

Advancing towards hepatitis B virus elimination: determining the impact of Hep B PAST in the Northern Territory of Australia

Dr Kelly Hosking, on behalf of the Hep B PAST Partnership



Marthakal Homelands Health Service



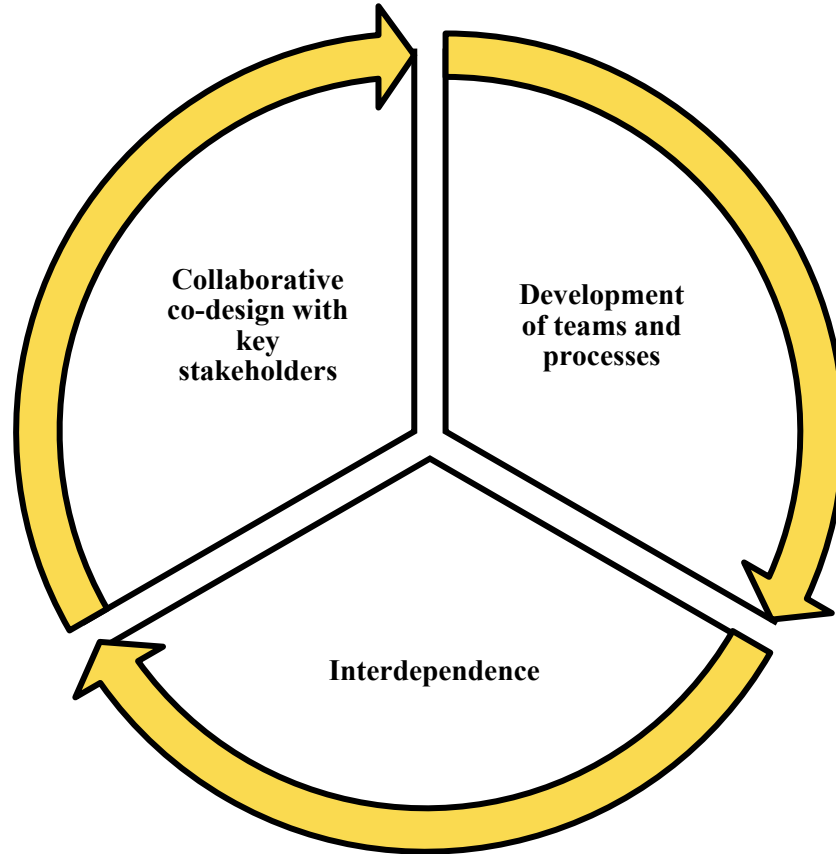
GOAL – Elimination of Chronic Hepatitis B from Aboriginal and Torres Strait Islander people the NT

Partnership **A**pproach to **S**ustainably eliminating Chronic Hepatitis B in the Northern **T**erritory

Hep B PAST



Hep B PAST program model



Step 1: Foundation step.

- HBV status allocation and linkage to care
- Care plans and clinical recalls in place
- Creation of “Hep B Hub” clinical facilitation tool
- Active, continuous quality improvement cycles

