

Comparing Post-Acute Health Service Utilization for Medicaid versus non-Medicaid Patients Treated in Hospital at Home



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BACKGROUND

- Hospital at Home (HaH) programs have been demonstrated to be effective in a variety of settings and patient populations.
- Issues related to health equity have not been studied previously and it is not known whether this care model is more or less effective for economically disadvantaged patients.
- We have previously reported that HaH services were associated with decreased readmissions and emergency department visits and improved patient experience.
- In this analysis, we use Medicaid enrollment as a proxy measure of economic disadvantage and examine whether outcomes of HaH differ for the Medicaid and non-Medicaid subgroups enrolled in the study.

METHODS

- We recruited patients ≥ 18 years with fee-for-service Medicare or private insurance that contracted for HaH services, and who required inpatient care for medical diagnoses from two New York City hospitals from November 18, 2014 through August 31, 2017.
- **Exclusion criteria:** Patients were excluded if need for intensive care, surgery, or telemetry were anticipated, among other exclusions. Eligibility required a safe home environment.
- **Primary outcomes:** 30-day hospital readmissions or 30-day standalone ED visits, and duration of the acute care period length of stay (LOS).
- We compared outcomes of HaH patients and outcomes of HaH and control patients using standard tests of association. Results were adjusted for patient-mix based on age, education, race and ethnicity, and general health. To limit potential bias arising from the non-random assignment to HaH, we used inverse probability weighted regression analysis.

RESULTS

- A total of 511 hospital episodes were included in this analysis (297 or 58.1% HaH and 214 or 41.9% controls).
- Medicaid status was prevalent at similar rates in the two groups (40.7% in HaH vs. 37.8% in controls). In adjusted analyses compared to hospital inpatient controls, LOS was 2.2 days and 1.7 days shorter in HaH for Medicaid and non-Medicaid patients, respectively ($p < 0.001$).
- The adjusted odds ratio (AOR) for 30-day readmission among Medicaid patients was 0.34 (95% CI 0.16, 0.74; $p = 0.006$) favoring HaH; for non-Medicaid patients, AOR was 0.42 (95% CI 0.21, 0.86; $p = 0.02$).
- The AOR of 30-day emergency department revisits not leading to a hospitalization was 0.27 (95% CI 0.11, 0.63; $p < 0.001$) favoring HaH in the Medicaid subgroup and 0.70 (95% CI 0.29, 1.72; $p = 0.43$) in the non-Medicaid subgroup.

Table 1. Raw and adjusted patient outcomes among hospital at home patients and inpatient controls, stratified by Medicaid status.

		Acute Length of Stay				All-Cause Hospital Readmission				All-Cause Emergency Department Revisit			
		Raw		Adjusted*		Raw		Adjusted*		Raw		Adjusted*	
Subgroup	No. of Patients (%)	Mean (SD)	p	Difference	p	30-Day Rate	p	Odds Ratio (CI)	p	30-Day Rate	p	Odds Ratio (CI)	p
Medicaid													
Hospital at Home	121	3.34 (2.48)	<0.01	2.2	<0.01	8.4	0.02	0.34 (0.16, 0.74)	0.01	5.04	<0.01	0.27 (0.11, 0.63)	<0.01
Inpatient Control	81	6.06 (4.29)				19.75				17.28			
Non-Medicaid													
Hospital at Home	176	3.14 (1.80)	<0.01	1.7	<0.01	9.94	0.33	0.42 (0.21, 0.86)	0.02	6.43	0.60	0.70 (0.29, 1.72)	0.43
Inpatient Control	133	5.05 (2.67)				13.6				8.00			

* Adjusted for patient mix based on age, education, race and ethnicity, and general health

CONCLUSION

- HaH was associated with large reductions in 30-day readmissions and emergency department visits among Medicaid beneficiaries.
- Reductions in readmissions and emergency department use were smaller and not significant among non-Medicaid patients.
- This suggests that the needs of Medicaid patients may be particularly suited to being evaluated and managed via acute hospital-level services in the home. Further studies are needed on how HaH nursing, social work, and medical services provided to Medicaid patients differ in quantitative and qualitative ways.

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