Preventing HCC
global epidemiology and implications for care

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The Royal Melbourne Hospital

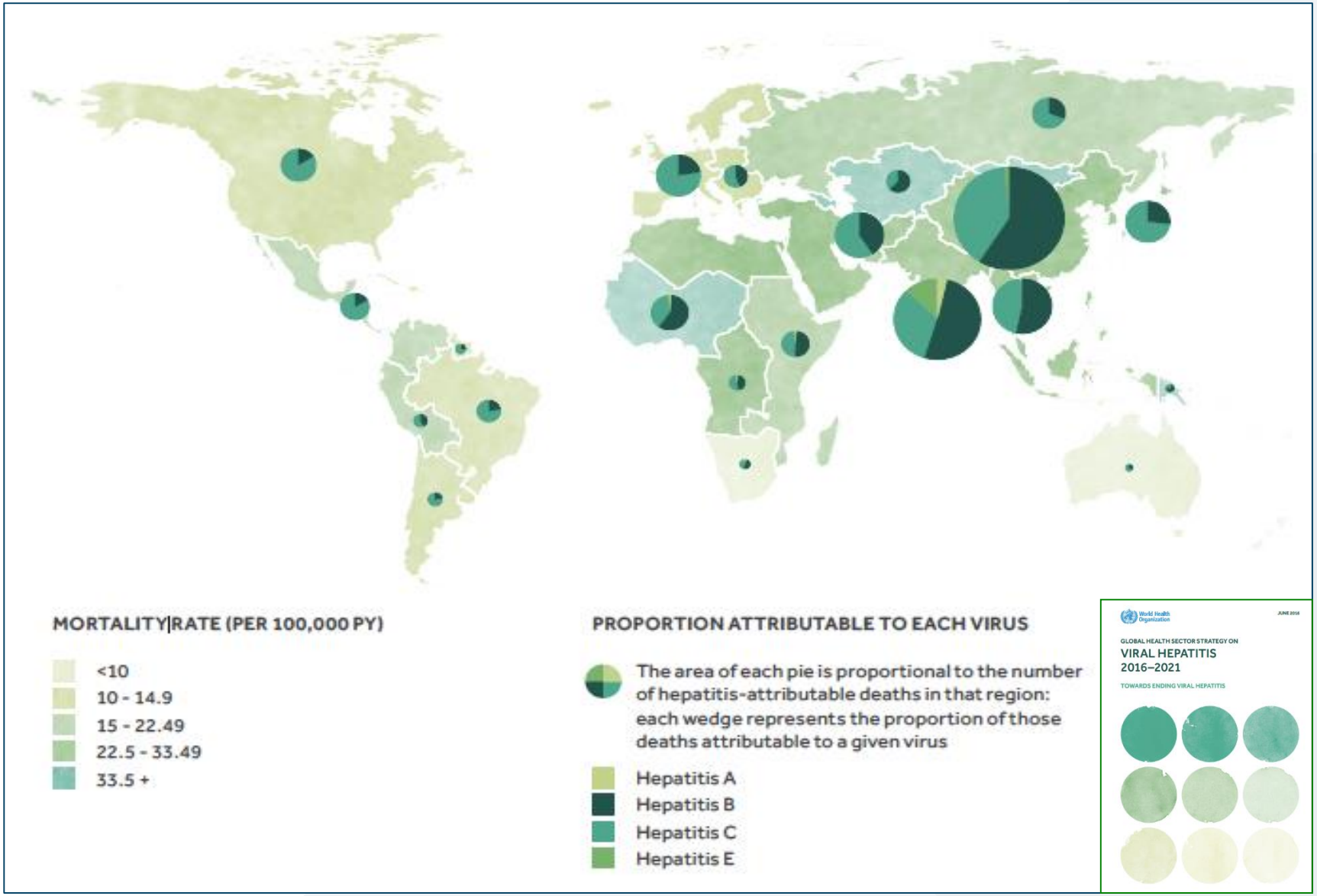
A joint venture between The University of Melbourne and The Royal Melbourne Hospital

Conflicts of interest

I receive no funding or support of any kind from any pharmaceutical or for-profit health care related industry.

Acknowledgment

For people living with viral hepatitis



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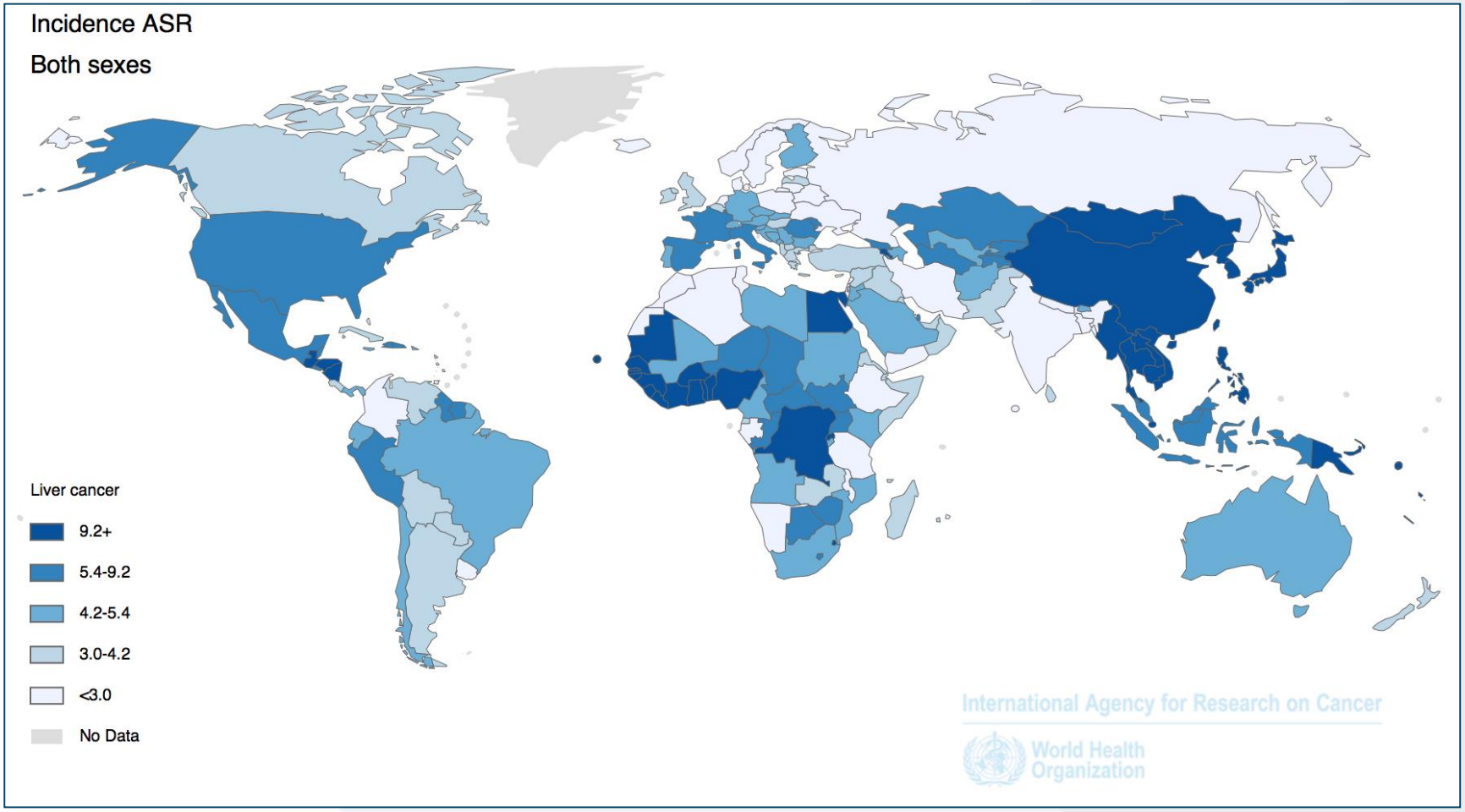
Primary liver cancer - IARC 2013



JAMA Oncology | Special Communication

Global, Regional, and National Cancer Incidence, Mortality, Years of Life Lost, Years Lived With Disability, and Disability-Adjusted Life-years for 32 Cancer Groups, 1990 to 2015