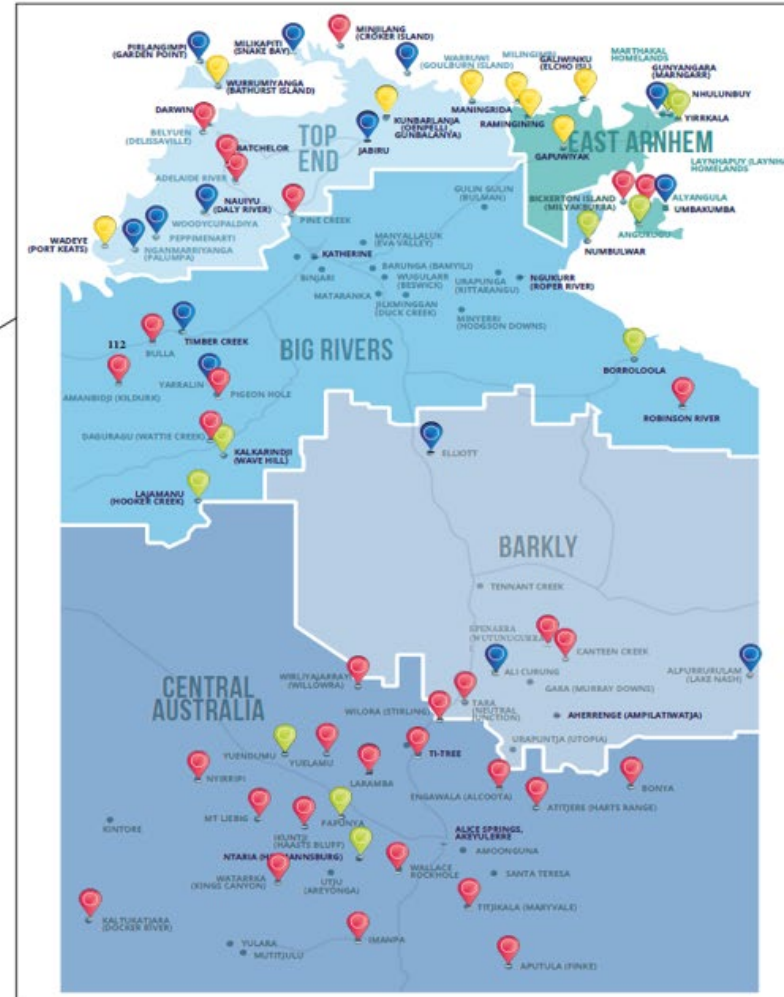
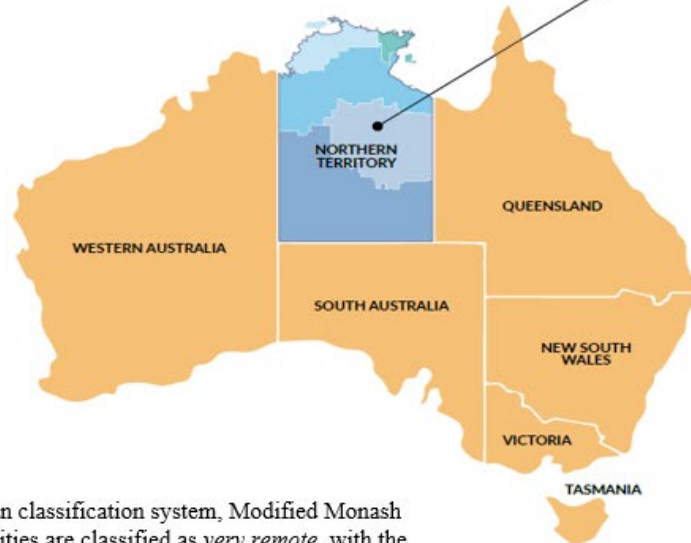
Step 2: Capacity building the health workforce

- Clinical care teams in place
- Culturally safe “Managing hepatitis B” training provided
- Ongoing education, support and mentoring
- Active central coordination of care

Step 3: Supported transition to PHC

- Delivering care in the community supported by specialist outreach service
- Provide education in a person’s first language

Where have we got to?



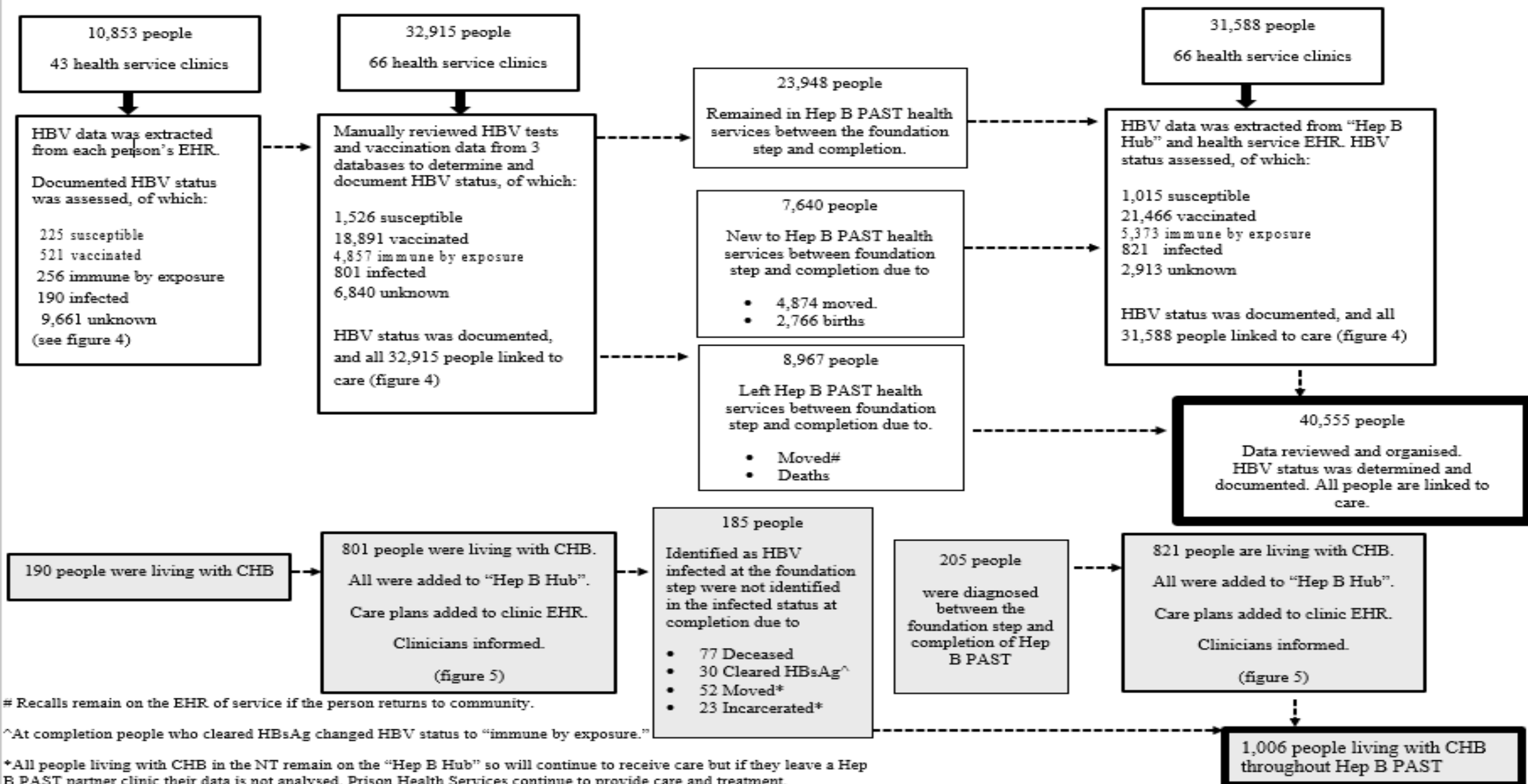
According to the Australian classification system, Modified Monash Model, 92.4% of communities are classified as *very remote*, with the other 7.5% classified as *remote*.

