

# Hospitalisation – missing an opportunity to link to hepatitis C care: a retrospective study at a regional Australian health service

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## BACKGROUND & METHODS

- Western Victoria has the highest rate of hepatitis C treatment uptake in Australia<sup>1</sup>.
- Key to achieving micro-elimination in Western Victoria is developing targeted, data-driven strategies to increase testing and linkage to care.
- Admission to hospital may provide an opportunity to link patients to hepatitis C care<sup>2</sup>.
- This study aimed to assess the proportion of inpatients and emergency department (ED) patients identified at risk of hepatitis C or living with hepatitis C who were tested and linked to care at University Hospital Geelong (UHG), a regional health service in Victoria, Australia<sup>3</sup>.
- Study period November 2018 to November 2021.
- Data were collected from UHG admissions (International Classification of Disease, Tenth Revision (ICD-10)<sup>4</sup> coded separations) and pathology.
- Separations selected if ICD-10 code indicated intravenous drug use (IDU) or hepatitis C.
- Hepatitis C care indicated by hepatitis C virus antibody testing (HCV Ab) and HCV RNA testing.
- Logistic regression analysis measured the associations between admitted specialties or patient demographics and provision of hepatitis C care.

## PATIENT DEMOGRAPHICS & SUMMARY

- 79,923 adults attended UHG
- 628 (0.8%) had an episode with hepatitis C separation coding
- 1345 (1.7%) had an episode with IDU-related separation coding
- A total of 1892 patients had either hepatitis C or IDU-related separation coding.
- At the end of the study period the following hepatitis C testing had occurred in patients with either hepatitis C or IDU-related coding (n=1892)
  - HCV Ab testing (includes assumed testing due to HCV RNA testing occurring) 323 patients (17.1%)
    - 253 HCV Ab positive (4.7%)
    - 70 HCV Ab negative (3.7%)
  - HCV RNA testing: 165 patients (8.7%)
    - 101 HCV RNA detected (5.3%)
    - 64 HCV RNA not detected (3.4%)
  - 1569 patients (82.9%) had no hepatitis C testing at UHG during the study period.

Variable	All patients (n=79,923)	Hepatitis C coded (n=628)	IDU-coded (n=1345)
Number of episodes (mean/patient)	229,899 (2.9)	1214 (2.4)	1643 (1.3)
Median length of stay in days (range)	2.5 (1-486)	4.6 (1-124)	2.6 (1-88)
Mean age (range)	53 (18-106)	49 (18-81)	40 (18-96)
Proportion female	55.6%	36.3%	54.2%
Proportion Aboriginal and Torres Strait Islander	1.4%	8.5%	4.4%

## DISCUSSION and CONCLUSION

- Despite good retention in hepatitis C care once in the cascade, many patients are still being missed.
- Interventions that optimize hepatitis C antibody screening in hospital inpatients and emergency patients are likely to benefit Barwon South West region in achieving hepatitis C micro-elimination.
- Strategies that engage people in hepatitis C care via emergency departments elsewhere have included opt out screening
- Limitations: testing may have occurred outside of the parameters of this study: i.e. prior to the study, a different pathology service, community or outpatient health service. These tests were not have been included in this study. To include these tests, smaller-scale, more in depth studies focusing on specific specialties is recommended.