A Systematic Analysis for the Global Burden of Disease Study

Global Burden of Disease Cancer Collaboration

Fitzmaurice 2017
Jama Oncol

- Globally, liver cancer is the 4th leading cause of cancer deaths
  - *Nearly 10% of all cancer deaths are due to liver cancer*
- However liver cancer is ranked 2nd in years of life lost

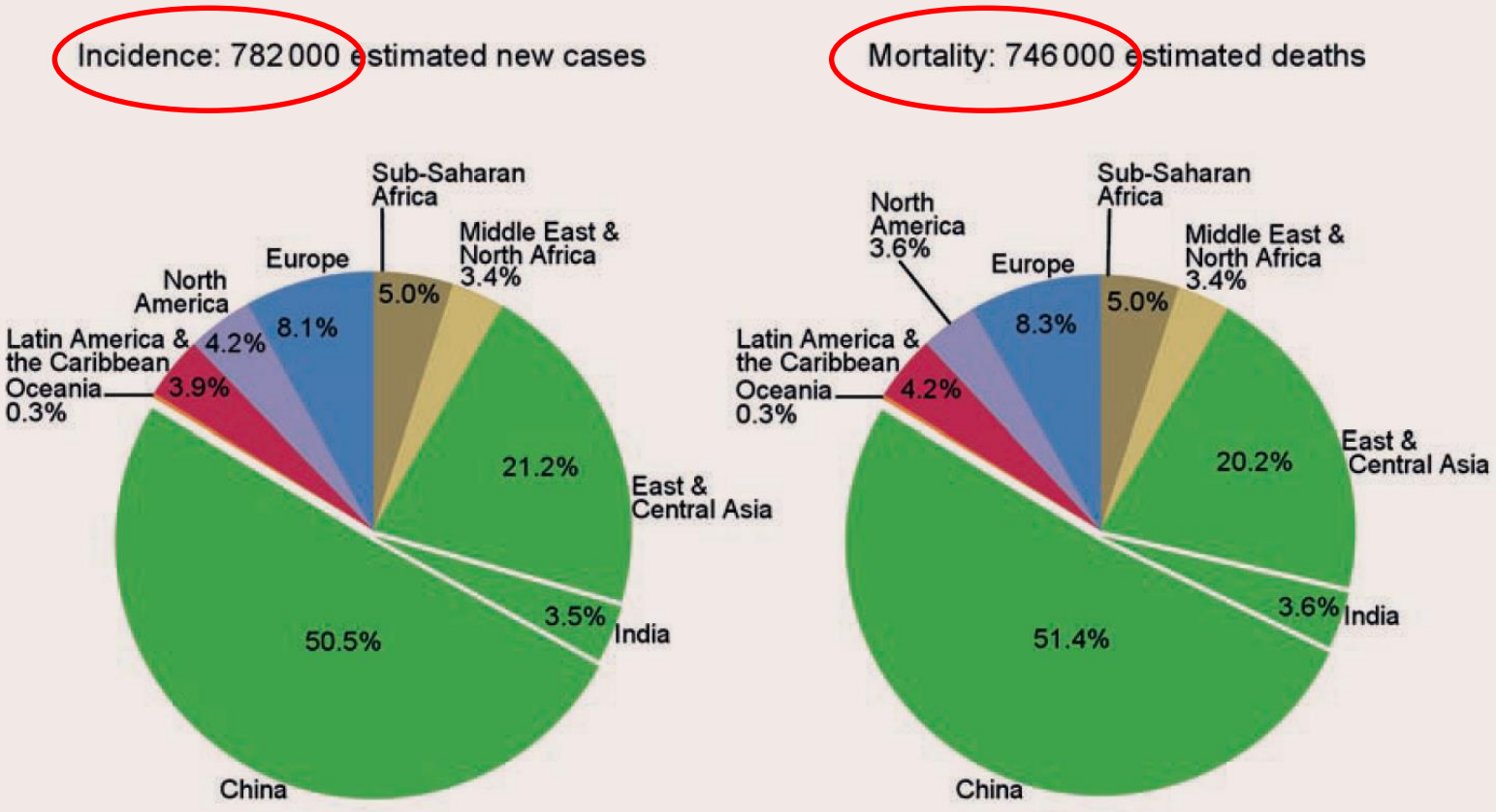
Figure 6. Cancers Ranked Globally and for Both Sexes by Absolute Years of Life Lost (YLLs)

Rank increased | No change | Rank decreased

2005		2015			
Rank	Cancer	Cancer	Rank	Change in A-YLLs, % (95% CI)	Change in AS-YLL Rate, % (95% CI)
1	Tracheal, bronchus, and lung cancer	Tracheal, bronchus, and lung cancer	1	14.3 (10.8 to 18.9)	−11.5 (−14.2 to −8.0)
2	Liver cancer	Liver cancer	2	4.6 (−1.6 to 15.4)	−16.9 (−21.6 to −8.8)
3	Stomach cancer	Stomach cancer	3	−6.9 (−10.2 to −3.7)	−27.3 (−29.8 to −24.7)
4	Colon and rectum cancer	Colon and rectum cancer	4	17.4 (14.8 to 20.2)	−8.9 (−10.8 to −6.8)
5	Breast cancer	Breast cancer	5	17.2 (9.3 to 24.3)	−7.5 (−13.5 to −2.2)
6	Leukemia	Leukemia	6	6.2 (2.5 to 9.9)	−8.0 (−11.1 to −4.9)
7	Esophageal cancer	Esophageal cancer	7	−7.8 (−12.7 to −2.3)	−28.7 (−32.5 to −24.5)
8	Brain and nervous system cancer	Pancreatic cancer	8	26.1 (23.2 to 29.0)	−2.8 (−4.9 to −0.6)
9	Cervical cancer	Brain and nervous system cancer	9	13.0 (4.8 to 20.8)	−5.3 (−11.8 to 1.1)
10	Pancreatic cancer	Cervical cancer	10	2.3 (−4.4 to 10.8)	−18.6 (−24.0 to −12.0)