Pre-Hep B PAST (2018)

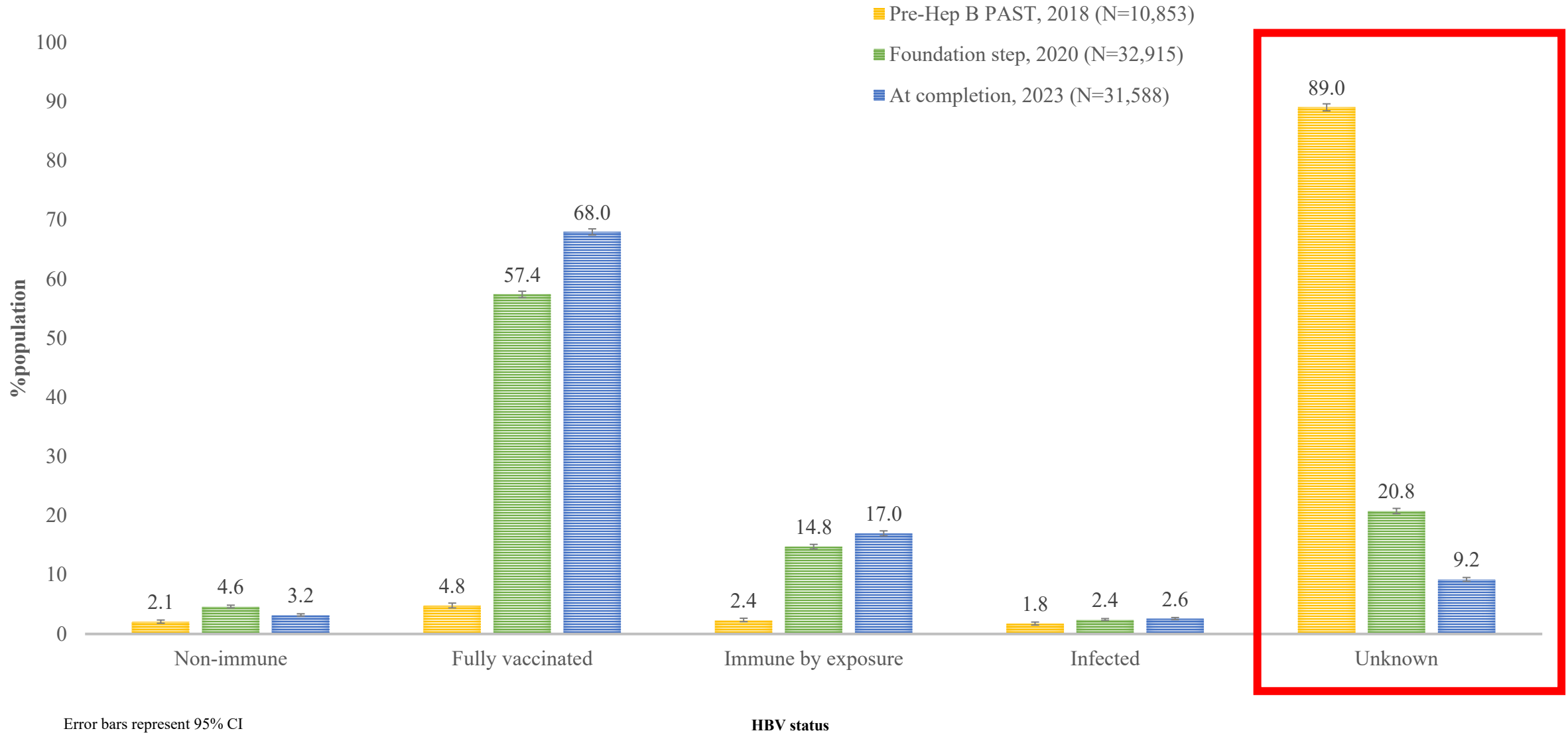
Foundation Step (2018-20)

