For patients with heart failure, HH was associated with less hospital-acquired events and lower post-discharge mortality, but higher rates of AKI and longer length of stay. *HH may not be uniformly beneficial across clinical domains for patients with heart failure, and aggregate HH analyses may obscure clinically important outcomes.*

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Home Hospital Versus Brick-and Mortar Hospitalization for Heart Failure: A Target Trial Emulation

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Background

Home Hospital (HH) has shown favorable outcomes overall, but diagnosis-specific effectiveness is largely unstudied.[1,2] Heart failure (HF) is among the most common conditions managed in HH.[3,4] We used a target trial emulation framework to examine **HH effectiveness for patients admitted for HF**.[5]

Methods

- Using a target trial emulation framework, we conducted an observational study across ten Mass General Brigham hospitals from February 2020 to May 2025.
- HF admissions were identified using diagnosis-based subcohorts with condition-specific exclusions.
- HH eligibility was assessed at presentation and re-assessed each hospital day; eligible HH episodes were matched to BAM hospitalizations by site, condition, age (±5 years), and calendar quarter.
- Propensity scores were estimated using gradient boosting with 14 clinical and demographic covariates, and inverse probability of treatment weighting was applied.

Results

For 2,067 HH HF admissions, HH was associated with:

↓ Lower

- **Catheter-associated urinary tract infection**
  0.3% vs 0.6%, p=0.035
- **Delirium**
  2.0% vs 4.7%, p<0.001
- **72-hour post-discharge mortality**
  0.1% vs 0.4%, p=0.032

↑ Higher

- **Acute kidney injury**
  2.2% vs 0.4%, p<0.00
- **Length of stay**
  9.98 vs 7.41 days, p<0.001

↔ No Significant Difference

- **Inpatient mortality** p=0.58
- **30-day ED visits** p=0.61
- **30-day readmissions** p=0.59

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