## HEPATITIS C CARE CASCADES

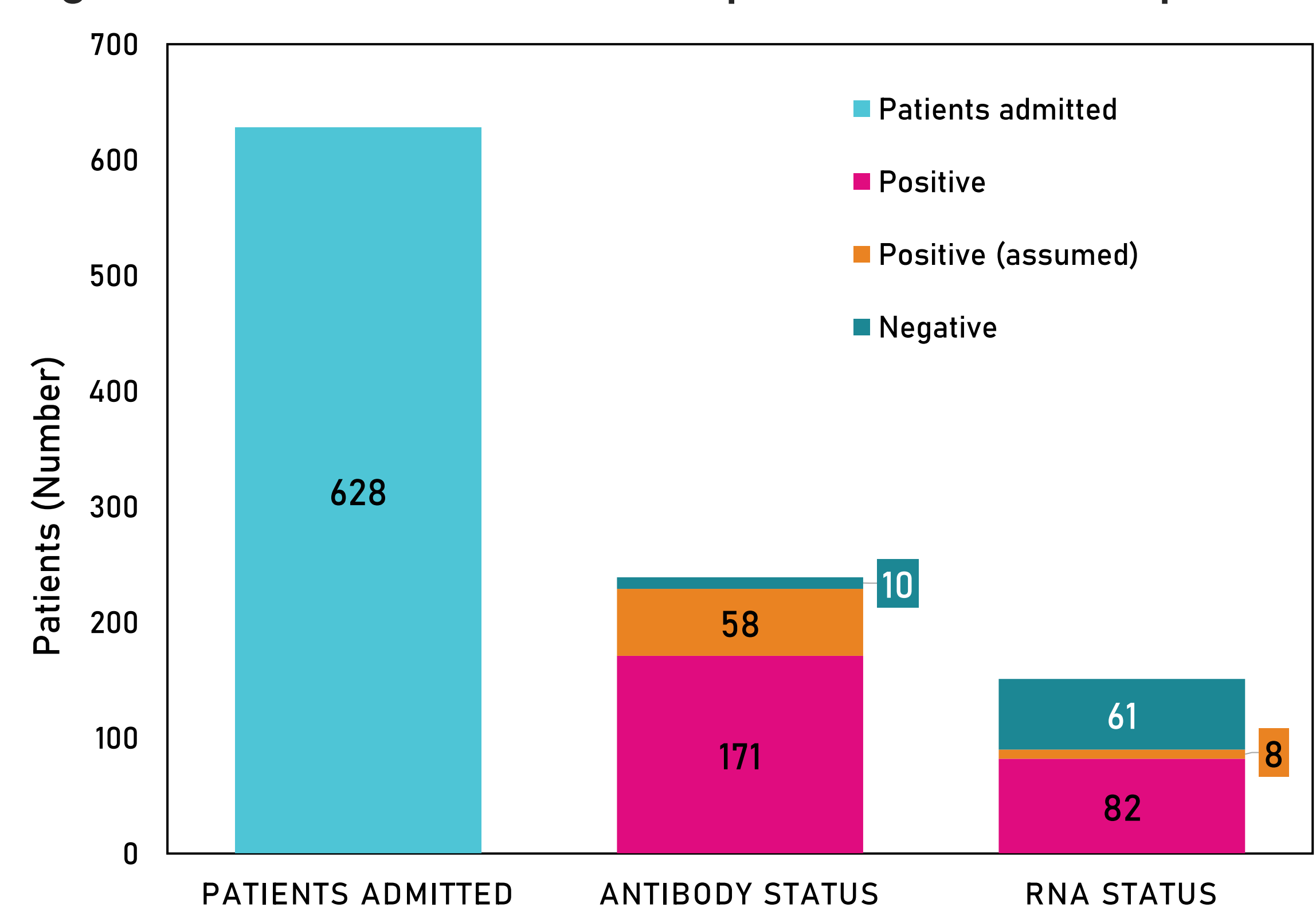
### IDU-coded separations

- N = 1345
- HCV Ab tests: n=98/1345 (7.3%)
- HCV Ab positive: n=38/98 (38.7%)
- HCV RNA tests: n=23/38\* (60.5%)
- HCV RNA positive: n=14/23 ( )
- **No hepatitis C test (n= 1242)**
  - Mental health highest rate of HCV Ab testing (8.8% patients) and HCV RNA testing (16.7% patients)

### Hepatitis C coded separations (see Figure 1.)

- N = 628
- HCV Ab tests: n= 239/628 (38.1%)
- HCV Ab positive: n=229/239 (95.8%)
- HCV RNA tests: n= 151/229 (65.9%)
- HCV RNA positive: n=90/151 (59.6%)
- **No hepatitis C test (n= 376)**
  - General medicine had highest rate of Ab testing (44.2% patients)
  - OB-GYN had highest rate of RNA testing (66.7% patients)

Figure 1. Care cascade for hepatitis C coded separations



## IDENTIFYING MISSED OPPORTUNITIES

- ED was the only specialty with increased odds of not providing any hepatitis C care (OR 3.29, 95% CI 2.42-4.48)
- Mental health episodes had the highest odds of Ab testing (OR 2.12, 95% CI 1.24-3.63)
- OB-GYN had the highest odds of RNA testing (OR 4.38, 95% CI 1.55-12.37)
- Identifying as Aboriginal or Torres Strait Islander had increased odds of receiving hepatitis C care (OR 1.64, 95% CI 1.04-2.57)

## ACKNOWLEDGEMENTS

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This study was conducted in accordance with the Declaration of Helsinki, and approved by the Alfred Human Research Ethics Committee (Ethics number 52801, approved September 2019). This research received no external funding.

## References

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