Hep B PAST program implementation continues (2020-23)

At completion of Hep B PAST (2023)



Documented HBV status of the study population, comparing time points 1. Pre-Hep B PAST (2018), 2. Foundation step (2020), and 3. Completion of Hep B PAST (2023).

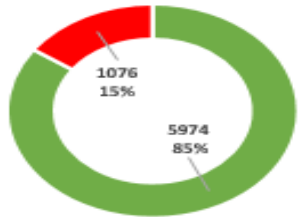


Community: CAHS Remote Community Health Centres

Total Aboriginal population: 6719

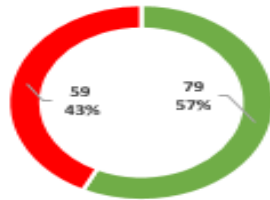
Total positive hepatitis B: 138

Serocode recorded on PCIS problem list (National target 80%*)



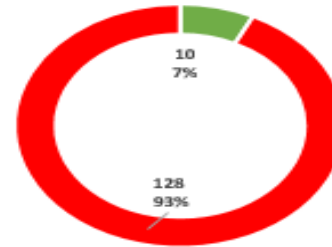
Total with serocode Total requiring follow up

Living with CHB - had viral load in last 15 months (National target 50%)



Viral load in preceding 15 months No viral load in preceding 15 months

On treatment (National target 20%)

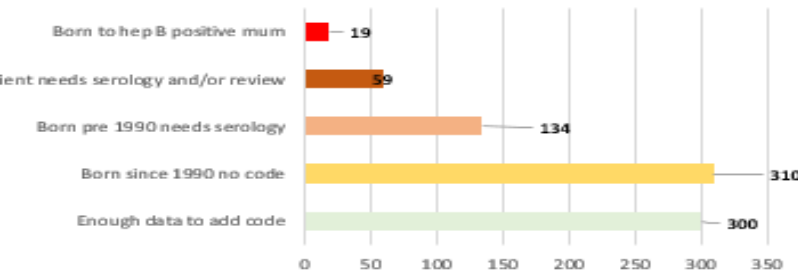


On treatment Not on treatment

Codes	Feb 2021
Total Aboriginal population	6719
Hep B: Fully Vaccinated	4187 (62%)
Hep B: Immune by Exposure	1282 (19%)
Hep B: Infected ON Treatment	10 (0.1%)
Hep B: Infected NOT on Treatment	128 (2%)
Hep B: Non-immune	367 (5%)
No data/no code	744 (11%)
TOTAL (with serocode):	5974 (89%)
TOTAL population who require follow up (No data + non immune cohort)	1076 (16%)

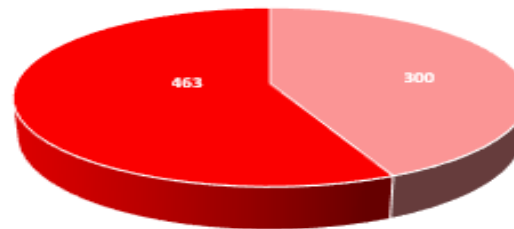
*Aware of infection

No data - urgent follow up (in order of priority)



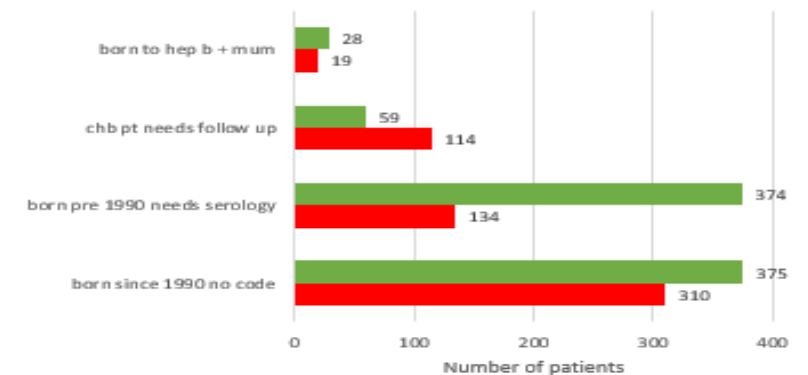
Enough data to add code Born since 1990 no code Born pre 1990 needs serology CHB patient needs serology and/or review Born to hep B positive mum

