

Epidemiology of chronic hepatitis B in key priority populations

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Declaration of Interest

I receive no funding of any kind from any pharmaceutical company

Advisory

For people living with viral hepatitis



2nd National Hepatitis B Strategy 2014-2017

- Priority populations
 - People from culturally and linguistically diverse backgrounds
 - Aboriginal and Torres Strait Islander people
 - Children born to mothers with CHB and children with CHB
 - Unvaccinated adults at higher risk of infection
- Targets:
 - Childhood vaccination coverage: **95%**
 - Increase priority populations vaccination
 - Proportion diagnosed: **80%** (- from 57%)
 - Antiviral treatment: **15%** (- from 5%)



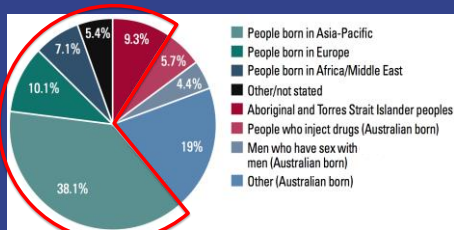
2nd National Hepatitis B Strategy 2014-2017

- Priority areas for action
 - Prevention
 - Testing
 - Management, Care and Support
 - Workforce
 - Enabling Environment
 - Surveillance, Research and Evaluation



Chronic hepatitis B in Australia

- 218,000 Australians living with CHB in 2011¹
 - over 2 million ever exposed



MacLachlan 2013 AFP



Prevalence - similarities

Table 2: Estimates of the number of people living with CHB in Australia.

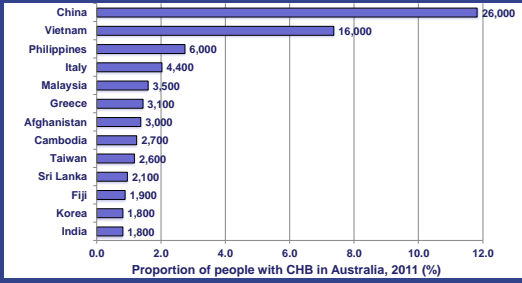
Group	2011 population	Prevalence of CHB*	Number of people living with CHB	Proportion of total
People born overseas	5,007,939	2.43%	122,664	56.1%
Asia/Pacific	2,347,466	3.55%	83,300	38.11%
Europe	2,131,147	1.03%	22,032	10.11%
Africa/Middle East	578,426	2.69%	15,565	7.12%
Americas	223,637	0.80%	1,796	0.82%
People born in Australia	15,021,553	3.46%	84,059	38.5%
Aboriginal and Torres Strait Islander people	548,396	2.5%	13,710	6.3%
People who inject drugs	314,013	2.5%	7,850	3.7%
Men who have sex with men	322,616	3%	9,678	4.4%
Other Australian-born non-Indigenous	13,836,559	0.3%	41,531	19.0%
Other/Not Stated	1,265,480	(Australian Average)	11,814	5.4%
TOTAL	21,507,719	1.02%	218,567	

* Prevalence figures for those born overseas are averages derived by number of people living with CHB divided by total population born in that region.

MacLachlan 2013 ANZJPH



Top countries of birth for chronic hepatitis B in Australia



MacLachlan 2013 ANZJPH



Hepatitis B in Aboriginal and Torres Strait Islander people

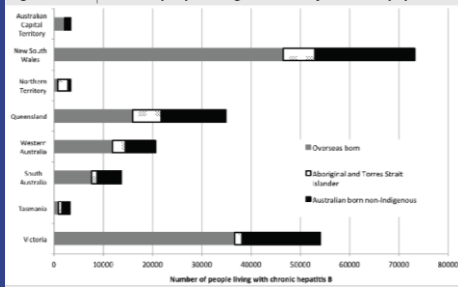
- ~ 21,000 Aboriginal and Torres Strait Islander people are living with hepatitis B in Australia, representing 3-4% of all Indigenous Australians, compared with <0.5% of non-Indigenous Australians born in Australia
- Harrod MJA 2014 – prevalence of hepatitis B across 4 ACCHS's (3 urban, 1 regional) 3.9%
- Aboriginal and Torres Strait Islander people
 - 2.6% of the Australian population
 - 10% of Australians living with chronic HBV

MacLachlan ANZJPH 2013, Graham 2013 BMC ID, Harrod 2014 MJA



Prevalence - differences

Figure 3: Distribution of people living with CHB by state and population.



