

Hepatitis B, Past, Present, Future Inaugural Canadian Hepatitis B Community Forum

Carla S. Coffin, MD, MSc, FRCPC
Professor of Medicine
University of Calgary

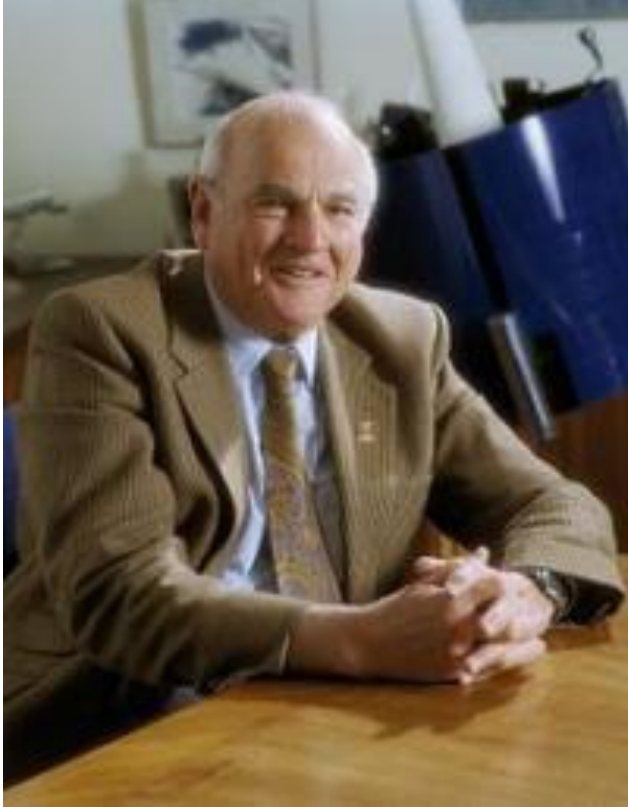




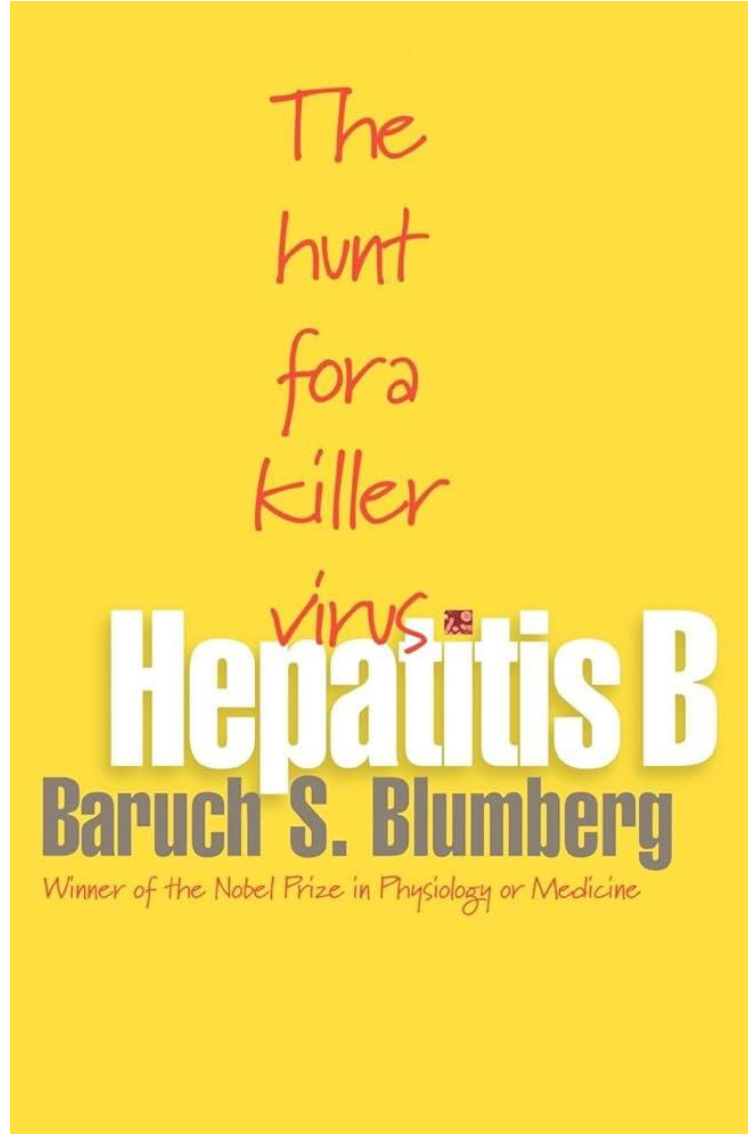
UNIVERSITY OF
CALGARY

The Past

Discovery of the Hepatitis B Virus



Dr. Baruch Blumberg (1925-2011)
Discovery HBV 1965
Winner Nobel Prize in Medicine



