Quality Care at the End of Life: the PHAIM Approach

Roland Scaife[a,b], Abi Katz, DO[a], & Flavia Sancier, PhD[b]

[a]Premier Health, Fidelity Health Care, Dayton, OH [b]Antioch College, Yellow Springs, OH

Background

- Changes in human longevity have led to older populations in the United States, and an increase in the prevalence of chronic illness at the end-of-life [1,6]. The success of inpatient palliative medicine has highlighted the need for palliative care across the continuum of care. The development of community based non-hospice palliative care can extend the continuum into the home setting [2-4]. Premier Health Advanced Illness Management (PHAIM) is an evidence-based, interdisciplinary palliative care program that provides comprehensive person-centered, goal-driven care. The program addresses palliative care needs, such as quality of life, advanced care planning, symptom management, and culturally appropriate psycho-social interventions by using a "pillars" of care approach (Table 1) in the patient's home.

- The present study compares patient experience in symptom management, hospital utilization, advance care planning, and care coordination for PHAIM and Usual Care (UC) patients over a six-month, post-enrollment period. Hospitalization data within this time frame allowed for calculation of readmission rates and LACE index scores.

Methods

Subjects
- All patients referred to PHAIM between 1 April 2016 and 30 September 2016 were considered. Two cohorts: patients who accepted PHAIM services and UC (patients who declined PHAIM) [3,4].

Retrospective review
- Chart review of patients' medical records for information pertaining to demographics, hospital encounters, medication lists, primary care physician (PCP), advance directives (AD), diagnoses, and LACE scores [2,3,5]. Readmission rates and length of encounter (LOE) were calculated. Patient disposition at of 6 months was reviewed.

Statistical Testing
- Pearson's chi-square, Welch's t-test, and proportions test methods were used to determine statistical significance (α=0.05) [2,3].

Six Pillars of Care

I. Red Flag Identification- Using the patient narrative and self-management support tools, patients and caregivers learn the timing and response to "red flag" symptoms before they escalate and prevent unwanted hospitalizations.

II. Medication Management- Management includes reconciliation and work with patients and caregivers to identify medication related issues, such as duplications, incorrect dosages, unwanted drug interactions, and discontinuation of medication.

III. Primary Care Physician (PCP) Follow-up- PHAIM staff assist patients in the coordination of timely PCP appointments. When patients have no PCP, staff motivate and aide the establishment of a permanent PCP; the staff visiting physician may act as temporary PCP when needed. This practice maintains the continuity of care between the hospital and PCP.

IV. Advance Care Planning- The process of thinking about future health care decisions based on patient and family values and goals. As patients' conditions change, so too do their goals. PHAIM supports patients' insight in development and articulation of goals through advance directives.

V. Personal Health Record (PHR)- A physical collection of medically relevant information owned and maintained by the patient. Patient's medical history, medication list, and advance directive are accessible to help communicate healthcare information and patient's desires to providers.

VI. Spirituality- The acknowledgement of an individual's spiritual beliefs, while integrating its role in a patient's care. Spirituality can be fundamental or optional component of care; psychosocial support can help to maintain a component of health that is sometimes ignored.

Table 1: Six Pillars of Care used by PHAIM staff in patient care.

Parameter		Usual Care (%)	PHAIM (%)	p-value
n		146 (48.7)	154 (51.3)	0.686
Sex	Female	79 (54.1)	90 (58.4)	0.522
Age		67.5 (±15.1)	69.9 (±13.8)	0.156
Ethnicity	Caucasian	122 (83.6)	123 (79.9)	0.493
	African Am.	21 (14.4)	28 (18.2)	
	Other	3 (2.1)	3 (1.9)	
Insurance Type	Medicare	113 (77.4)	125 (80.1)	0.3525
	Medicaid	28 (19.2)	21 (13.6)	
	Commercial	5 (3.4)	8 (5.19)	
Primary Diagnosis	Cancer	21 (14.4)	21 (13.6)	0.501
	Cardiac	59 (40.4)	58 (37.7)	
	Respiratory	53 (36.3)	54 (35.1)	
	Other	14 (9.6)	21 (13.6)	
LACE Index Score	Inpatient Admissions	13.1	13.9	0.004