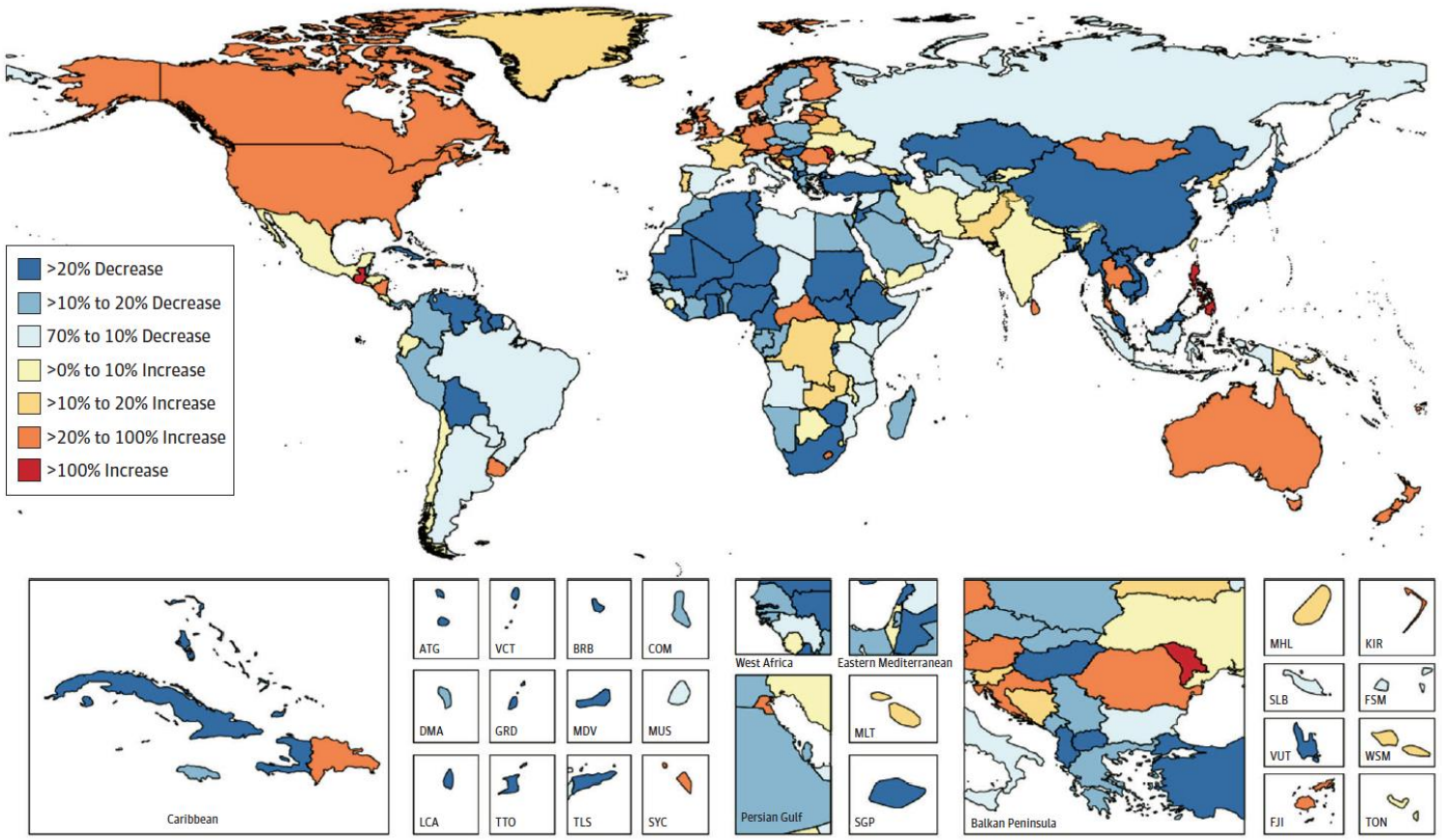
IARC – World Cancer Report, 2014

Chart 5.6.1. Estimated global number of new cases and deaths with proportions by major world regions, for liver cancer in both sexes combined, 2012.



Changing liver cancer mortality, 1990-2015

Figure 1. Relative Changes in Age-Standardized Liver Cancer Mortality Between 1990 and 2015 for Both Sexes in 195 Countries and Territories



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JAMA Oncology | Original Investigation

The Burden of Primary Liver Cancer and Underlying Etiologies From 1990 to 2015 at the Global, Regional, and National Level
Results From the Global Burden of Disease Study 2015

Global Burden of Disease Liver Cancer Collaboration

Incidence and mortality trends for primary liver cancer Australia, 1982-2014

Increasing incidence and mortality related to liver cancer in Australia: time to turn the tide

Fiona Cocker,[1] Kwang Chien Yee,[2,3] Andrew J. Palmer,[1] Barbara de Graaff[1]

Australian and New Zealand Journal of Public Health

Figure 1a: ASR incidence liver cancer for all persons, Australia 1982-2014.

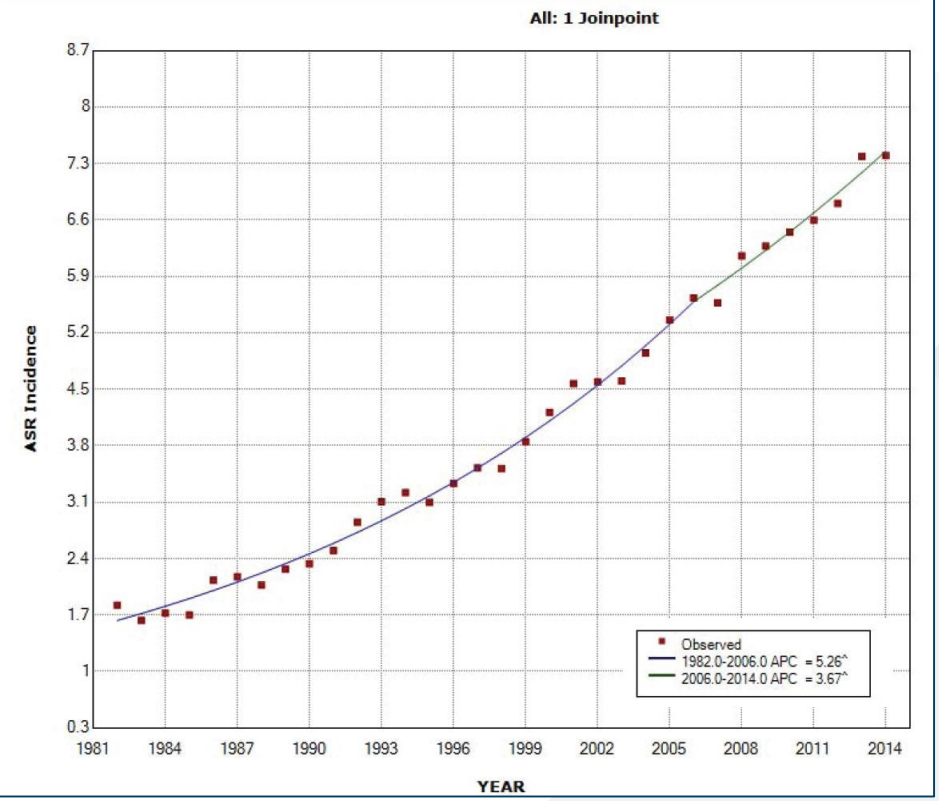
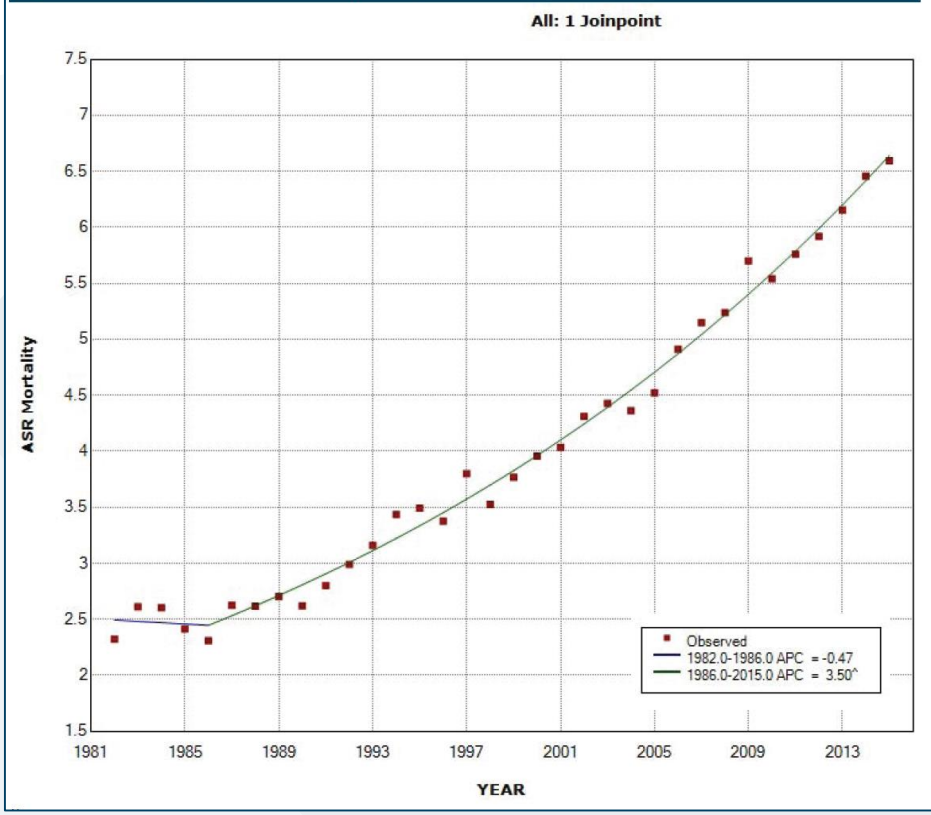


Figure 1b: ASR mortality liver cancer for all persons, Australia 1982-2015.