- Collected blood samples from around the world to study genetic traits
- "Accidentally" found a "protein" in the blood of an Australian Indigenous person
- Later identified it to be the "Hepatitis B Virus Surface Antigen" (*Australian Antigen*)
- Invented the 1st Hepatitis B Vaccine in 1969
 - >70% Decreased Rates of Liver Cancer in some Countries

Korean Mummy Found With Hepatitis B Virus

- **Virus discovered in the liver of a South Korean mummy**
 - 500-year-old child
- **First time HBV ever been found in a mummified body**
- **The virus genome (*strain*) (genotype C) estimated to be 3000 - 10,000 years old**

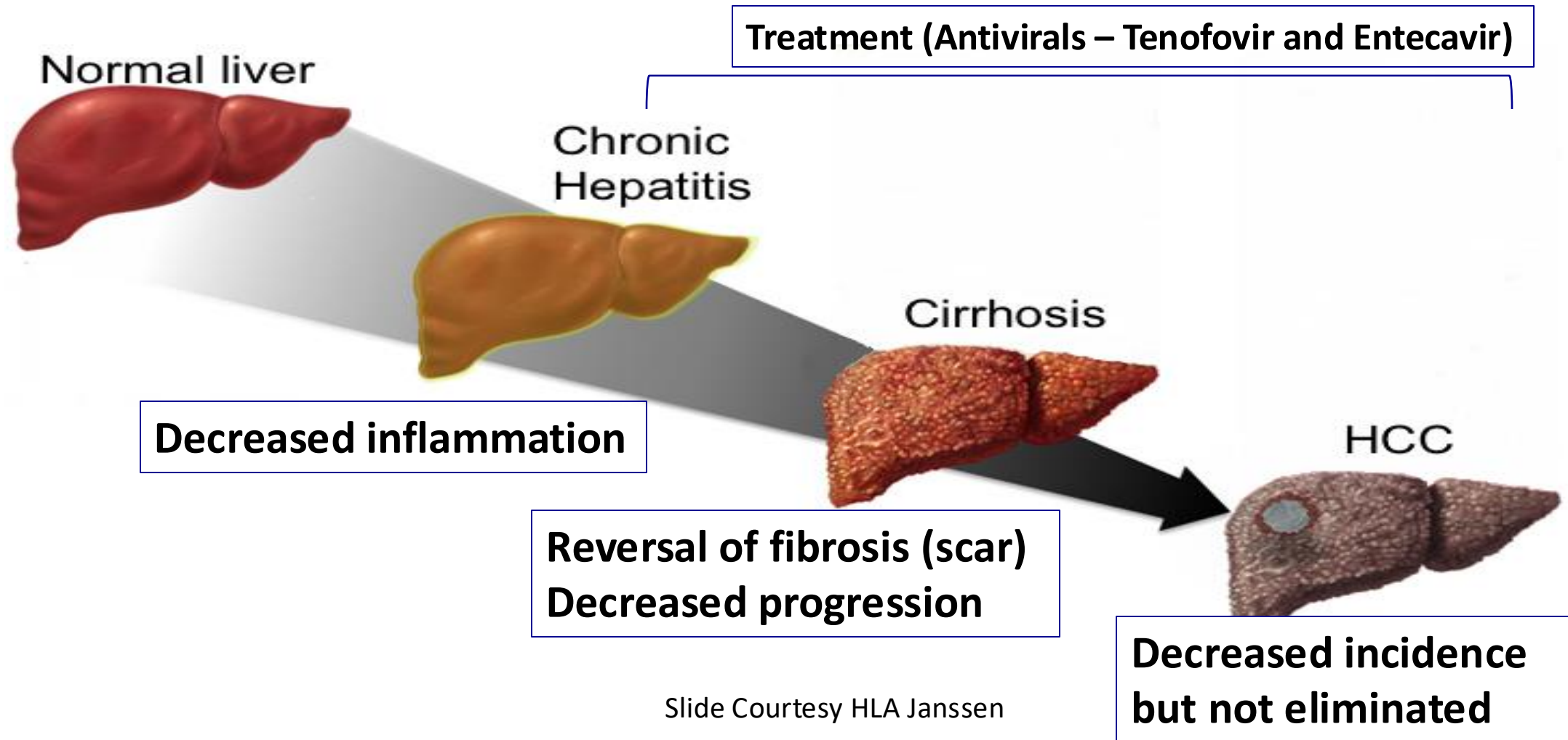




UNIVERSITY OF
CALGARY


The Present

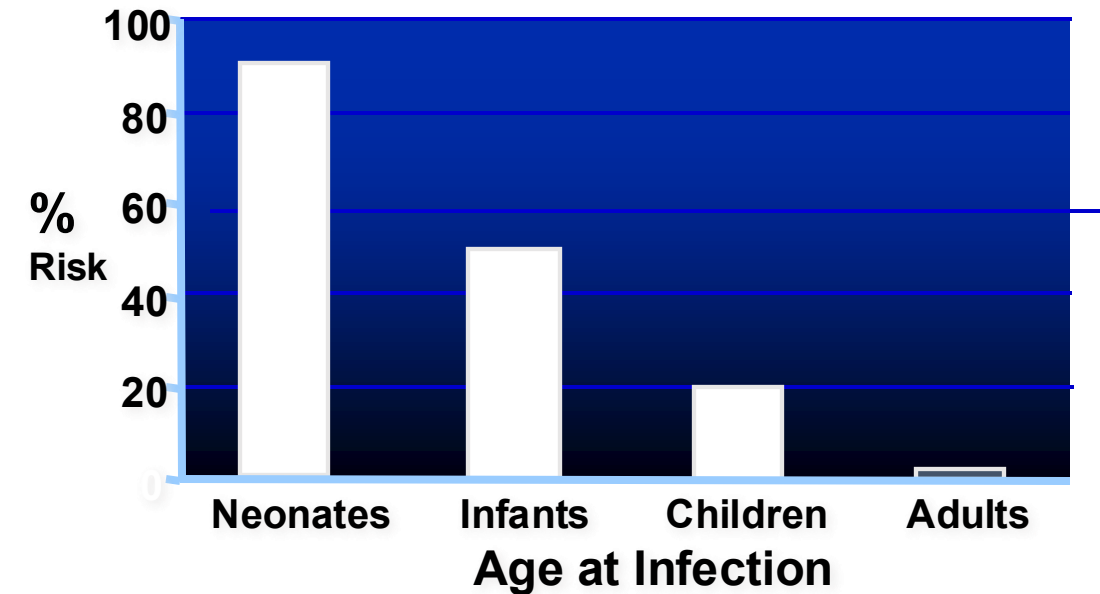
Hepatitis B Virus Can Cause Progressive Liver Disease and Liver Cancer



Slide Courtesy HLA Janssen

The Hepatitis B Vaccine is the 1st Cancer Vaccine and should be given as soon as possible after Birth:

