

Home Initiated Parenteral Nutrition is a Safe and Cost-Effective Approach to Nutrition Support

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BACKGROUND

- Home initiation Parenteral Nutrition (PN) is on the rise to prevent hospital readmission, reduce cost and decrease risk of hospital acquired infections.
- Not all healthcare teams are comfortable with initiation of PN in home setting, due to patient safety and refeeding risk.
- For over 20 years home initiation of PN has been successful.

PURPOSE

The purpose of this study was to evaluate safety and efficacy of home start PN, while also considering impact on cost.

METHODS

- Retrospective chart review
- Inclusion criteria:
 - ◆ Men and Women
 - ◆ >18 years of age
 - ◆ Started on PN in home setting between 6/1/2017 and 6/30/2018
- Exclusion criteria
 - ◆ Patients on PN <30 days
- Data: Hospitalizations, ER visits, Central venous access device events (CVAD), Adverse drug reactions (ADR), and refeeding syndrome

HOME INITIATION PN TIMELINE

- DAY 0-1:** Baseline labs obtained, electrolytes repleted, PN initiated (~50% NPC goal)
- DAY 3-4:** Labs repeated, electrolytes adjusted, PN increased to 65-70% NPC goal
- DAY 6-9:** Labs repeated, electrolytes adjusted, PN increased to 100% NPC goal
- DAY 10-14:** PN converted to cyclic infusion as tolerated

Figure 1—Outcome Incidence Rates, Home Start PN vs. Hospital Start PN (%)

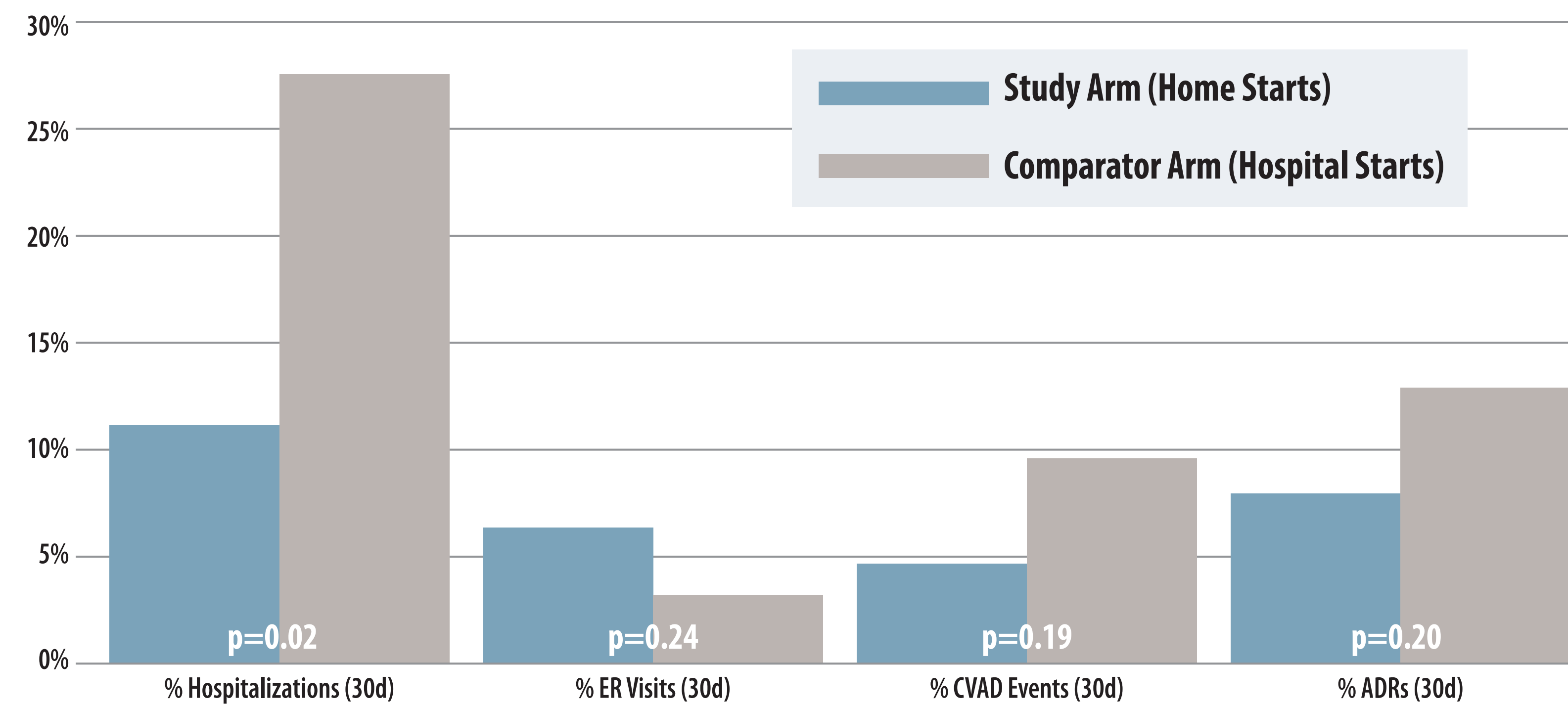
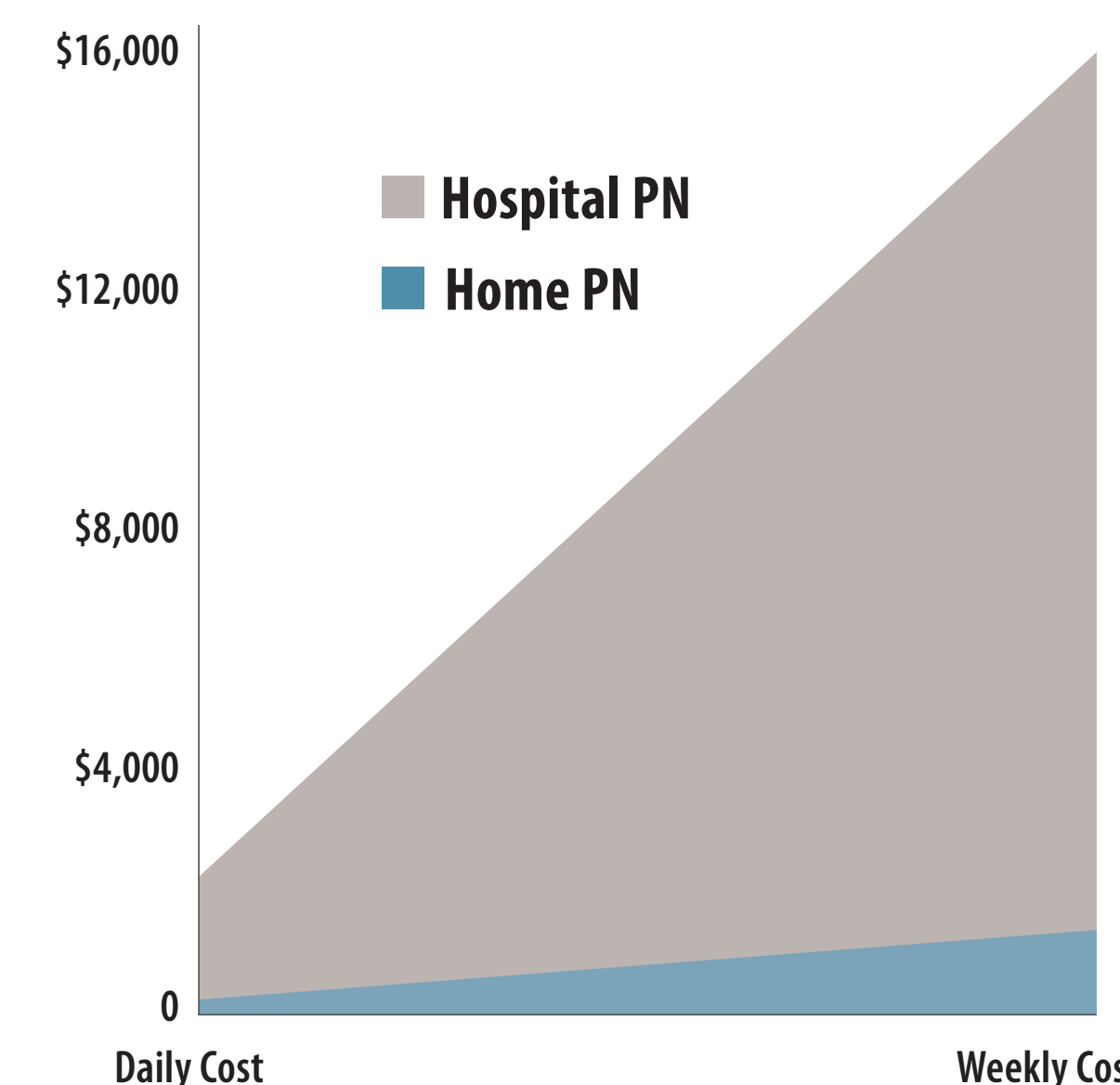