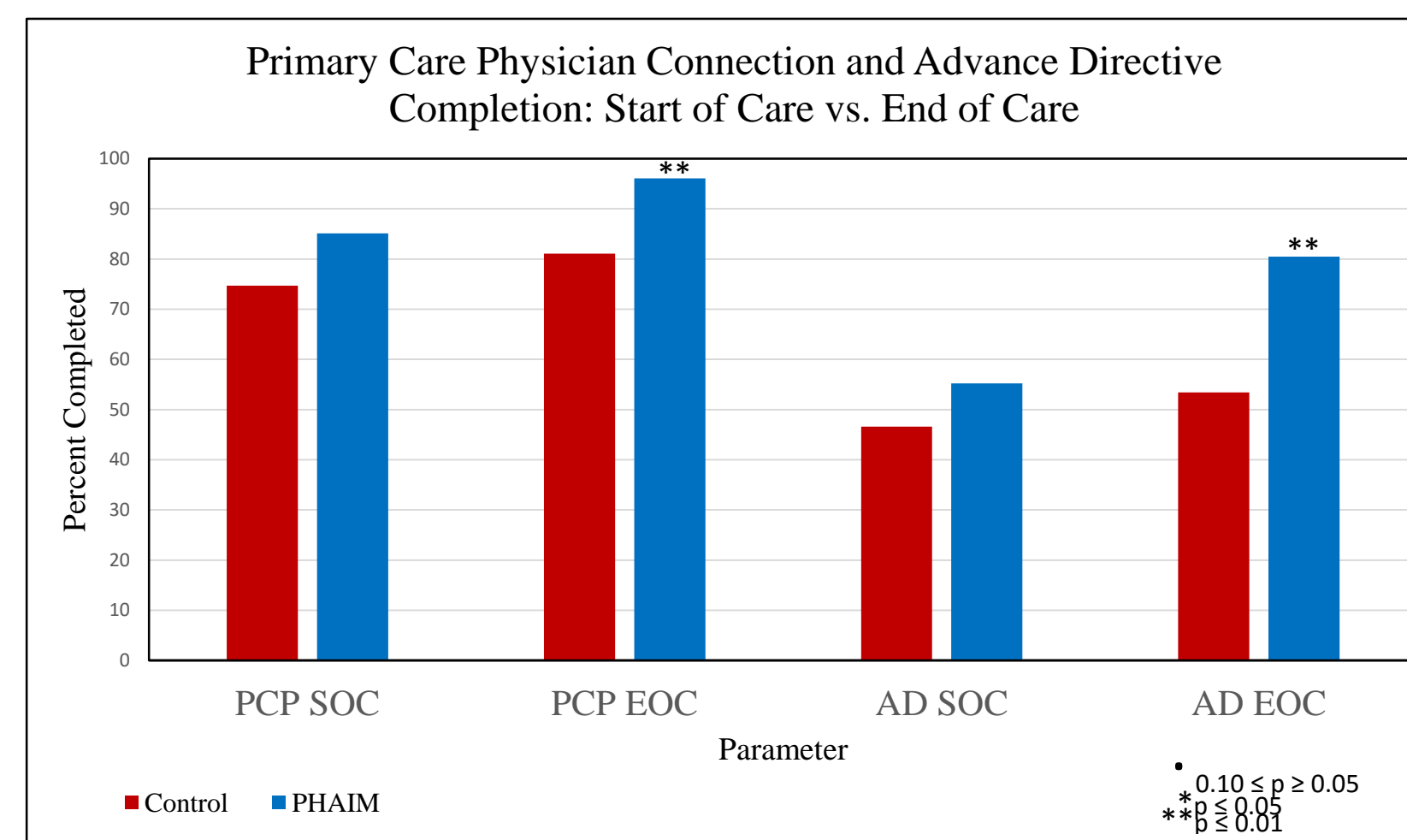Table 2: Demographic parameters for PHAIM in comparison to UC patients.