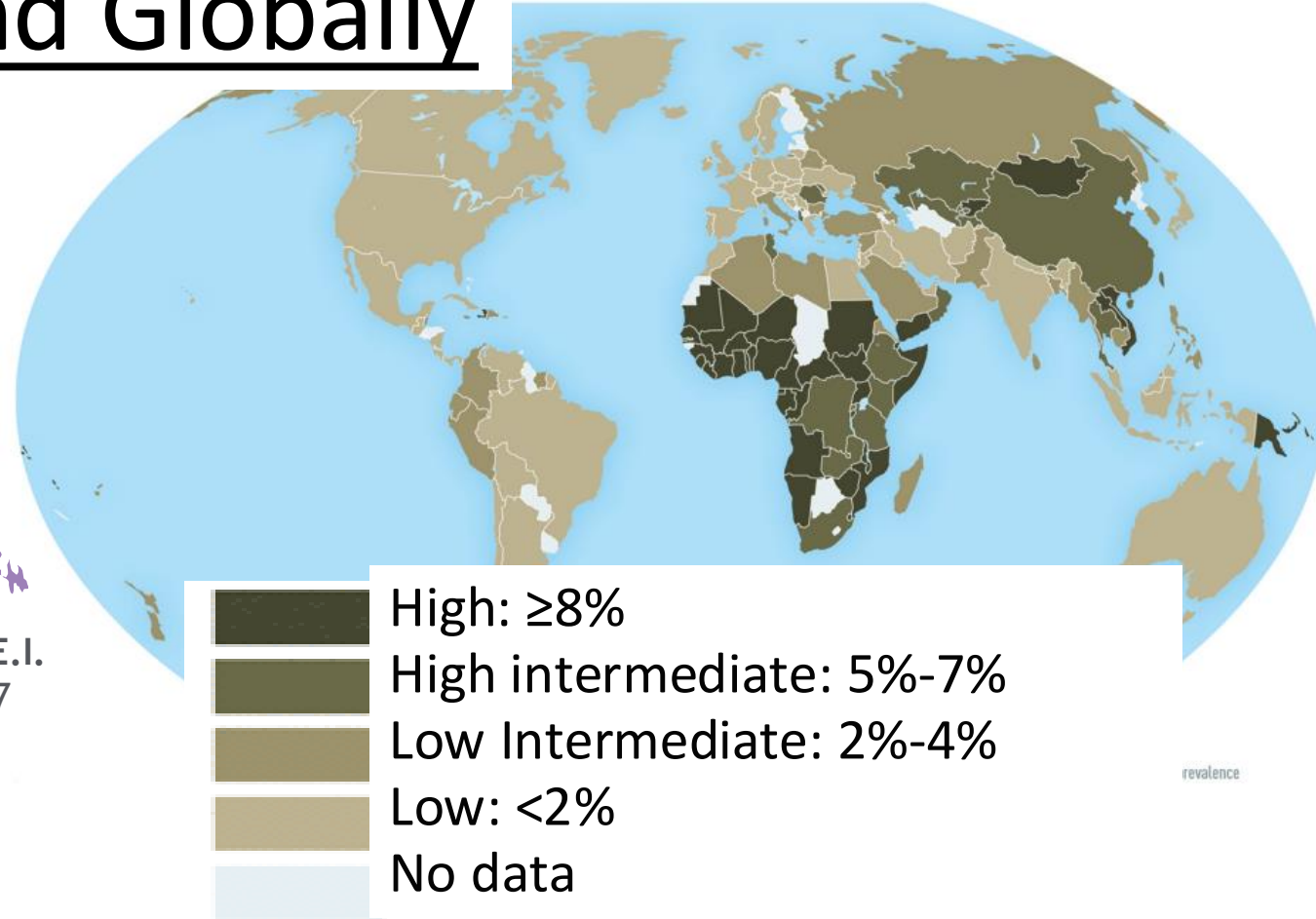
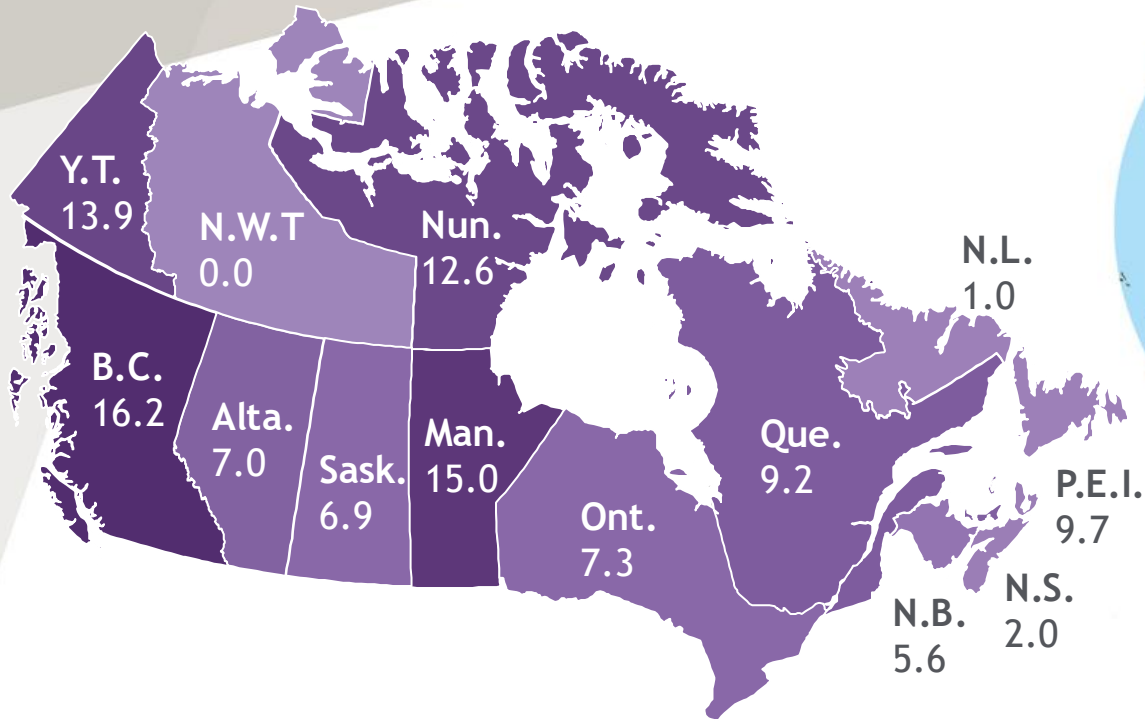
HBV Vaccine Timing in Canada 	Birth ✓	2 months →	Pre-Adolescence X
Province or Territory	NU, NT, NB	BC, AB, QC, PEI, YT	SK, MB, ON, NS, NL



