Making a Match: Focused Intervention to Titrate Home Health Aide Services While Optimizing Patient Safety and Satisfaction

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BACKGROUND

➤ Home Health Aides (HHAs) are an essential component of Hospital at Home (HaH) for health systems that aim to promote equity and access. They are a vital but costly resource that enable patients to receive HaH care who may not otherwise be able to participate due to impaired functional status and/or a lack of sufficient support in the home.

➤ The Yale New Haven Health System Home Hospital regularly provides HHAs for patients who do not have sufficient caregiver support at home.

➤ During the first year of Home Hospital, we used a combination of AMPAC scores, nursing notes, and patient- or family-reported information to estimate needed HHA hours. We frequently encountered a mismatch between provided HHA hours and needed or desired assistance, which resulted in patient and family dissatisfaction as well as extraneous costs.

METHODS

➤ We implemented a phased intervention to right-size HHA provision:
  ➤ Phase Ia: daily afternoon huddle agenda item for reviewing HHA assignments; empowered staff to have informed discussions with patients and their caregivers about titrating hours up or down
  ➤ Phase Ib: targeted team member education aiming for best fit HHA starting at admission
  ➤ Phase II: implemented Home Health Aide Needs Assessment Tool, which assigns a score based on ability to complete activities of daily living (ADLs), mental status, and need for durable medical equipment (DME), as well as their Activity Measure for Post Acute Care (AMPAC) score and special needs documentation from EHR

➤ Measures: % of episodes that included HHA or 24h HHA, fall rate, escalation rate, 30-day readmission rate, and patient satisfaction scores.

➤ We performed statistical analyses on safety outcomes using R statistics software. Significance for HHAs, readmission and escalation rates were calculated using Chi-squared Tests; analysis of falls and likelihood to recommend were calculated with Fishers Exact Tests.

RESULTS

➤ A total of 1,230 care episodes between Jan 2023 and Aug 2024 were included in our analysis.

➤ The share of episodes with HHAs deployed decreased by 40% (from 45% of episodes during our index period to 27% of episodes in the final 3 months).

➤ The share of HHAs staffed 24 hrs/day fell by 26% (from 69% staffed at 24 hrs/day at baseline to 51% in the final phase).

➤ The average age of patients in the program remained steady overall; CMI was 1.15 at baseline and 1.28 during the final phase.

➤ There were no significant changes in the rates of falls, escalations, or 30-day readmissions between the baseline period and the final phase.

➤ Patient likelihood to recommend the Home Hospital remained stable at 90% or greater with no significant change.

Measure	Baseline: Jan-Jul 2023	Phase Ia: Aug 2023-Feb 2024	Phase Ib: Mar-May 2024	Phase II: Jun-Aug 2024	
Episodes	382	443	189	216	
CMI	1.15	1.24	1.30	1.28	
Patient Age (mean)	74.2	74.3	73.5	72.8	p = 0.175
Episodes with HHA	45%	40%	37%	27%	p < 0.001
Episodes with HHA with 24-hr HHA*	69%	60%	45%	51%	p = 0.027
Fall Rate (with & without injury)	0%	1.2%	4.2%	2.8%	p = 0.12
Escalation Rate	9%	10%	10%	10%	OR 0.99 (95% CI 0.54-1.77) p=1
30-day Readmission Rate†	15%	13%	14%	15%	OR 0.98 (95% CI 0.54-1.76) p=1
Likelihood to Recommend HH‡	94.12%	94.74%	100%	90%	OR 0.58 (95% CI 0.01-49.01) p=1

*Episodes with ≥3 HHA visits included in denominator, N=153, 157, 58, and 50, respectively
†Readmission rate for Phase II calculated using data through Aug 23, 2024; further data unavailable at the time of analysis
‡Press Ganey survey, either of top 2 boxes selected ("good" or "very good")

CONCLUSIONS

➤ During this multi-phase intervention, we successfully reduced HHA utilization as well as the proportion of 24-hr HHAs without demonstrating any detriment to patient safety outcomes.

➤ Possible confounding from improved care practices or processes over time could also in part account for sustained low rates of adverse outcomes across these phases, despite fewer HHAs/HHA hours.

➤ HHAs are an essential component of HAH that are not one-size-fits-all. Other health systems could integrate these HHA matching strategies early on in their program life cycle to optimize HHA utilization while at the same time ensuring patient safety and satisfaction.

➤ Changing long-held practice behaviors can be successful with sustained effort and evolving interventions over time.