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Research Article
Viral Hepatitis

JOURNAL
OF HEPATOLOGY

Declining hepatitis C virus-related liver disease burden in the direct-acting antiviral therapy era in New South Wales, Australia

Maryam Alavi[1,*], Matthew G. Law[1], Heather Valerio[1], Jason Grebely[1], Janaki Amin[2], Behzad Hajarizadeh[1], Christine Selvey[3], Jacob George[4], Gregory J. Dore[1]

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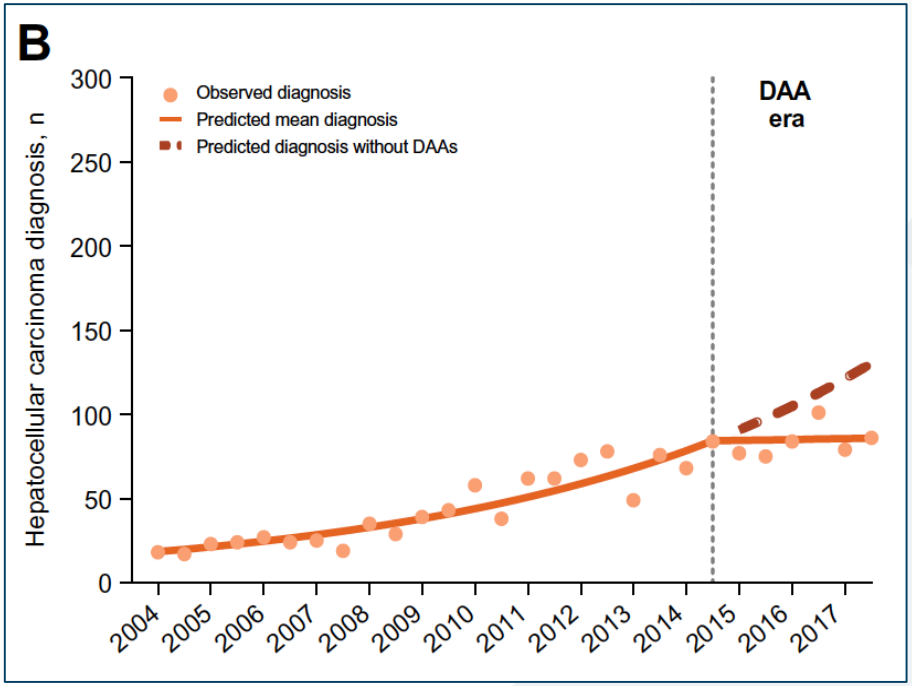
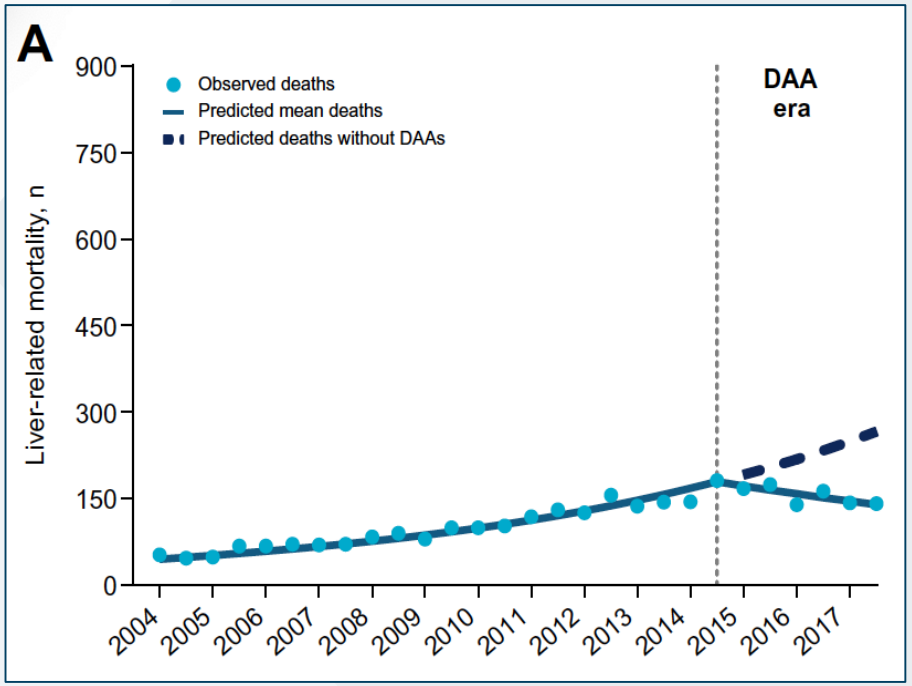
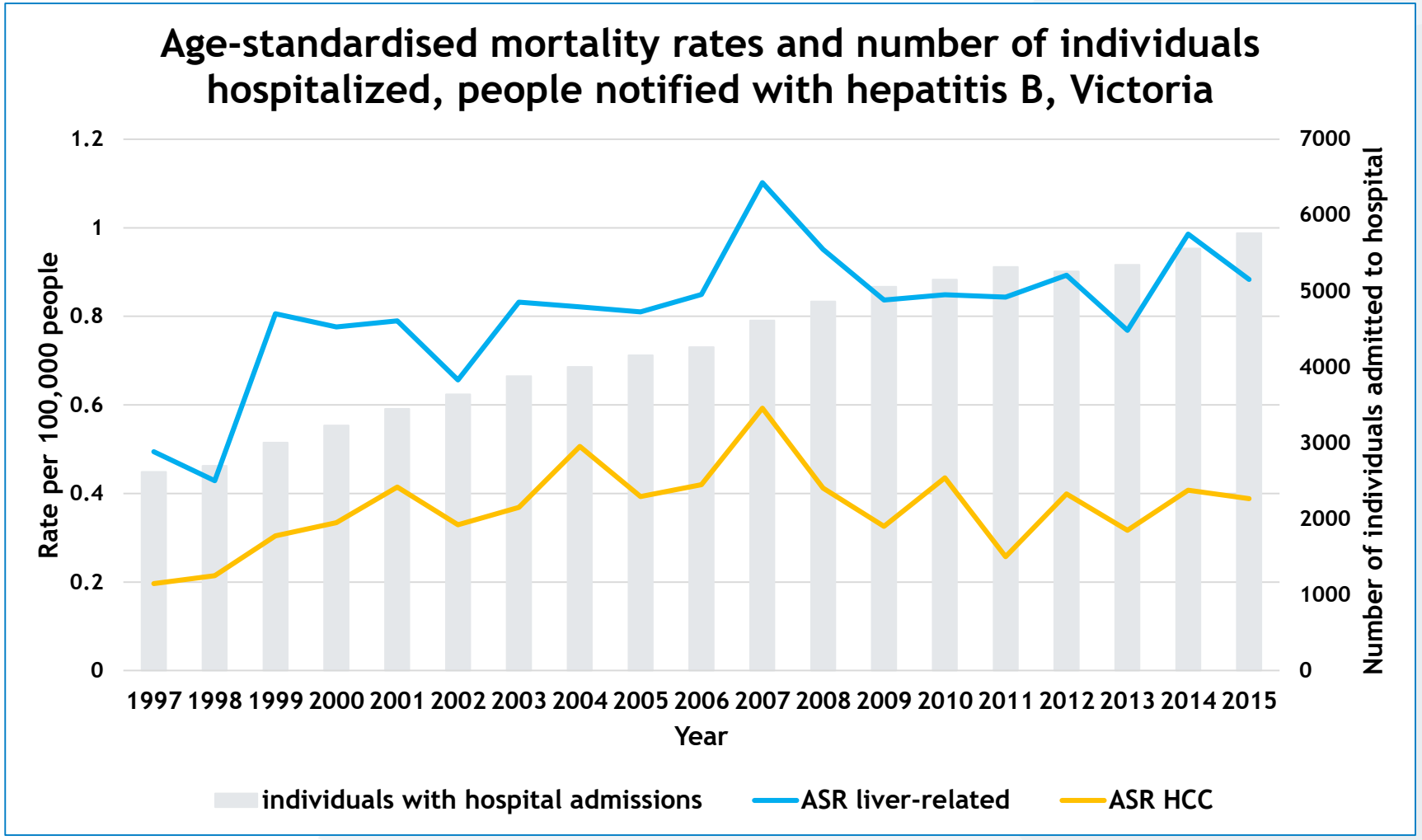