There is no cure for Hepatitis B
 “An Ounce of Prevention is Worth a Pound of Cure”

- **Greatest Risk in Infants and young children**
 - 80-90% < 1 year
 - 30-50% < 6 y
 - <5% otherwise healthy teens or adults (maybe even <1%)

Hepatitis B in Canada and Globally



- 250,000 Canadians



1.5 million new HBV infections per year
260 million people infected
2 billion people are anti-HBc positive
<10% treated

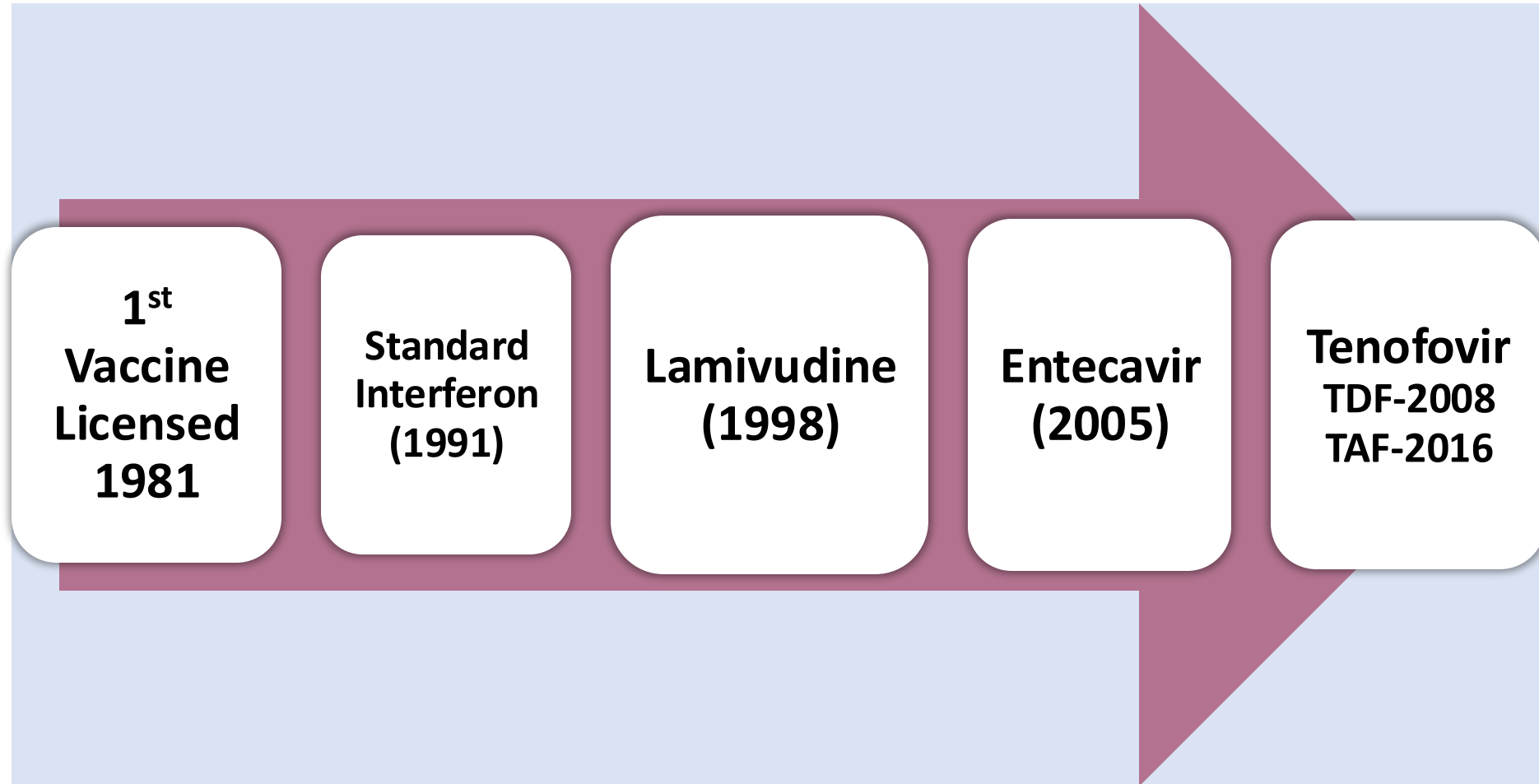
Argument for Universal HBV Screening:

