Big Mob Big Job:
Hep B sero-coding the Top End

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Map of the Top End Health Service (TEHS) clinics

NT Context
- 1.3 million km\(^2\)
- N=246,105*
- Aboriginal pop = 58,248

*Australia Bureau of Statistics, 2017
Background

• Chronic hepatitis B infection (CHB) is endemic in Indigenous communities of the NT, estimated prevalence of 3-12%

• 25% of people living with CHB will die liver cancer

• Liver cancer is the fastest growing cause of cancer death in Australia

• Liver disease 3rd most important contributor to the gap in life expectancy between Indigenous and non-Indigenous Australians

1. Schultz R et al. Hepatitis B prevalence and prevention: antenatal screening and protection of infants at risk in the NT
2. Carroll E et al. Screening for hepatitis B in East Arnhem Land: a high prevalence of chronic infection despite incomplete screening.

www.nt.gov.au
Deaths could be prevented with currently available treatments
Background

• 2014 the NT Hepatitis B action plan was developed including representatives from key stakeholders

• In the NT, the majority of Hep B infection is acquired at birth or in early childhood and is chronic

• Agreement to reframe CHB care from a communicable disease to chronic condition management model

• Emphasis on building Primary Health Care (PHC) capacity
Aims

Improve the outcomes of people living with CHB in the NT, by

1. Increasing the number of people living with CHB engaged in care, monitoring and treatment
2. Identifying and following up all non-immune people and offering vaccination
3. Increasing awareness and reducing stigma

Determine and record the hepatitis B sero-status of all Indigenous people who attend Top End Health Service (TEHS) Primary Health Care Centres

Method: TEHS sero-coding project

• Project nurse recruited and trained

• Standardised messages with specific instructions and recall developed

• Guidelines, flowcharts developed and education delivered

• Regular engagement with, Aboriginal Health Boards, managers and clinicians throughout the project

• TEHS communities (n=23) with a total Aboriginal population 14,919
Data systems reviewed

Manually reviewed electronic Health Records from 3 data systems, for 23 TEHS Primary Health Care Centres (n=14,919)

Data systems used:
1. Primary Care Information System (PCIS) data
   • Demographics, Hepatitis B markers
2. Northern Territory Pathology Service, hospital data
   • Hepatitis B markers since 1998
3. NT Immunisation register
   • Hepatitis B vaccinations since 1990

A Hep B sero-status was decided based on the combination of the available serology and vaccination records
# Hepatitis B sero-code, per sero-status code for Aboriginal population for TEHS

<table>
<thead>
<tr>
<th>Aboriginal population July 2018</th>
<th>TOTAL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hep B: Fully Vaccinated</td>
<td>9810</td>
<td>66%</td>
</tr>
<tr>
<td>Hep B: Immune by Exposure</td>
<td>2552</td>
<td>17%</td>
</tr>
<tr>
<td>Hep B: Infected ON Treatment</td>
<td>46</td>
<td>0.3%</td>
</tr>
<tr>
<td>Hep B: Infected NOT on Treatment</td>
<td>284</td>
<td>1.9%</td>
</tr>
<tr>
<td>Hep B: Non-immune</td>
<td>706</td>
<td>5%</td>
</tr>
<tr>
<td>No data</td>
<td>1524</td>
<td>10%</td>
</tr>
<tr>
<td><strong>TOTAL (with serocode):</strong></td>
<td><strong>13395</strong></td>
<td><strong>90%</strong></td>
</tr>
</tbody>
</table>

**TOTAL population who require follow up** | 2230 | 15%

- 83% immune, protected
- No further action
- 2.5%* have Hep B.
- Need regular Health checks
- 15% need blood test and/or vaccination

*Prevalence calculated by subtracting the “no data” cohort
CQI-ed the existing data

• Thorough clinical audit on all existing data

• Up to 80% of clients had information but nothing being done about it

• Ethical issue not to using it

• TEHS ~15,000 people now all allocated to an appropriate care pathway
Percentage of clients with new problem, by clinic and year

Communities sero-coded first
Demonstrates how recalls working

Communities sero-coded Since Jul 17
Demonstrates how much data available
how few people had status

% With New Problem
20 July 2017

% With New Problem
12 July 2018
Systematic Clinical Audit of available data WORKS

Percentage of Aboriginal people with a new Hepatitis B Problem recorded, by clinic

CAHS – not yet been CQI-ed

TEHS – completed CQI process

www.nt.gov.au
Good news from the Top End
Aware of diagnosis and engaged in care

• 31 new cases – all have new care plan added and clinician informed.

• All 330 CHB infected clients have sero-status added to EHR problem list and have a care plan

• 82% of those diagnosed are engaged in care
Good news from the NT - Treatment

Increase in treatment rates from 2.4% to 4.9%

Total infected = 330
Total on treatment = 46
= 14% of infected people on treatment

In our Arnhem Land pilot sites 20% (26/127) of CHB infected people are on treatment
## Cascade of Care – Pilot sites v’s NT v’s Targets

Table 1: the Cascade of care for CHB, National Target ‘s NT 2016 estimates V’s Pilot sites

<table>
<thead>
<tr>
<th></th>
<th>NT</th>
<th>WAM Pilot</th>
<th>TEHS Pilot</th>
<th>National Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aware of infection</td>
<td>61%</td>
<td>96%</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>Engaged in Care</td>
<td>15%</td>
<td>83%</td>
<td>82%</td>
<td>No specific (but all)</td>
</tr>
<tr>
<td>On treatment</td>
<td>3.1%</td>
<td>20%</td>
<td>14%</td>
<td>15%</td>
</tr>
</tbody>
</table>
The not so good news – liver cancer

- High incidence 22.7/100,000 Aboriginal versus 4.0/100,000 non-Aboriginal (more than 5 times higher)

- 2000-2010 in the NT there were 46% of the 80 liver cancers where in Aboriginal people

- In 2017 there were 37 of which 57% were Indigenous (unpublished data)

Things to consider

• Education opportunities were identified
  • Serology interpretation
  • Vaccination minimum intervals
  • Management of Children born to Hep B positive mums

• Resource implication to action recalls and provide better CHB care is a challenge in remote context

• High turn over of staff need strong systems in place AND “back up” systems - MORE CQI-ing!

• A systematic approach we can have a massive improvement of the cascade of care
Hep B: PAST

Partnership Approach to Sustainably eliminating CHB in the NT

NHMRC-funded partnership project 2018-2023

Goal: Elimination of CHB from Indigenous Australians in the NT

Aim 1: Improve health literacy
Aim 2: Improve the cascade of care
Resources

Hep B story https://www.menzies.edu.au/page/Resources/Hep_B_Story/ can download on app or use on PC

Hepatitis B Story St Vincent Hospital https://www.svhm.org.au/health-professionals/specialist-clinics/g/gastroenterology/publications


Hepatitis B vaccination and Public Health Guideline

Hepatitis B Sero-coding Programme Guidelines (attached) on PGC too

Health Promotion Resources
There are so many good health promotion resources on the Menzies site https://www.menzies.edu.au/page/Resources/
You should save a full set of PDFs from Menzies site. Try to ensure all teams are aware of these too so they can use them during consults on their PC or laptop or tablet

Also Edith Cowan indigenous health info net
Acknowledgments

Christine Connors: Top End Health Service (TEHS)
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Keith Forrest: TEHS
Jiunn-Yih Su: CDC
Steven Skov: CDC
Josh Davis: Menzies

All the Aboriginal Health Practitioners, Nurses and Remote Medical Officers actioning the recalls
References


Thank you