HCC in people notified with CHB in Victoria



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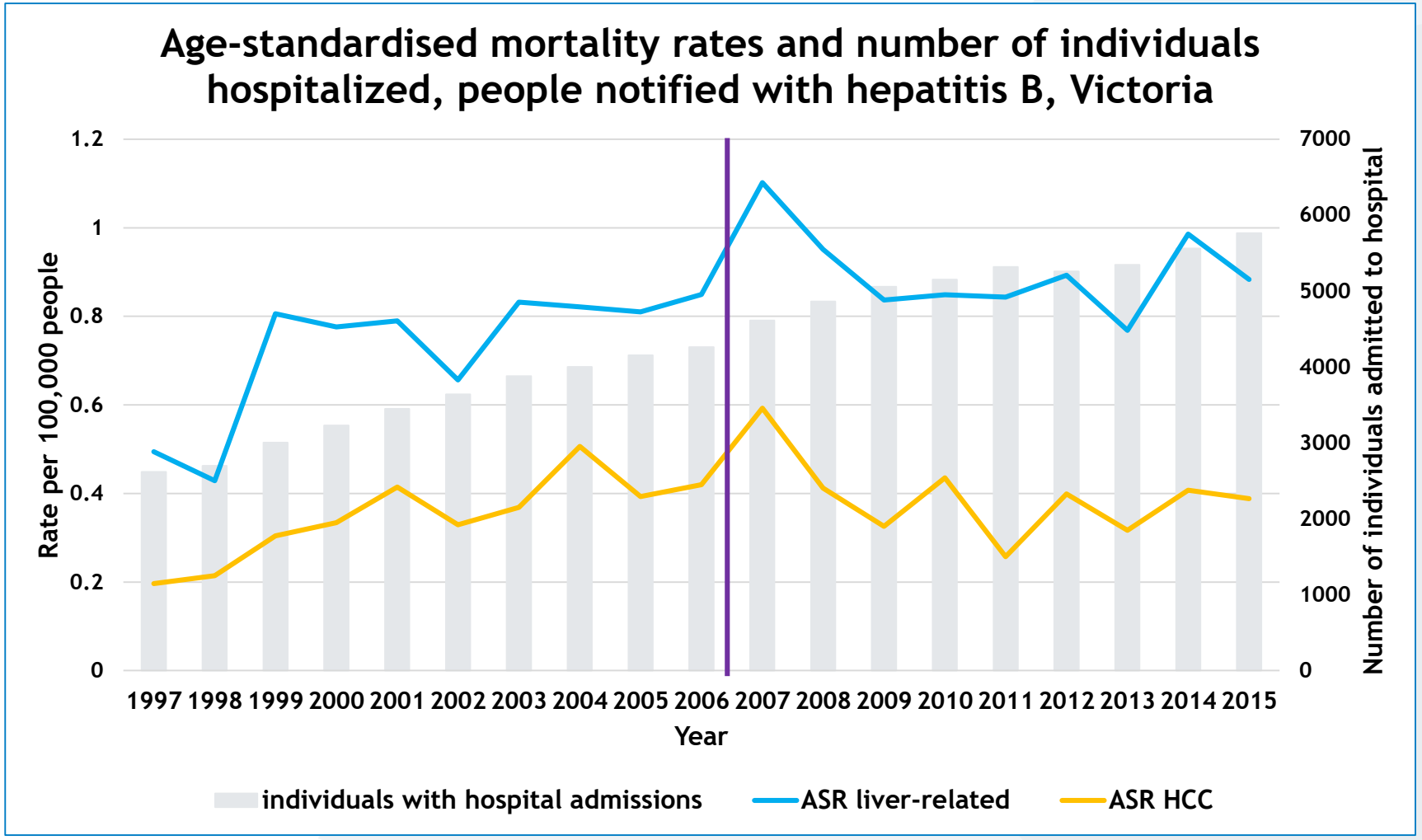

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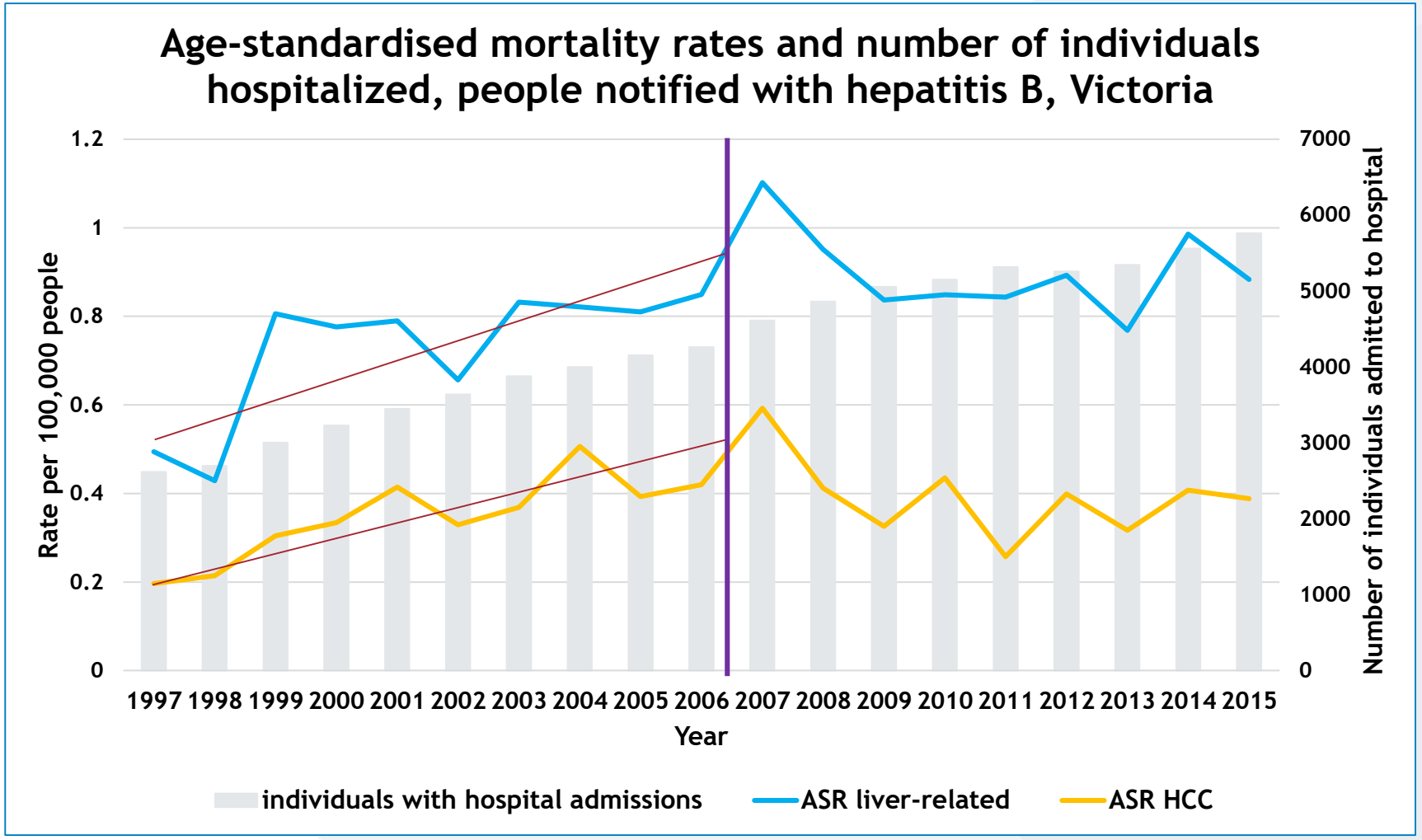