No data total



Urgent follow up Data available, review required

Actions recalled since last report



Actioned Still to be actioned



- 150+ participants
- Sustained learnings
- Initial participants now facilitators

PLOS ONE

RESEARCH ARTICLE

“Putting the power back into community”:
A mixed methods evaluation of a chronic
hepatitis B training course for the Aboriginal
health workforce of Australia’s Northern
Territory

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Linda Ward², Phoebe Schroder⁷, Jaclyn Tate-Baker⁸, Joshua S. Davis^{2,9},
Christine Connors^{1,3}, Jane Davies^{2,8}, On behalf of the Hep B PAST partnership¹



Hosking et al. *BMC Health Services Research* (2023) 23:935
<https://doi.org/10.1186/s12913-023-09902-w>

BMC Health Services Research

RESEARCH

Open Access



“The most culturally safe training I’ve
ever had”: the co-design of a culturally
safe Managing hepatitis B training course
with and for the Aboriginal health workforce
of the Northern Territory of Australia

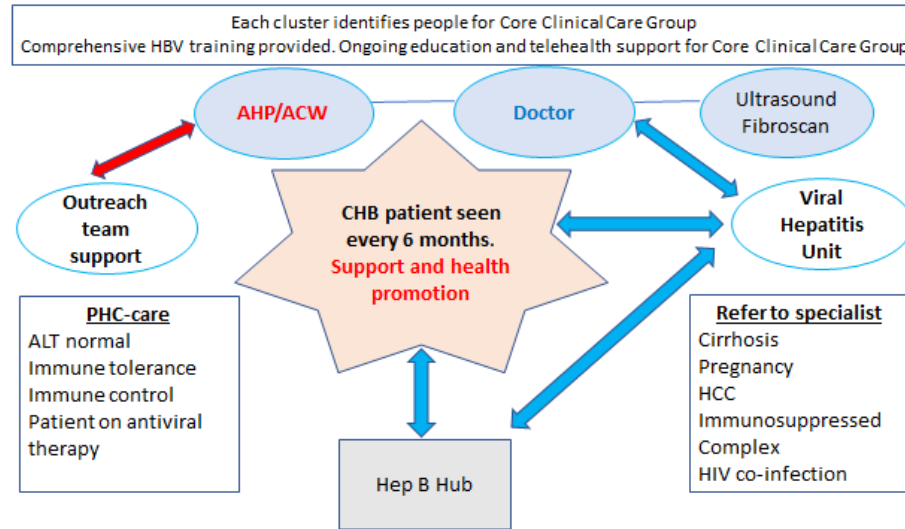
Kelly Hosking^{1,2*}, Teresa De Santis¹, Emily Vintour-Cesar^{1,2}, Phillip Merrdi Wilson¹, Linda Bunn¹,
George Garambaka Gurruwiwi^{2,3}, Shiraline Wurrawilya¹, Sarah Mariyalawuy Bukulatjpi³, Sandra Nelson¹,
Cheryl Ross², Paula Binks², Phoebe Schroder⁴, Joshua S. Davis^{2,5}, Sean Taylor^{1,2}, Christine Connors¹,
Jane Davies^{1,2} and on behalf of the Hep B PAST partnership













NAATSIHWP
National Association of Aboriginal and Torres
Strait Islander Health Workers and Practitioners

