHAT YOU CAN DO

- 1 Support ICE-HBV activities: by funding our working groups research, donating towards one of our young investigators projects, sponsoring our meetings.
- 2 Raise awareness and advocate for an HBV cure, asking your government to fund life-saving research on CHB.

HOW TO FIND OUT MORE

- > www.ice-hbv.org
- 🐦 [@ICE_HBV](https://twitter.com/ICE_HBV)
- ✉ info@ice-hbv.org

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