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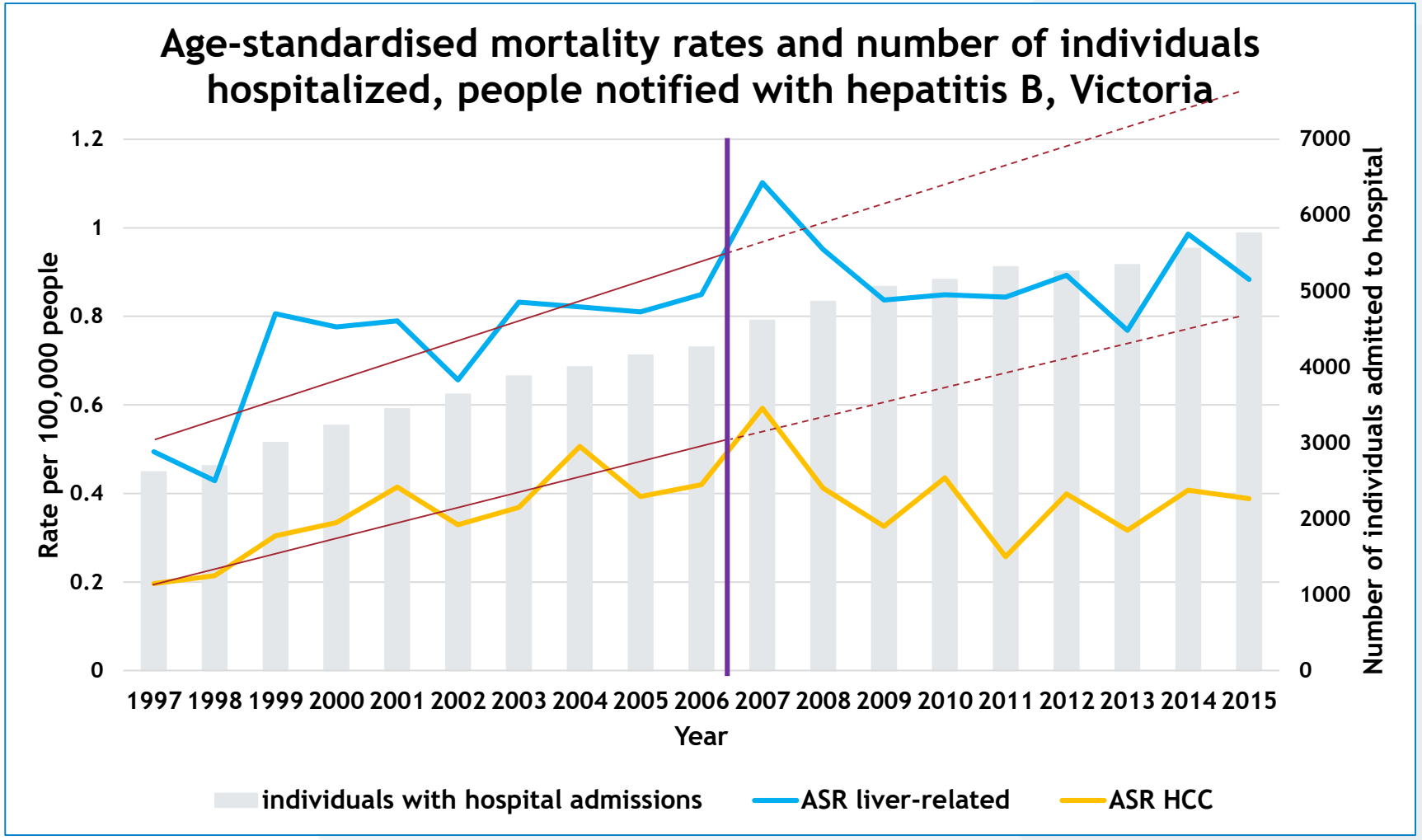