Kirkpatrick model level	How it was measured	Sample size	Evidence of achievement
Level 1: Reactions How did the participants feel about the course?	Semi-structures interviews and free text questions	110	210 mentions about course acceptability, included content was clear and easy to understand, the course was fun and interesting, the facilitators were passionate, knowledgeable, and culturally safe, methodologies facilitated learning, i.e., visual, and interactive. <ul style="list-style-type: none"> • <i>"Great presenters, communication, clear/concise,"</i> (Course 7) • <i>"You were able to cater to all different levels and needs".</i> (Course 1)
Level 2: Learning Did knowledge, attitude and perception of skills improve?	Pre and post-test questionnaires Semi-structures interviews and free text questions	93 matched pairs 110	31% overall improvement. Statistically significant improvements, $p < 0.001$, in all domains. Knowledge: (169 mentions in many different topic areas) <ul style="list-style-type: none"> • <i>"I learnt so much. I didn't know a drop about hep B [before course]"</i>. (Course 7) • <i>"Been in Aboriginal mob a longtime"</i> (Course 7) Attitude: (34 mentions of change in attitude) <ul style="list-style-type: none"> • <i>"Hep B doesn't have to be a death sentence."</i> (Course 2) • <i>"More education will let people know that it's not their fault and stuff like that...and you will get support".</i> (Course 3) • <i>"I know now it's not a shame job".</i> (Course 1) Perception of skills: (88 mentions of using new skills and knowledge, with practical examples) <ul style="list-style-type: none"> • <i>"I have a better understanding of hep b I can help my people understand."</i> (Course 3)
Level 3: Behaviour To what extent did participants change their behaviour back in their clinics or community?	3-month post training questionnaire 3-month post-training Semi-structures interviews and free text questions	20 11	Demonstrated sustained and improved knowledge. The overall score of 97% correct. Sustained learning, sharing of knowledge and change in practice articulated: <ul style="list-style-type: none"> • <i>"For me it was these key factors, Hep B old information, about the status of Hep B/CHB, how common it is today. I am now helping people to know whether they have it or not. I know what screening is required for Hep B. C4 Ancient disease"</i>. (Course 1) • <i>"Hepatitis B is not just an NT/Australian disease that is affecting Aboriginal people. I remember that Aboriginal people are suffering from a specific genotype of hep B called C4"</i>. (Course 2)
Level 4: Results What impact or benefit has resulted from the training?	Clinic data on cascade of care 3-month post training Semi-structures interviews and free text questions Anecdotes, observations, success stories		National targets: 80% aware of infection; 50% engaged in care; 20% on treatment. NT data pre Hep B PAST, 2018 (59): 73.8% aware of infection; 27.8% engaged in care; 7.2% on treatment. Trained Aboriginal workforce & Hep B PAST 2022 (39): 92% aware of infection; 70% engaged in care; 22% on treatment. <ul style="list-style-type: none"> • <i>"I told my family about hep B and they need to get a test to know their status."</i> (Course 1) • <i>"He has come back a changed person, he seemed really disengaged before but now he has a purpose. He has found a person we've been trying to find for ages, got him into the clinic to have a test and (patient) now has a hep B diagnosis and is in care"</i> • <i>"He was able to explain (in patients first language) why treatment was needed and now they've (patient) started on tenofovir....we'd been trying for years"</i>.

Iterative evolution of core clinical care groups



AHP/ACW	 Linda Pupangmirri, AHP
Doctor	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid blue; padding: 5px;"> Andrea Wilson, RMP</div> <div style="border: 1px solid blue; padding: 5px;"> Siobhan Hensey, GP Registrar</div> </div>
RAN & outreach support	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid blue; padding: 5px;"> Kelly Hosking, Hepatitis B Program Manager</div> <div style="border: 1px solid blue; padding: 5px;"> Eva Williams, CQI Facilitator</div> <div style="border: 1px solid blue; padding: 5px;"> Heather Andrews, RAN</div> <div style="border: 1px solid blue; padding: 5px;"> Bec Earle, RAN</div> </div>
Viral Hepatitis Unit	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid blue; padding: 5px;"> Dr Jane Davies, Infectious Diseases Physician, RDH</div> <div style="border: 1px solid blue; padding: 5px;"> Matt Maddison, Liver Clinic CNC</div> <div style="border: 1px solid blue; padding: 5px;"> Jac Tate-Baker, Viral Hep CNC</div> </div>

Primary CCCG

RMP (Kelly Banz), Hepatitis Chronic Disease Nurse (x), ROCC Doctors, Aboriginal Health Practitioner (x)

Secondary CCCGs

26 Clinics

District manager, clinic manager, RMPs, s100 Prescribers, AHPs, men's health team, outreach team

