

# High Mortality, Low Transplant: Real-World Trajectories of Compensated and Decompensated Cirrhosis in a Multicenter US Cohort

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## Background



- Cirrhosis is a leading cause of mortality in the US.<sup>1</sup>
- Liver transplant, the only curative therapy, is often limited to patients with advanced disease, once patients decompensate.<sup>2</sup>
- The morality burden in compensated cirrhosis outside of waitlist cohorts is less well defined.



## Research Objectives

To investigate D'Amico<sup>3</sup> stage-specific 1-year mortality and transplant rates in a large, real-world cirrhosis cohort.



## Methods

- Retrospective cohort study, 17,855 adult (>18yrs) cirrhosis patients, 2016-2021
- CAPriCORN: EHR database from 7 health systems in the Chicago metropolitan area
- Stages: D'Amico 1–5 (1: compensated; 2: compensated + portal HTN; 3a: variceal bleed; 3b: first non-variceal decomp; 4: ≥2 decomp events)
- Competing risk models for 1-year mortality and transplant, adjusted for demographics, etiology, insurance, frailty, Charlson Comorbidity

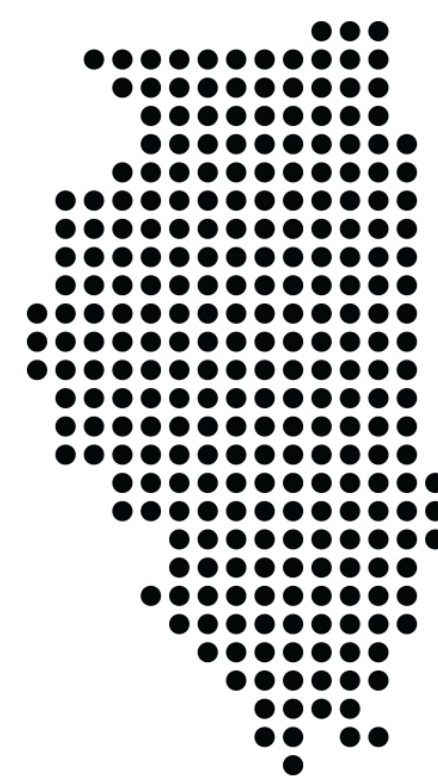
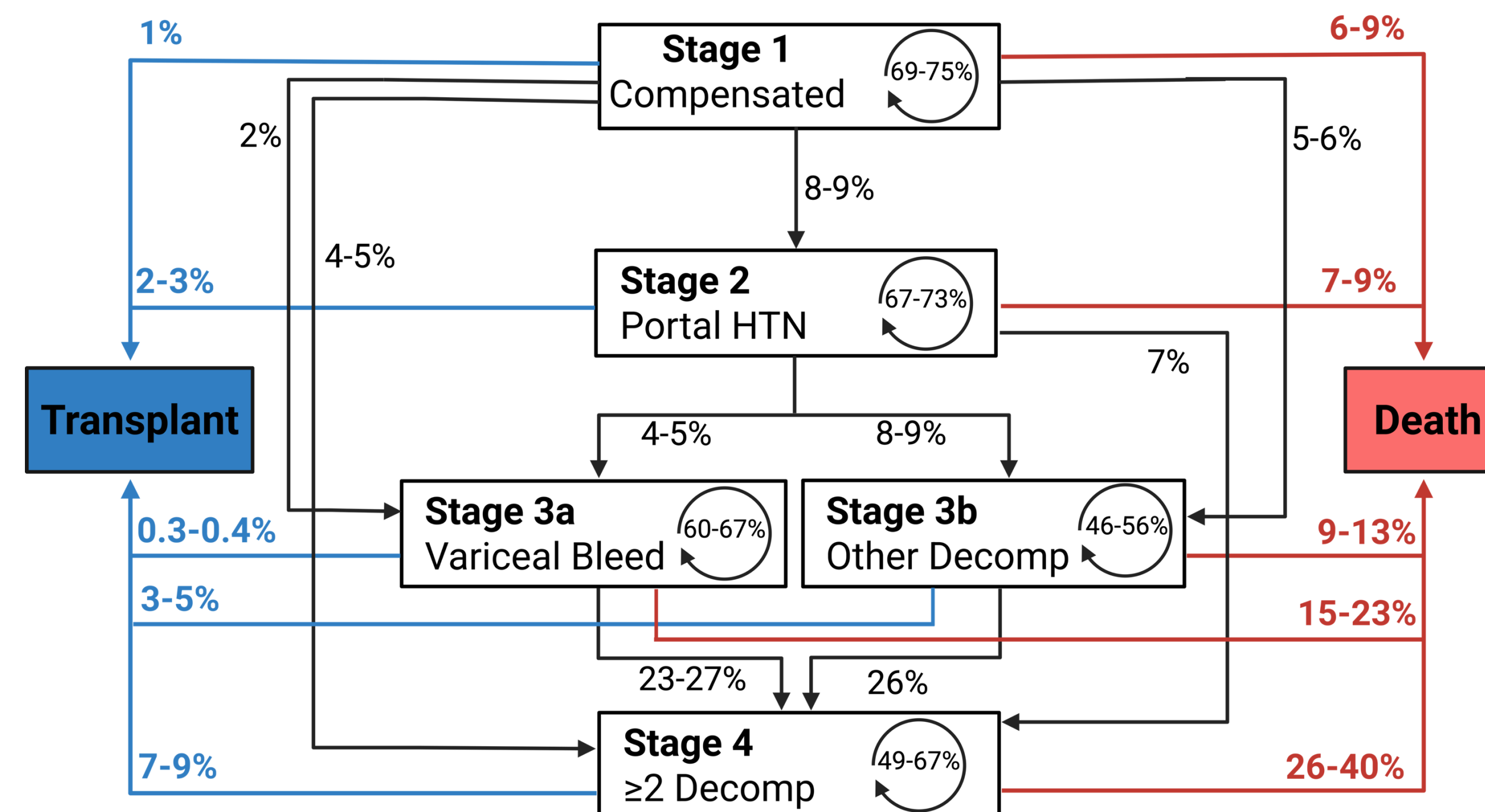