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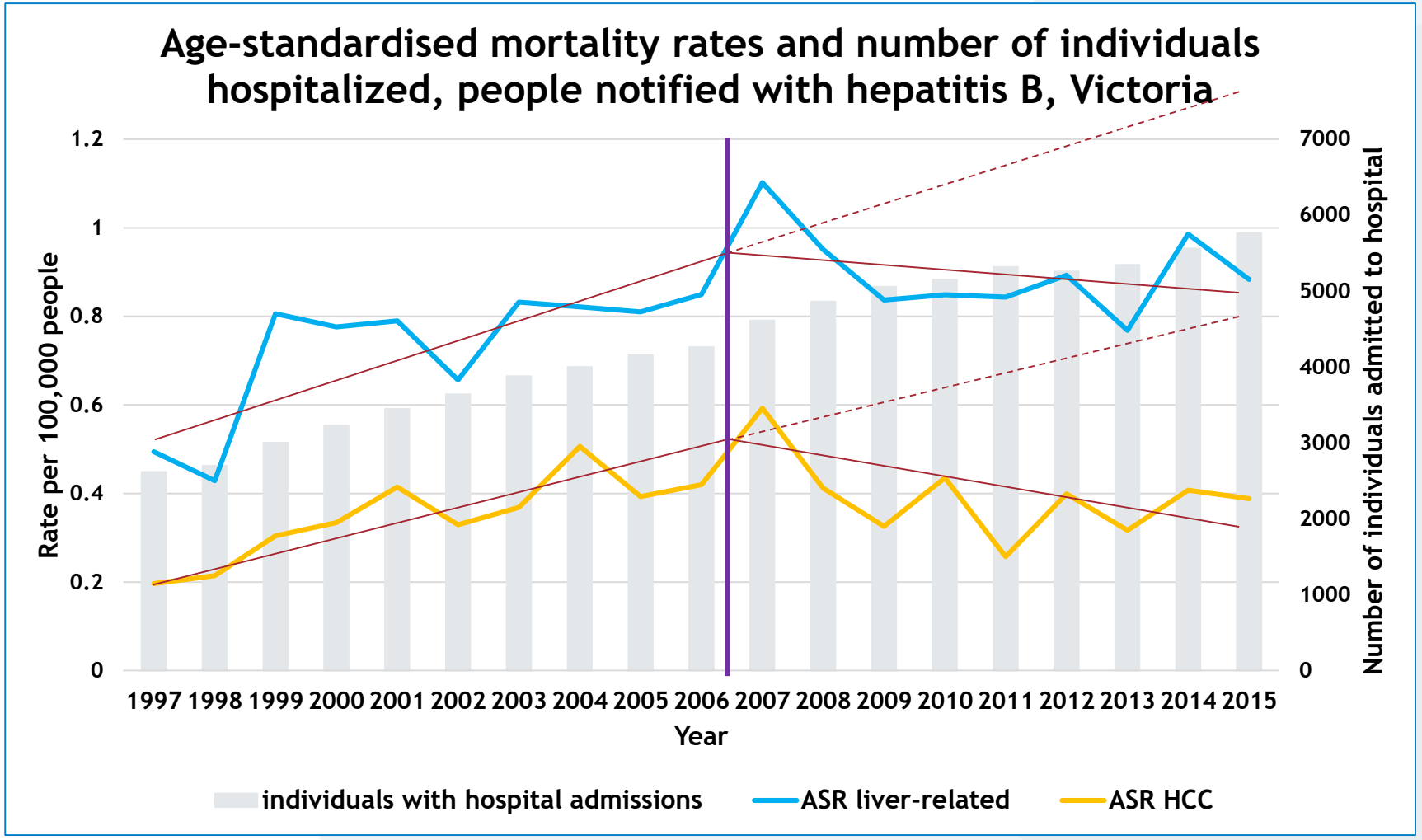
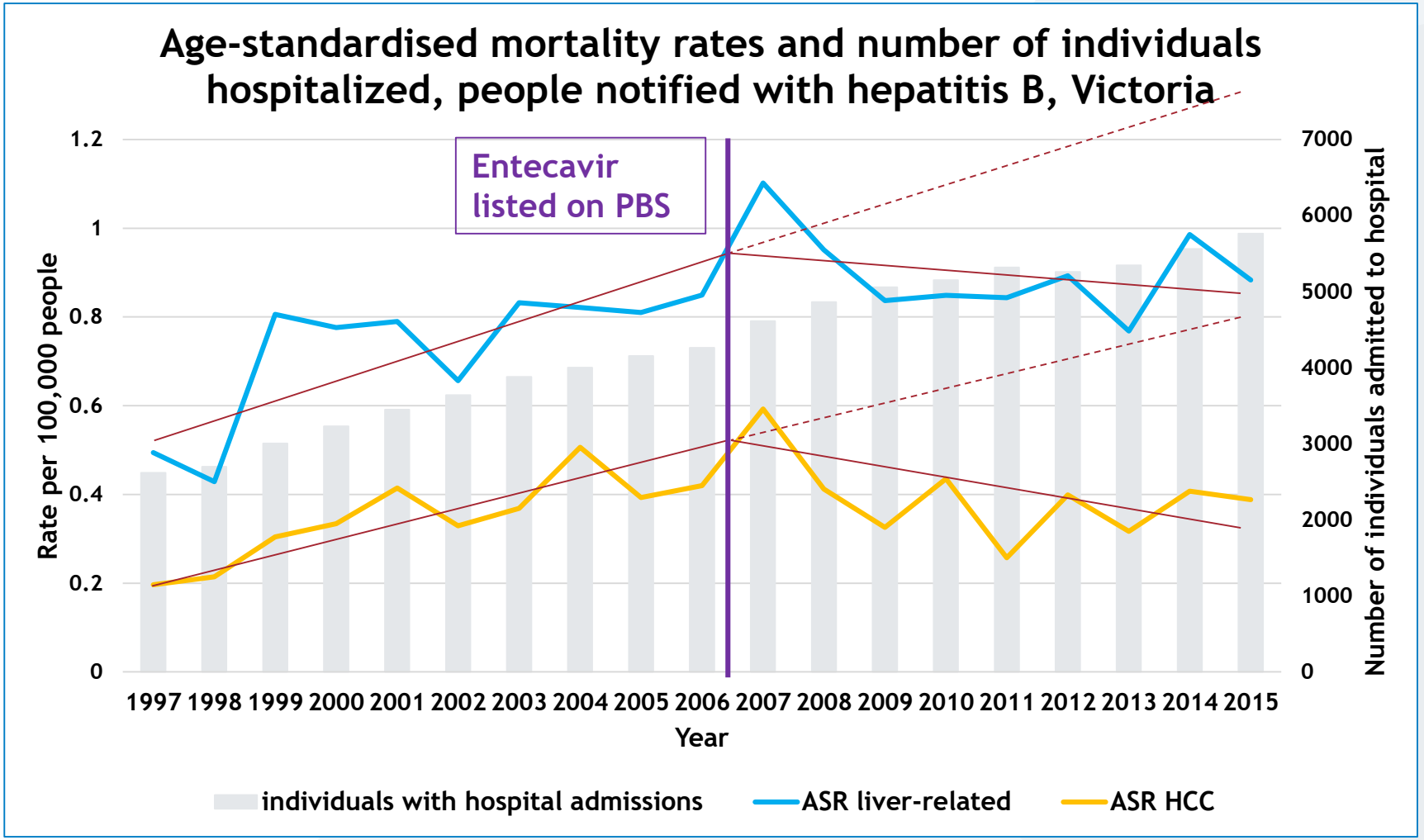
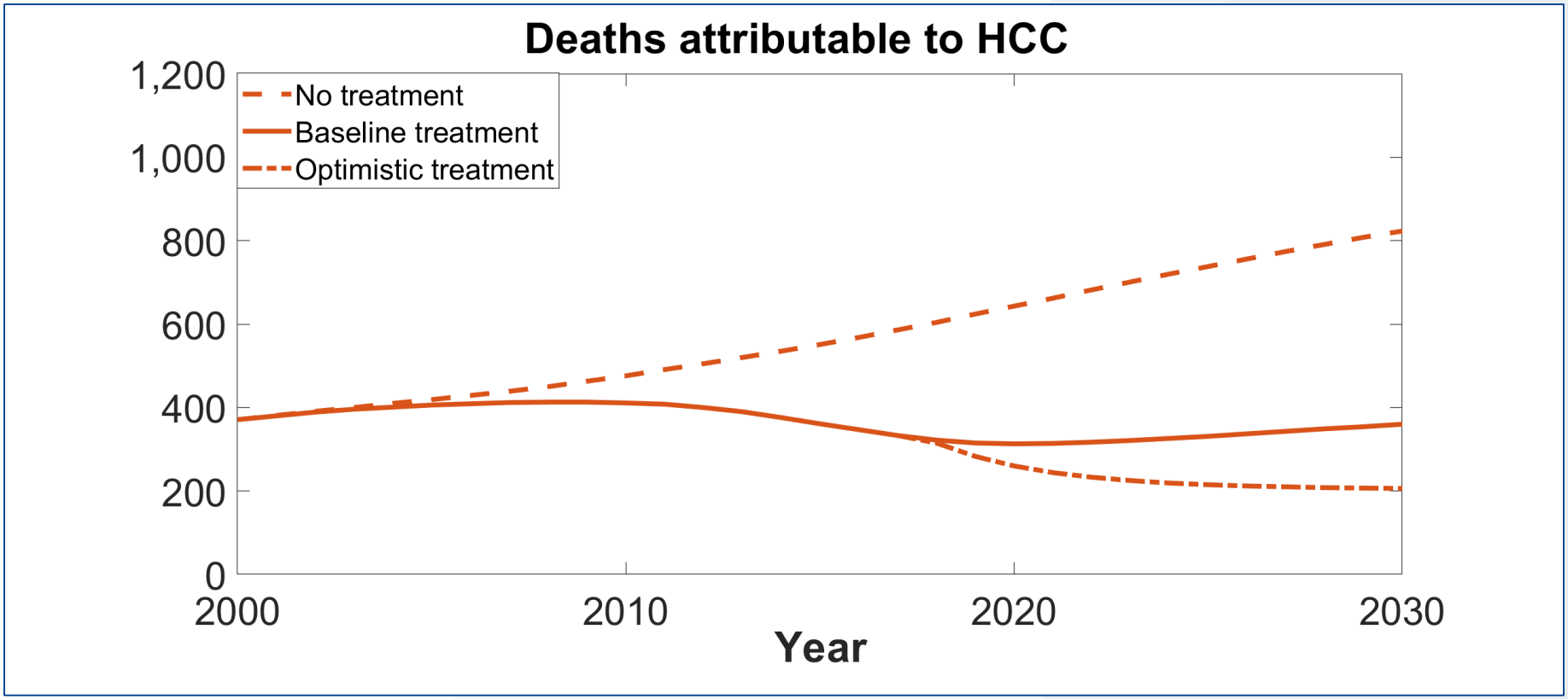


Impact of antiviral treatment on HCC



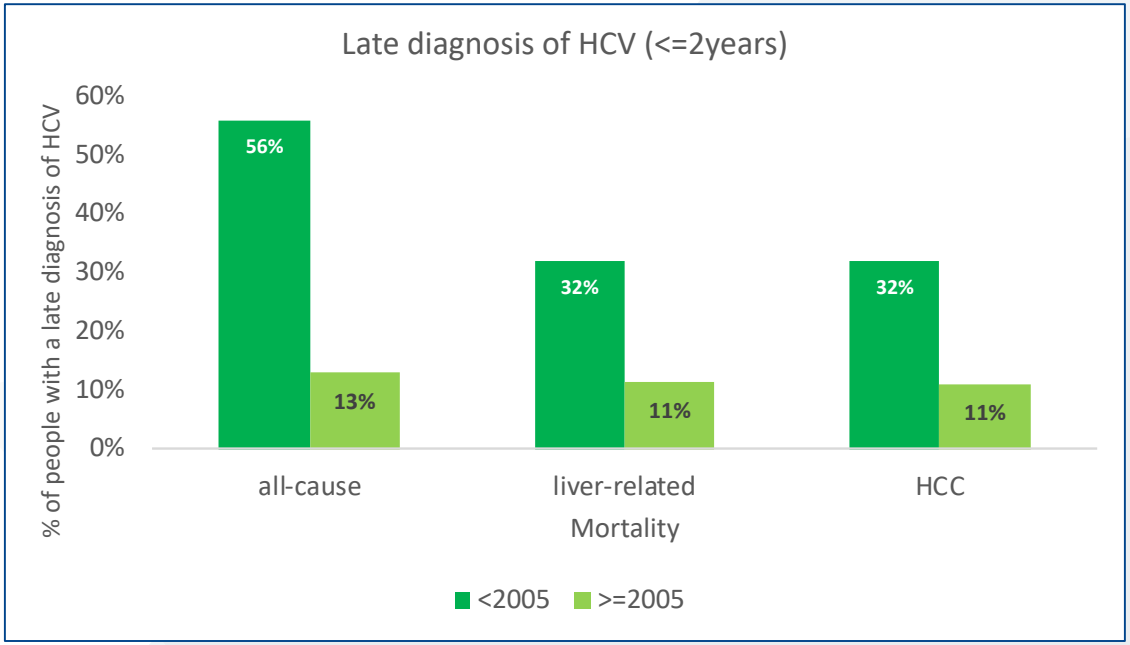
Surveillance for HBV Indicators
Doherty Institute