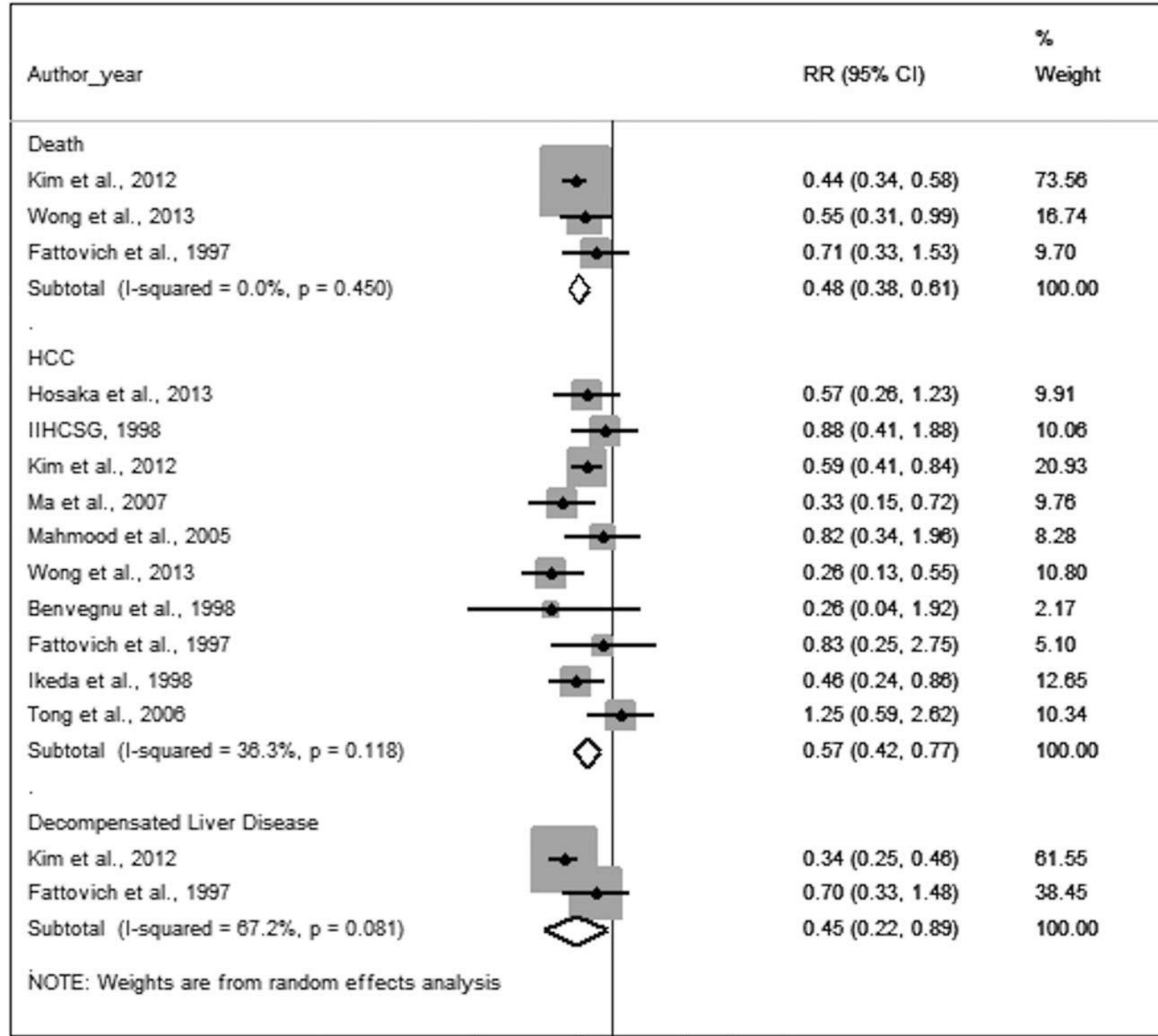
- Up to 30% of people with HBV do not fall into known risk groups
- Current screening guidelines are not always followed due to complexity
- 40% of Canadians are living with HBV and don't know it