MacLachlan 2013 ANZJPH



Prevention

Differential infant vaccination uptake, 2012 - 2013

- Hepatitis B birth dose – unknown coverage
 - Not on ACIR; not reported; very variable
- 1 year vaccination completeness, ACIR
 - Aboriginal and Torres Strait islander children – 85.2%
 - All children – 91.2%
- 2 year vaccination completeness, ACIR
 - Over 92% for both Indigenous and all children

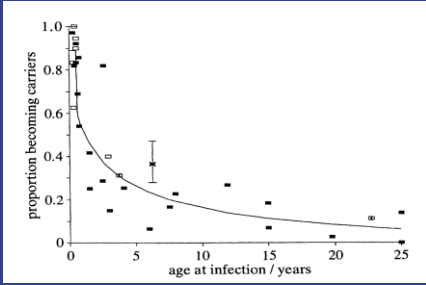
NHPA 2014



Prevention - differences

http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragehepb3.html

Progression to chronic infection



Edmunds 1993 ProcRSocLond



Prevention – need for consistency

Table 1: Variation in eligibility for funded vaccine in primary care in according to state and territory

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
Those recommended for universal coverage under the National Immunisation Program								
All infants	*	*	*	*	*	*	*	*
Adolescents 10-13 years (catch-up, ceases 2014)	*	*	*	*	*	*	*	*
Priority populations for hepatitis B vaccination								
Household contacts of people with hepatitis B	*	*	*	*	*	*	*	*
Sexual contacts of people with hepatitis B	*	*	*	*	*	*	*	*
Migrants from hepatitis B endemic countries	~	~	~	~	~	~	~	~
Aboriginal and Torres Strait Islander people	*	*	*	#	*	*	*	*
Men who have sex with men	*	*	*	*	*	*	*	*
People living with HIV	*	*	*	*	*	*	*	*
Other immunocompromised individuals	*	*	*	*	*	*	*	*
People living with hepatitis C	*	*	*	*	*	*	*	*
People living with other chronic liver diseases	*	*	*	*	*	*	*	*
People who inject drugs	*	*	*	*	*	*	*	*
People in correctional facilities	*	*	*	*	*	*	*	*
Sex industry workers	*	*	*	*	*	*	*	*

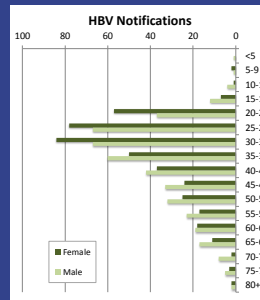
* Specifically refugees ~ Those with a Medicare card # Adults only

Data extracted from publicly available health department websites May 8th, 2014

MacLachlan 2014 ANZJPH (in press)

Testing

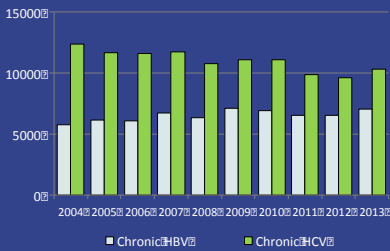
CHB notifications, Victoria, Jan - Jun 2014



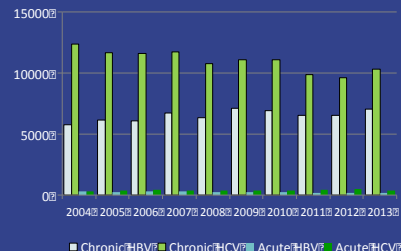
Effect of antenatal screening – suggestive of potential impact of systematic testing