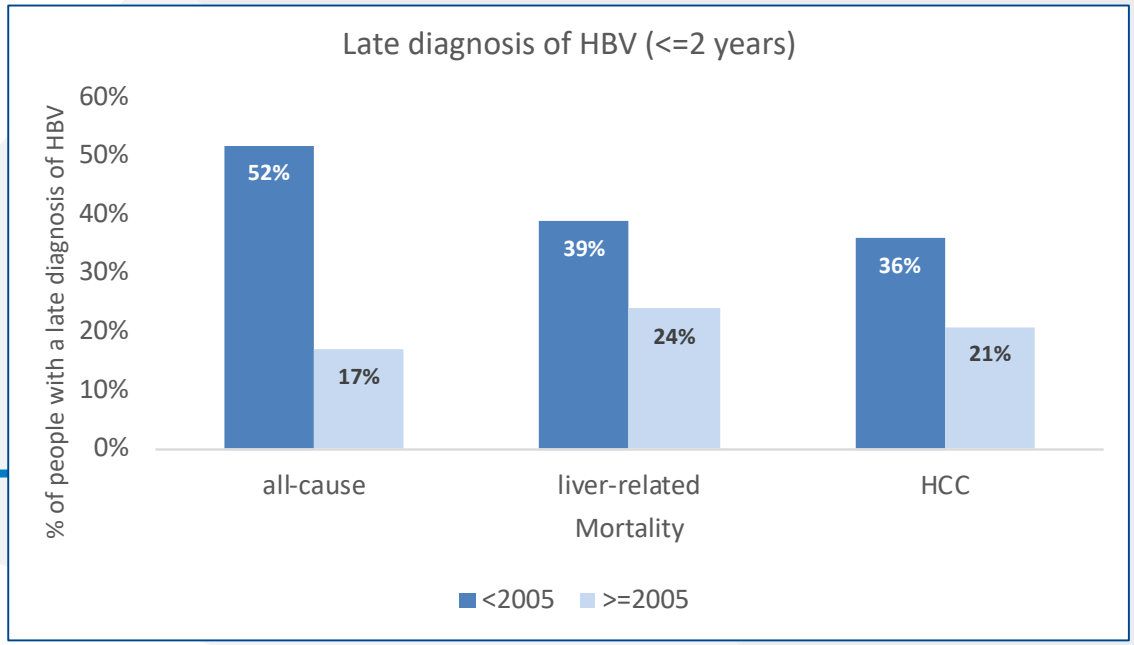


McCulloch et al, AVHEC 2019

Late diagnosis of viral hepatitis remains a major challenge

Liver cancer prevention data linkage project, Victoria





Brown et al, AVHC 2018

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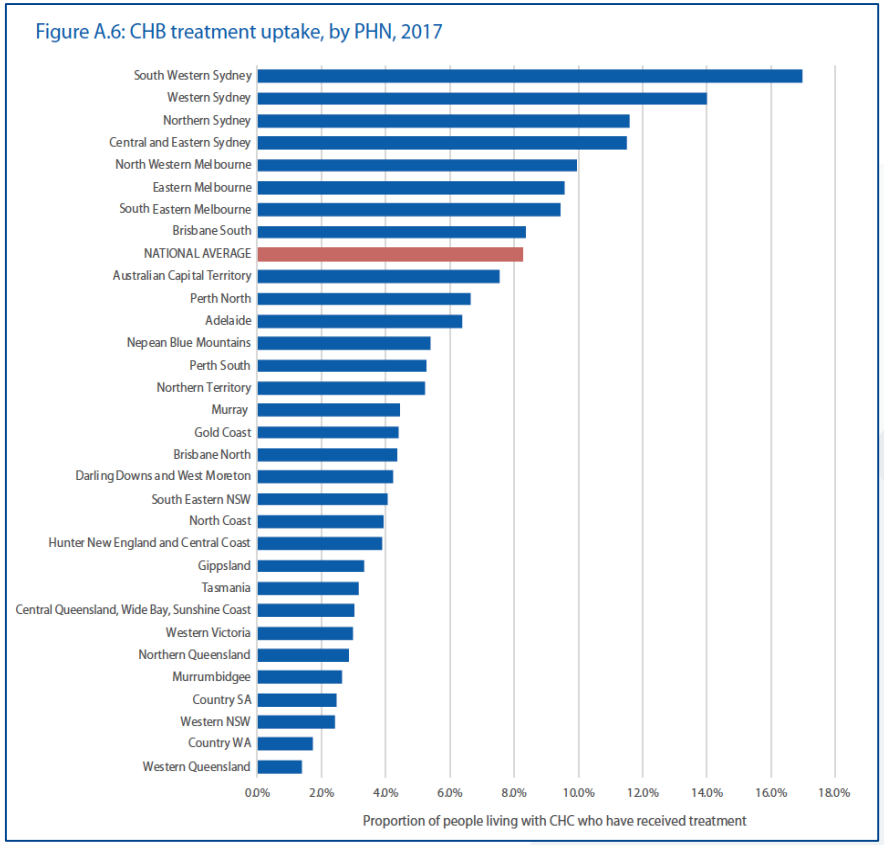
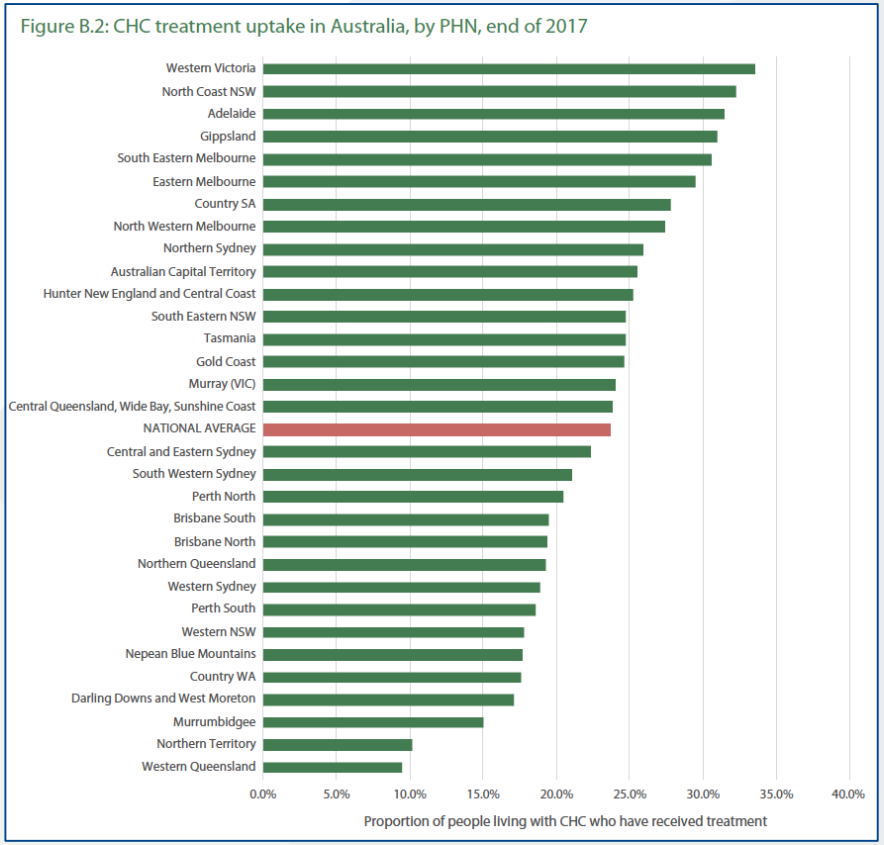
Antiviral treatment access remains a major challenge





MacLachlan et al, 2019 https://ashm.org.au/programs/Viral-Hepatitis-Mapping-Project/

Conclusions

HCC is a leading global cause of cancer-related deaths

Trends diverging globally, increasing in Australia and NZ

Ecological analyses of linked data suggest that antiviral therapy is having a profound population-level impact on HCC and liver-related mortality for people living with both CHB and CHC in Australia

In tandem with preventing new infections, we must do so much better in identifying people living with chronic viral hepatitis to unleash the potential for antiviral treatment to prevent this devastating outcome: to not do so, is simply unthinkable

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