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

Prevalence - similarities

¹ MacLachlan 2013 ANZJPH
Top countries of birth for chronic hepatitis B in Australia

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion of people (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>5,000</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2,600</td>
</tr>
<tr>
<td>Philippines</td>
<td>1,800</td>
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<tr>
<td>Korea</td>
<td>1,800</td>
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<tr>
<td>Fiji</td>
<td>2,700</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>1,100</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1,000</td>
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<tr>
<td>Greece</td>
<td>900</td>
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<tr>
<td>Afghanistan</td>
<td>450</td>
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<tr>
<td>Taiwan</td>
<td>1,000</td>
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<tr>
<td>Cambodia</td>
<td>1,000</td>
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<tr>
<td>India</td>
<td>1,000</td>
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</tbody>
</table>

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

MacLachlan 2013 ANZJPH

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

Prevention - differences

http://apps.who.int/immunization_monitoring/globalsummarytimeseries/filescoveragehpb3.html
Progression to chronic infection

Prevention – need for consistency

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

Testing

CHB notifications, Victoria, Jan - Jun 2014

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

Notifications of unspecified viral hepatitis

Notifications of unspecified and newly acquired viral hepatitis, Australia, 2004 - 2013
Completeness of surveillance notifications data, Victoria, Jan-Jun 2014

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

Cancer mortality in Australia, 1991-2009

Liver cancer in Victoria, 1982 - 2007
- Liver cancer incidence increased by 5.5% annually – tripled over time period
- Higher burden among males, metropolitan area, and those born overseas

HCC in Victoria, 1998 - 2007

Adapted from Carville et al, Liver Cancer in Victoria 1982-2007; VIDRL, 2012
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


Cascade-of-care for CHB – 2012

- 218,000 with chronic HBV in 2011
- 124,000 (57%) diagnosed
- ? Given accurate information / choices
- 26,000 (13%) receiving regular care
- ? Appropriate referral / specialist care (delay?)
- 11,000 (~5%) receiving treatment in 2012

Aliard 2014

Missed opportunities to prevent rapidly rising cancer mortality

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

Targeting workforce development

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)

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