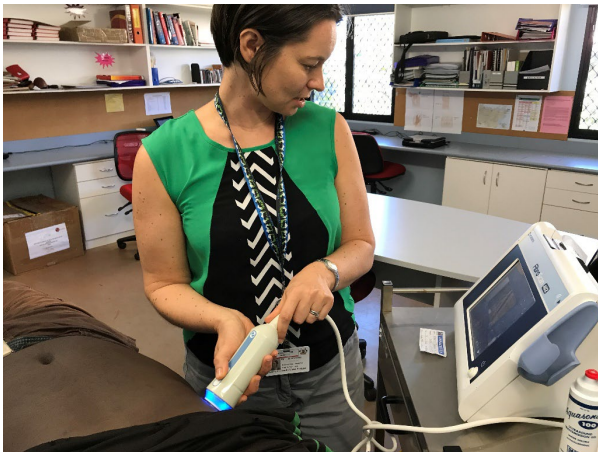
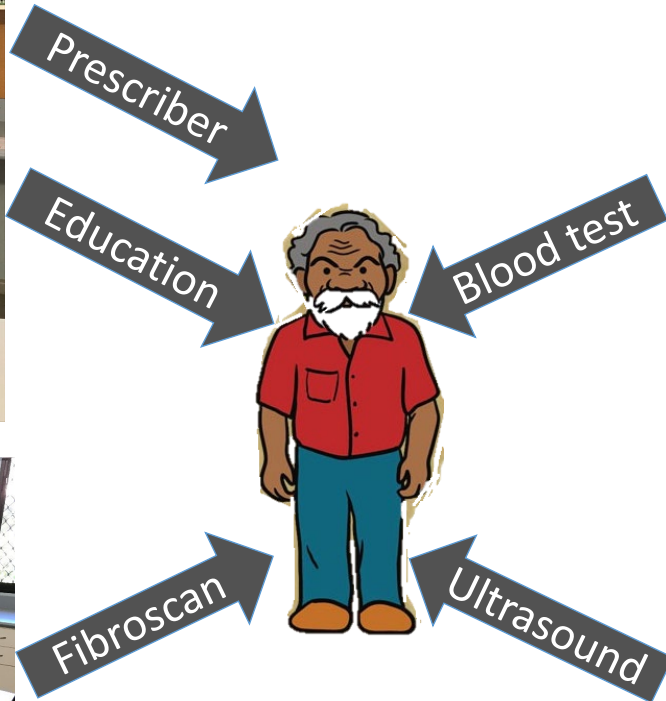
<p style="text-align: center;">Central District</p> <p style="text-align: center;">Haasts Bluff/Ikuntji Yuendumu Yuelumu Papunya Nyirripi Mt Liebig</p>	<p style="text-align: center;">Southern District</p> <p style="text-align: center;">Apatula Docker River Imanpa Tijjikala Yulara Wallace Rock Hole Kings Canyon</p>	<p style="text-align: center;">Alice Springs Correctional Centre</p>	<p style="text-align: center;">Barkly District</p> <p style="text-align: center;">Ali Curung Canteen Creek Elliott Epenarra Lake Nash</p>
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CDC Hepatitis unit

Specialist Dr (Dr Bob Batey), Hepatitis nurse (Khim Tan), SHBBV unit AHP Kelly Stuart, CDC Medical Officer (Belinda Greenwood-Smith) + Fibroscan

CQI

The one stop shop “on country care”