Testing is the only way to identify *all* with asymptomatic infection that might benefit from treatment to reduce liver disease and liver Cancer



Timeline in Hepatitis B Care 1981-Present





Benefits of Long-Term Antiviral Therapy:
Clinical outcomes for observational studies comparing treatment vs. no treatment in 59,201 with “immune active” HBV infection:
Lower death, liver cancer and decompensated liver disease

-Generic HBV drugs cost about \$2200 per year! With Alberta blue cross co-pay \$1200 per / year (Only \$200/year other countries)

Message from the Chair “Canada relies on a confusing patchwork of over 100 public prescription drug plans and over 100,000 private plans—with a variety of premiums, copayments, deductibles and annual limits”

Dr. Eric Hoskins



cmajOPEN

Research

Variable access to antiviral treatment of chronic hepatitis B in Canada: a descriptive study

Stephen E. Congly MD MSc, Mayur Brahmania MD MPH

Tenofovir and Entecavir not covered

 Government of Canada / Gouvernement du Canada

A PRESCRIPTION FOR CANADA: ACHIEVING PHARMACARE FOR ALL

Final Report of the Advisory Council on the
Implementation of National Pharmacare

June 2019



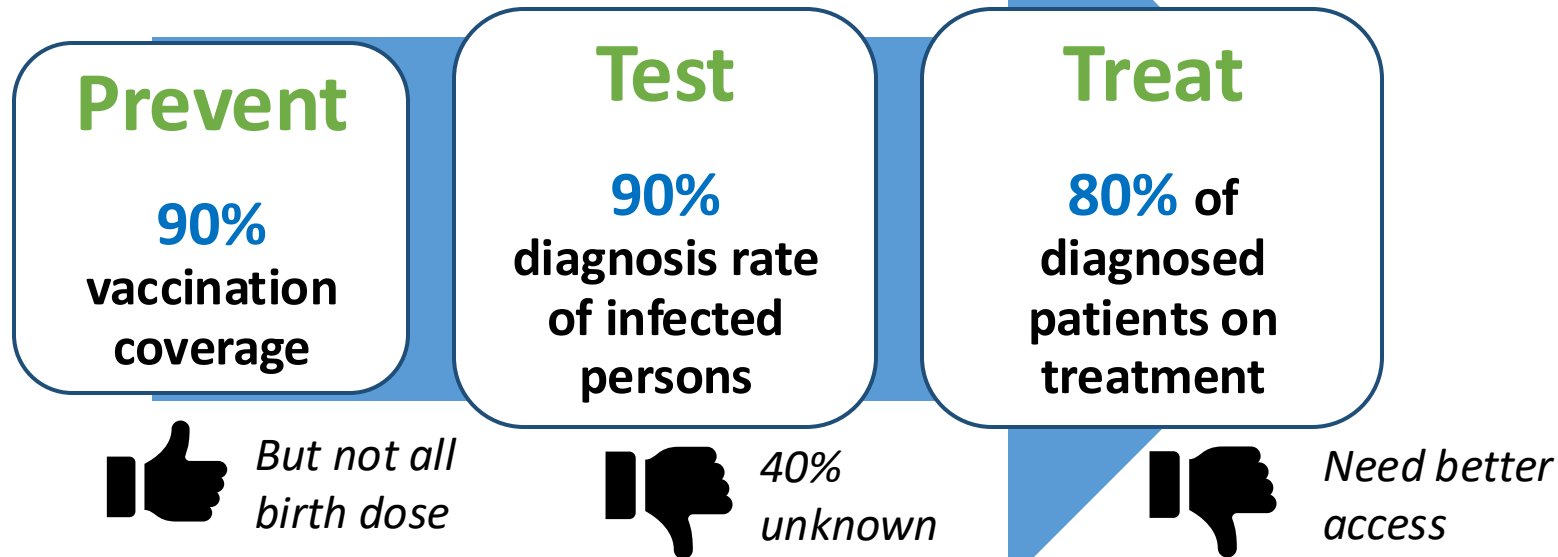
 Canada



UNIVERSITY OF
CALGARY

The Future

World Health Organization HBV Elimination Goals



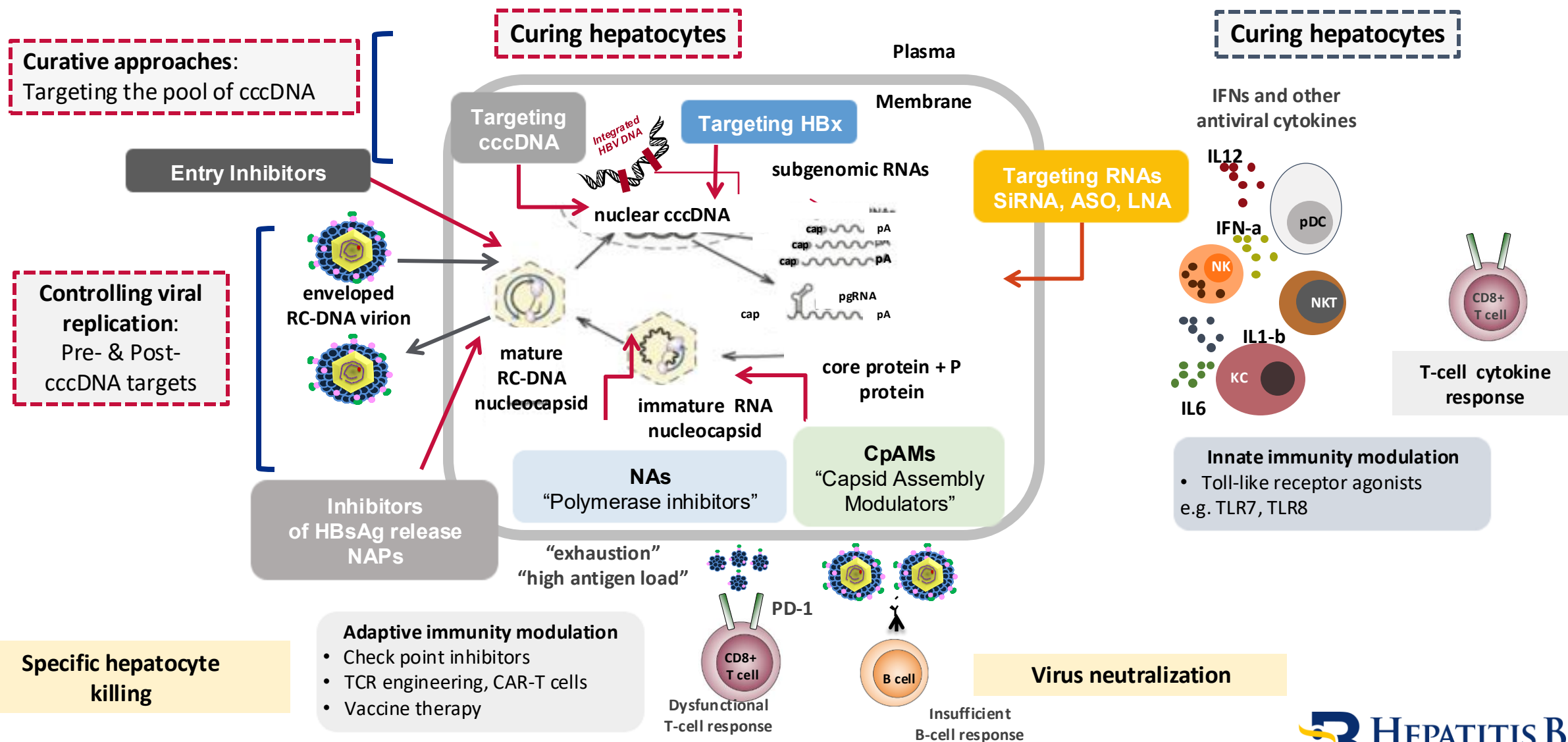
World Health Organization (WHO) Goals for HBV Elimination by 2030

- Reduce **new infections** by **90%**
- Reduce **mortality** by **65%**

Clinical Trials: Timelines for HBV Cure?



Emerging Treatment Targets for HBV – Stay Tuned



Conclusion – Hepatitis B Past, Present and Future

- Hepatitis B IS a Major Global Health Problem and in Canada
- WHO Global Targets:
 - Universal birth dose HBV vaccination – *The 1st shot is the most timely*
 - Increase screening, linkage to care – *You should know if you have hepatitis B*
 - Culturally appropriate public education and awareness
- Safe and effective therapies reduce liver disease risk and cancer
 - **Need to improve access to life-saving treatments**

THERE is HOPE for a Hepatitis B Cure

Thank you!