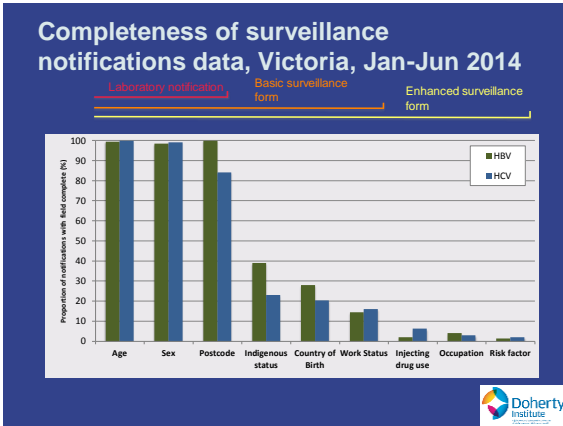


Notifications of unspecified viral hepatitis Australia, 2004 - 2013



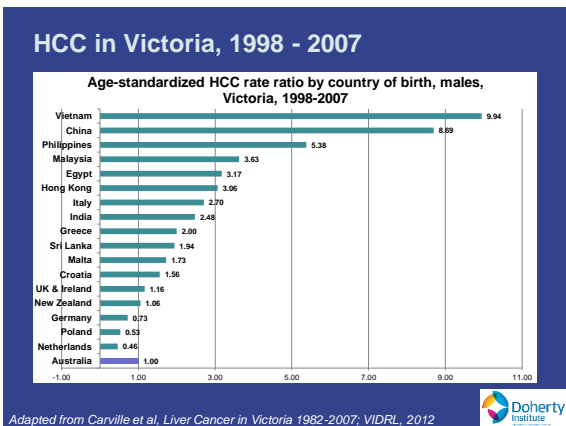
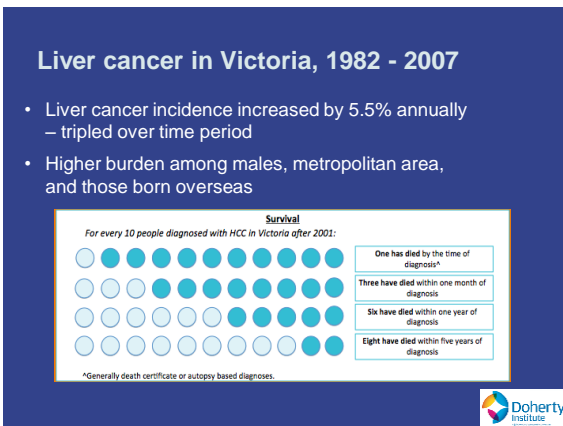
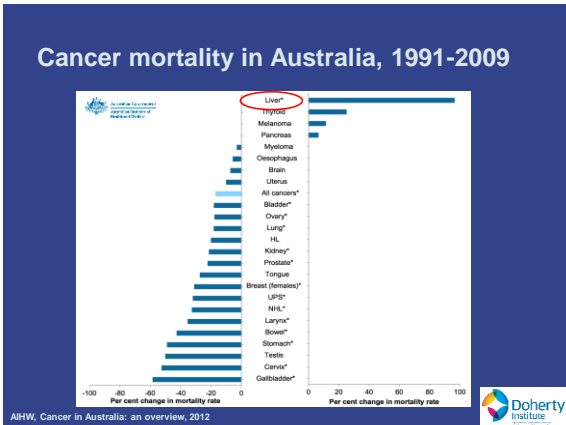
Notifications of unspecified and newly acquired viral hepatitis, Australia, 2004 - 2013





- ### Testing
- Low levels of opportunistic testing
 - Estimated **43%** of people living with CHB in Australia remain undiagnosed – static
 - Significant proportions of patients attending services for a prolonged period remaining undiagnosed
 - Failure to offer testing to Aboriginal and Torres Strait Islander people & people born in endemic countries, despite recommendations to do so for over 20 years
 - Emerging medico-legal issue?
 - Lack of public health response to notifications
 - HBV SoNG