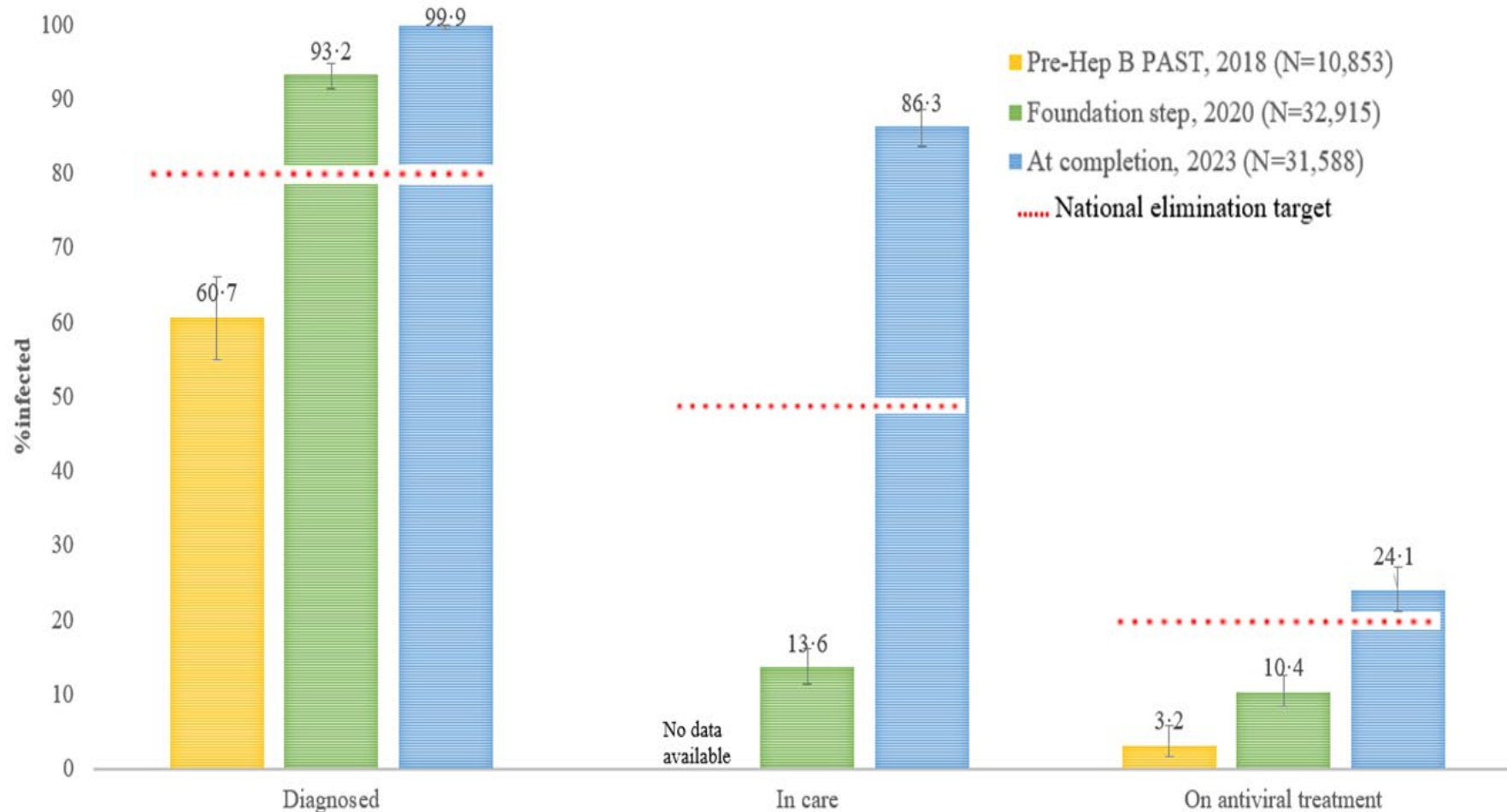
Hep B Story

- | | | |
|-----------|----------------|--------------|
| English | Yolngu | Anindilyakwa |
| Warlpiri | Tiwi | Arrernte |
| Kunwinjku | Pitjantjatjara | Burarra |

BACK



Does it work?



Error bars represent 95% CI

Note: There is no data in Pre-Hep B PAST “in care” as it was not possible to measure this variable before the creation of the “Hep B Hub”

Key findings

- CHB prevalence in the study population is 2.6%,
- Decreasing from 6.1% to 0.4% in the pre-and post-vaccination cohorts
- Partner health services are exceeding elimination targets
- Hep B PAST is an effective model of care that promotes a patients-centred, decentralised service model
- Success factors include:
 - Systematic data organisation
 - Regular CQI cycles
 - A hub and spoke model of care, with outreach access to diagnostic technology
 - Trained Aboriginal health and primary healthcare workforce and in-language resources

Key factors for success



**Evidence guided
Bilateral listening
Inspired bottom up**



**Systematic
Holistic
Consistent
Knowledge
translation**



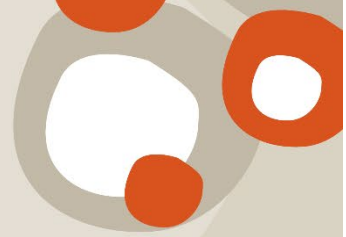
**Passion
Persistence
Positivity**



**Starts with a
simple question?**



Hep B PAST Partnership Members and Individuals



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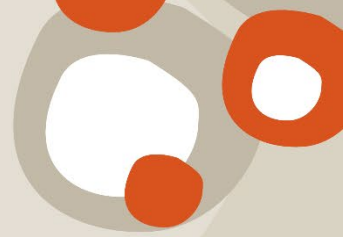
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Partner organisations

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Northern Territory Government, NT Health
ASHM
Katherine West Health Board Aboriginal Corporation
Miwatj Health Aboriginal Corporation
NT AIDS and Hepatitis Council
Mala 'la Health Service Aboriginal Corporation
Marthakal Homelands Health Service
Central Australian Aboriginal Congress

Associate Partner Organisation

WHO Collaborating Centre for Viral Hepatitis, Doherty Institute
Victorian Infectious Diseases Reference Laboratory
Hepatitis Australia



Evaluation of Hep B PAST

Hosking et al. The Lancet Regional Western Pacific (2024) 101116
<https://doi.org/10.1016/j.lanwpc.2024.101116>

Culturally Safe Education

Hosking et al. PLOS ONE (2023)
<https://doi.org/10.1371/journal.pone.0288577>

Hosking et al. BMC Health Services Research (2023) 23:935
<https://doi.org/10.1186/s12913-023-09902-w>

Data linkage

Hosking et al. PLOS ONE (2020) 15(4)
<https://doi.org/10.1371/journal.pone.0232207>

Hep B story App translation

Binks et al. BMC Health Serv Res (2024) 7:24
<https://doi.org/10.1186/s12913-024-11149-y>

Binks et al. Discover Health Systems (2023)
<https://doi.org/10.1007/s44250-024-00075-9>

Binks et al. Health Promotion J Aust (2024)
<https://doi.org/10.1002/hpja.858>