Table 1. Cohort characteristics stratified by stage

Characteristics	Stage 1	Stage 2	Stage 3a	Stage 3b	Stage 4
<b>Total (n)</b>	9774	1196	740	3536	2609
<b>Age, mean (SD)</b>	60.5 ± 12.9	58.2 ± 13.4	59.5 ± 14.2	59.2 ± 13.6	56.6 ± 13.6
<b>Female, n (%)</b>	4826 (49.4%)	544 (45.5%)	274 (37.0%)	1436 (40.6%)	1042 (39.9%)
<b>Race, n (%)</b>					
White	4520 (46.2%)	582 (48.7%)	331 (44.7%)	1871 (52.9%)	1376 (52.7%)
Black	1795 (18.4%)	189 (15.8%)	166 (22.4%)	595 (16.8%)	482 (18.5%)
Hispanic	1620 (16.6%)	253 (21.2%)	165 (22.3%)	587 (16.6%)	468 (17.9%)
Asian	268 (2.7%)	33 (2.8%)	16 (2.2%)	68 (1.9%)	51 (2%)
Other	1571 (16.1%)	139 (11.6%)	62 (8.4%)	415 (11.7%)	232 (8.9%)
<b>Etiology, n (%)</b>					
MASLD	2688 (27.5%)	366 (30.6%)	258 (34.9%)	1423 (40.2%)	1214 (46.5%)
metALD	1764 (18%)	240 (20.1%)	194 (26.2%)	606 (17.1%)	431 (16.5%)
ALD	309 (3.2%)	50 (4.2%)	52 (7%)	210 (5.9%)	234 (9%)
HCV	1722 (17.6%)	209 (17.5%)	92 (12.4%)	337 (9.5%)	219 (8.4%)
HBV	413 (4.2%)	55 (4.6%)	37 (5%)	108 (3.1%)	93 (3.6%)
<b>MELD, median (IQR)</b>	10 (8–16)	12 (8–19)	12 (9–20)	17 (12–23)	22 (15–28)

Figure 1. 1-Year Cirrhosis Progression, Mortality, Transplant



## Results

- 1-year mortality: 6-9% (Stage 1) -> 26-40% (Stage 4)
- 1-year transplant: <5% for Stages 1–3b, 7-9% at Stage 4
- Adjusted mortality: Higher stages were independently associated with stepwise increases in death risk — Stage 4 vs Stage 1: sHR 2.80 (2.42–3.24).
- Adjusted transplant: Increased significantly at later stages — Stage 3b sHR 1.25 (1.01–1.55), Stage 4 sHR 1.73 (1.40–2.14) — but was significantly lower at Stage 3a (sHR 0.48, 0.27–0.85).

## Conclusions

- Compensated cirrhosis carries meaningful 1-year mortality (~6-9%), rising to ~26-40% in patients with ≤1 decompensating event, yet transplant rates remain <10%.
- Earlier transplant evaluation, including living donor and marginal graft utilization, may reduce preventable deaths



## Acknowledgements

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## References

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