Management, Care and Support




Hepatitis B in Aboriginal and Torres Strait Islander people

- Indigenous Australians
 - 2.5% of population
 - 10% of those with chronic HBV
- Rate of incident HBV infection = 5 times greater in Indigenous people
- Liver-related death in patients with chronic HBV accounted for 3% of all-cause mortality in Indigenous Australians in Alice Springs Hospital, 2000-2005
- NT Indigenous people had 5.7 times liver cancer mortality of total Australian population, 1991-2000

Cancer mortality rate trends, 1977-2000
Liver and gallbladder

Cancer mortality rate trends for the NT Indigenous population and the total Australian population, 1977-2000. Mortality rates are age- and sex-standardized to the 1991 Australian population distribution.

O'Sullivan 2004, Einsiedel 2008, Condon 2004, Kirby Annual Surveillance Reports



Cascade-of-care for CHB – 2012

- 218,000 with chronic HBV in 2011**
- 124,000 (57%) diagnosed**
- ? Given accurate information / choices
- 28,000 (13%) receiving regular care**
- ? Appropriate referral / specialist care (delay?)
- 11,000 (~5%) receiving treatment in 2012**

Health literacy, access inequity, stigma, low awareness and engagement

Low primary care knowledge, lack of systematic response

Tertiary care focus, no integration, not chronic disease Mx paradigm, failure to translate evidence

Missed opportunities to prevent rapidly rising cancer mortality

Allard 2014


Workforce



Targeting workforce development

Hepatitis B and Liver Cancer in your Medicare Local
Know the facts, target your response


Prevalence of CHB, 2011




Diversity by Medicare Local

Proportion of population who identify as Aboriginal or Torres Strait Islander, 2011

Proportion of population who were born in Australia, 2011



Building comprehensive responses – learning the lessons



Global Burden of Disease Study 2013
 www.healthmetricsandevaluation.org/gbd

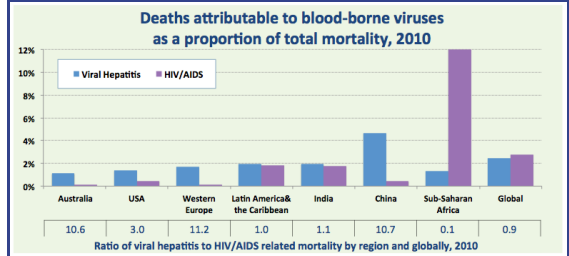


- **HIV/AIDS: 1.3 million** deaths 2013, falling since 2005 (1.7m)
- **TB: 1.4 million** deaths in 2013 (1.3m in HIV -); falling since 1990, incidence and prevalence falling since 2000
- **Malaria: 855,000** deaths in 2013; falling since 2004
 Global Fund to fight AIDS, TB and Malaria
- **Viral hepatitis: 1.4 million** deaths in 2010, steadily increasing (820,000 in 1990)

Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013

Murray 2014, Lozano 2012

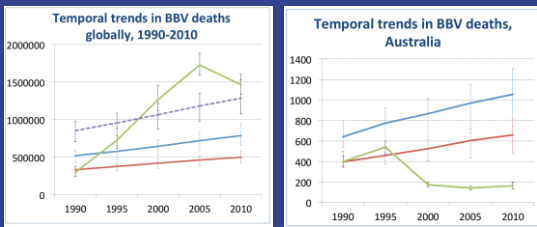
BBV related deaths as a proportion of total mortality, 2010



Cowie, AASLD 2013



Temporal trends in BBV deaths, 1990 - 2010



Cowie, AASLD 2013



Learning from the HIV response in Australia and globally

Ensure **access to care and treatment** in a range of settings with a focus on integrated primary care responses and not seeking to impose a single 'model of care'

No acceptable, safe and effective response will occur without effective **community engagement**, building towards community leadership of the response

Similarly, no comprehensive response will be possible without addressing **shame, stigma and discrimination**

