

Hep B PAST model of care: Costs of delivering services in remote Australia

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BACKGROUND

- The burden of chronic viral hepatitis B (CHB) is high in the Northern Territory, especially among First Nations people^{1,2}.
- In response to the Australia national targets to eliminate CHB, the Hep B Partnership Project (Hep B PAST) commenced in 2018. This project has been shown to be a highly effective model of care with key achievements as follows:

Indicator	National Hep B Target (2022) ^{1,3}	Northern Territory (2016) (prior to Hep B PAST) ⁴	Northern Territory (2024) ⁴
Diagnosed	80%	61%	99%
Engaged in care	50%	28%	86%
Treatment	20%	7%	24%

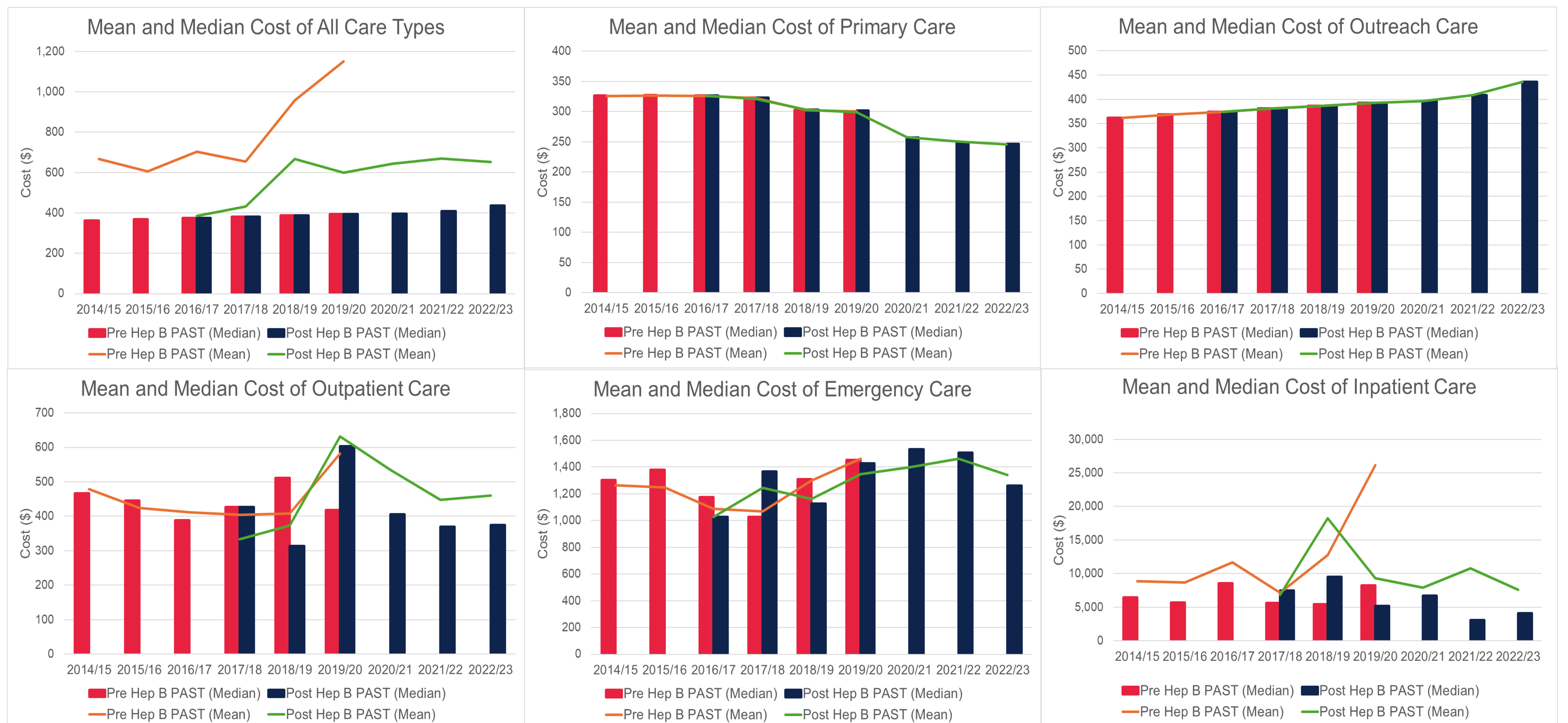
- The aim of this NHMRC-funded study was to estimate costs of the Hep B PAST model of care compared to usual care from a government perspective.

METHODS

- The cohort included all patients attending a clinic participating in the Hep B PAST project between July 2014 and May 2023.
- Data were extracted from the Primary Care Information System, inpatient admissions, emergency presentations, outpatient and outreach events. Only episodes of care related to liver diseases and related conditions were included.
- Activity based costing in the form of national weighted average units (NWAU) was used to express the price weights and adjustments for inpatient, emergency, and outpatient services⁵.
- Primary care costs were estimated based on primary care costing data from the NT Department of Health, and Outreach care costs were estimated using financial records from the Hep B PAST project.
- A pre- and post-implementation design was used to compare costs between usual care and the Hep B PAST model of care.

RESULTS

- The cohort included 1,145 First Nations people, 56.2% were male, and mean age was 51 years.
- Across all care types, the median cost per episode increased slightly from \$362 in 2014/15 to \$436 in 2022/23.
- Median costs per episode associated with primary care and hospital admissions were lower after implementation of the Hep B PAST model of care. Conversely, higher costs were observed for emergency department presentations, outpatient's, outreach care services.



CONCLUSIONS

- Overall, the implementation of Hep B PAST did not result in higher health care costs.
- The Hep B PAST's success underscores the value of innovative healthcare models in improving health outcomes while maintaining economic sustainability.

REFERENCES

- MacLachlan, et al., *Viral Hepatitis Mapping Project: National Report 2020*. 2021: Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM).
- Davies, J., *Hepatitis B in Australia's Northern Territory: Understanding the true story*. 2015, Menzies School of Health Research
- Hosking, K., et al., *Evaluating a novel model of hepatitis B care, Hep B PAST, in the Northern Territory of Australia: results from a prospective, population-based study*. Lancet Reg Health West Pac, 2024.
- Hosking, K., et al., "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*. 2023.
- Independent Health and Aged Care Pricing Authority, *National Efficient Cost Determination 2023-24*.

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