Table 1—Outcome Incidence Rates and Additional Data, Home Start PN vs. Hospital Start PN

	N=	# Hosp. (30d)	#ER visits (30d)	# CVAD events (30d)	# ADRs (30d)	# Days to Goal	# RF Syndrome	% RF Syndrome
Study Arm (Home Starts)	62	7	4	3	5	9.71	7	11.11%
Comparator Arm (Hospital Starts)	62	17	2	6	8	xxxxxx	xxxxxx	xxxxxx

COST OF PN

Figure 2



RESEARCH SHOWS:

- The average time it takes for a patient in the hospital to reach calorie goals on PN is 3-5 days.
- The average reported incidence of refeeding syndrome occurring is between 10-18% of patients on nutrition support.

RESULTS

- 62 home start PN patients met selection criteria. 62 additional patients from the same geographical locations who started PN during the same timeframe in the hospital setting were randomly selected to constitute a matched control group.
- A statistically significant ($P < 0.05$) improvement in 30-day hospital readmissions was demonstrated in the home start PN group ($P = 0.02$). Using a 95% confidence interval, statistical non-inferiority was demonstrated in the number of ER visits, CVADs, and ADRs in the home start PN group (Fig 1).
- The incidence of refeeding syndrome in the home start population was 11.11%, which is comparable to previously published studies. Average days to goal for the home initiated PN patient was 9.7 days (Table 1).

DISCUSSION

- Patients with home initiated PN had fewer hospital admissions after starting therapy than hospital start PN. Home start PN vs. hospital initiated PN provides a cost savings of approximately \$2000 per day (Fig 2).
- Additionally, starting PN in the home setting reduces exposure to hospital acquired infections in nutritionally compromised patients.
- Refeeding risk remains a concern when initiating PN in the home, but with close monitoring, significant adverse events can be prevented.

CONCLUSION

Hospital start PN does allow for closer monitoring of labs and average days to goal is half that of a home initiated PN. However, home start PN is a safe alternative and should be considered given the cost savings, fewer readmissions, and preventing hospital-acquired infections.

Disclosures:

Rebecca Brown, Jamie Haselhorst, Casey Cooper, Debbie Stevenson, Diana Ogden, and Shannon Slate are employees of Amerita, Inc.

