

Improved readmission and mortality outcomes associated with a hepatology nurse-led home-based care program for patients with cirrhosis following hospitalisation

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INTRODUCTION

- Liver At Home (L@H) is a 12-week home-based care program for patients with chronic liver disease (CLD).
- It involves regular specialist liver nurse-led home visits and/or telehealth reviews which encompass fluid status and encephalopathy assessments, blood test monitoring, arrangement of large volume paracentesis + albumin infusions, nutritional optimisation and education provision for both patients and their caregivers.
- The primary goal of L@H is to facilitate the continued management of patients with CLD in the community following hospitalisation and bridge the gap in care between discharge from hospital and outpatient clinic review.
- We aimed to examine readmission and mortality outcomes in patients with cirrhosis enrolled during the first year of L@H (L@H patients), relative to a comparator cohort of non-enrolled patients. (non-L@H).

METHODS

- Patients with cirrhosis under the care of the Gastroenterology department who were enrolled to L@H between 01/03/2023 and 01/09/2024, were compared to patients with cirrhosis who were referred but not enrolled to L@H.
- Reasons for non-enrolment: High risk on home safety screening, residence outside hospital catchment and patient preference.
- Failed discharged was defined as admission back to hospital within 0-7 days, and readmission within 8 days-12 weeks
 - Primary outcome = Comparison of 12 week readmission
 - Secondary outcome = Comparison of all-cause mortality on extended follow-up (censor date 01/12/24)
- Outcomes were evaluated using intention-to-treat analysis and compared using Cox-proportional hazards regression.
 - Importantly, only index referrals were included (re-enrolments to L@H were omitted from analysis).

RESULTS

- Of 111 index referrals to L@H, 61 patients were enrolled and 50 patients not enrolled

- Comparison of baseline and clinical characteristics:

Number (%) Median (IQR)	L@H patients	Non-L@H patients	P value
Number	61	50	
Age (years)	59 (45-69)	57 (53-72)	0.31
Female	18 (29.5%)	21 (42%)	0.17
Australian-born	27 (44.3%)	28 (56%)	0.22
Living alone	8 (13.1%)	21 (42%)	<0.001
Distance from hospital (km)	9.3 (5.4-15.7)	13.9 (6.8-25)	0.05
Alcohol-related liver disease	46 (75.4%)	31 (62%)	0.13
MELD-Na score	19 (14.5-22)	17 (11-19)	0.02

- Overall, 12-week all-cause hospital readmissions were significantly lower in the L@H cohort (HR 0.54 [0.3-0.97]), $p=0.035$, as were 12-week liver-related hospital readmissions (HR 0.39 [0.19-0.8]), $p=0.008$.

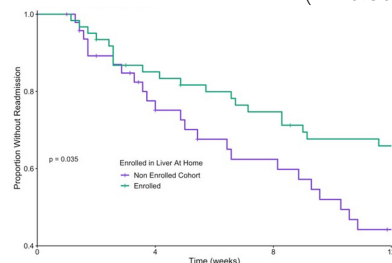


Figure 1a. Comparison of all-cause readmission at 12 weeks between L@H and non-L@H patients

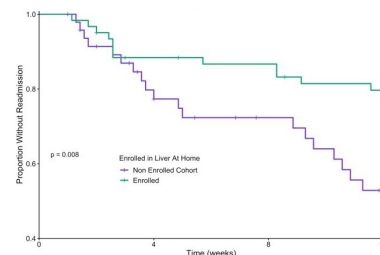


Figure 1b. Comparison of liver-related readmission at 12 weeks between L@H and non-L@H patients

- The key finding in this study, related to the secondary outcome of the study, was the remarkable mortality difference seen between then L@H and non-L@H patients - During extended follow-up to date, with the final censor date set as 01/11/2024, a sustained and statistically significant mortality benefit associated with the L@H program was observed [HR 0.41 (0.18-0.92), $p=0.025$].

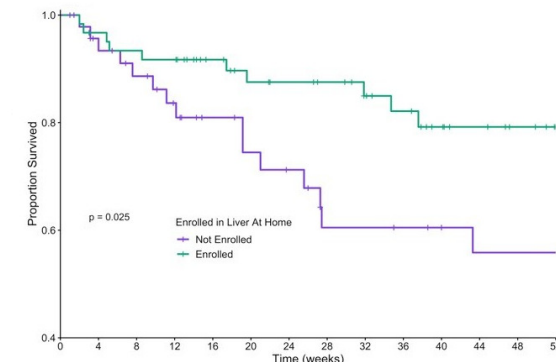


Figure 2. Comparison of all-cause mortality at 12 weeks between L@H and non-L@H patients

CONCLUSION

- The 18-month outcomes of L@H reveal a significantly lower proportion of liver-related readmission to hospital at 12 weeks in patients enrolled to L@H compared to non-L@H patients.
- We have also demonstrated a significant reduction in all-cause mortality associated with enrolment to L@H that was seen well beyond the enrolment period of 12 weeks, despite higher MELD-NA scores compared to non-enrolled patients.
- Our findings suggest that transitional care programs such as L@H, through a patient-centred and goal-directed liver-focused care, may have enduring morbidity and mortality benefits for recently hospitalised patients with cirrhosis.