Figure 1: Proportion of primary care physician (PCP) connection and advance directive (AD) completion at start of care (SOC) vs. end of care (EOC).
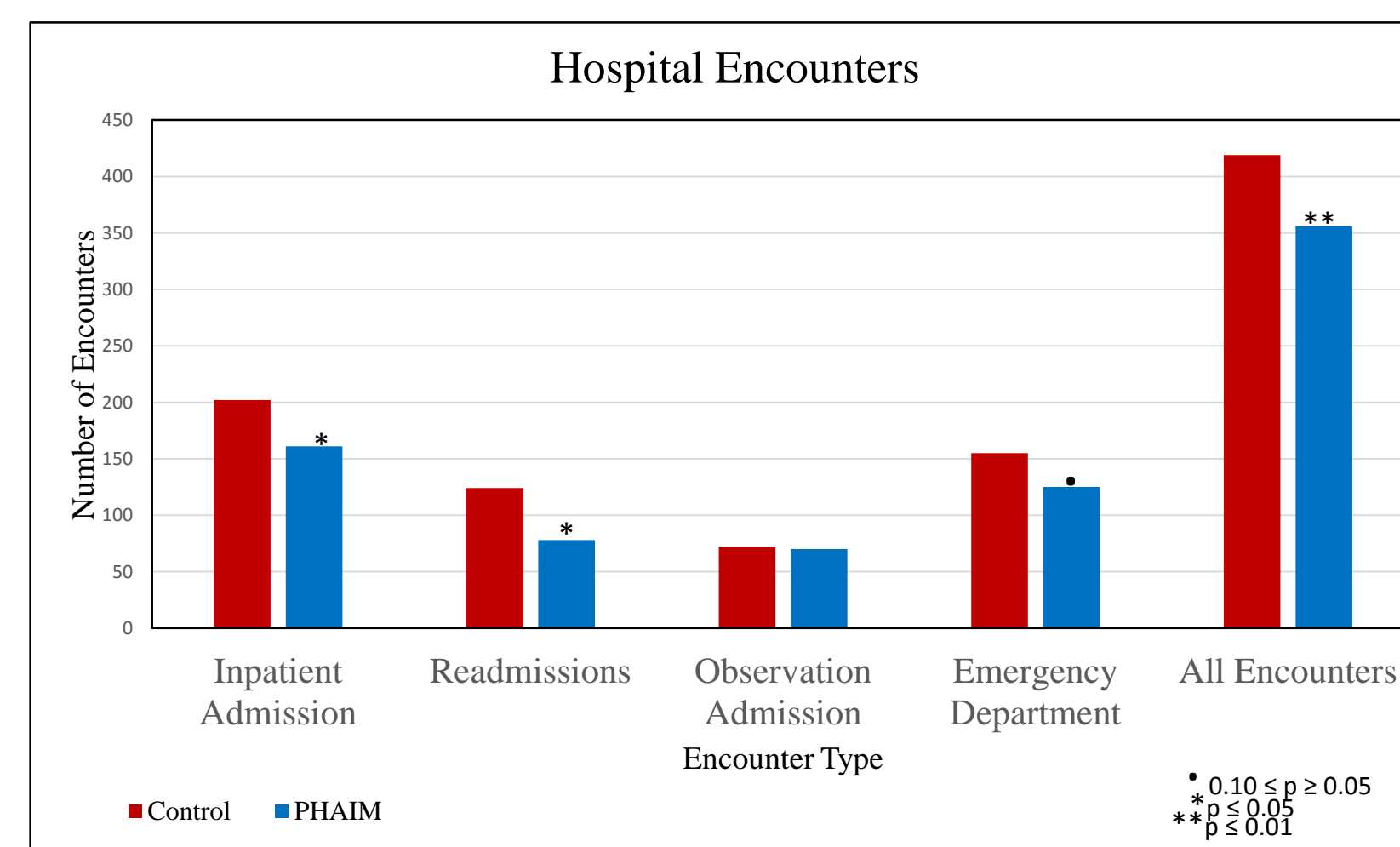

Figure 2: Number of patients' hospital encounters during the six months follow start of care. Readmission encounters amongst inpatient admissions

Results

- A total of 300 patients were included in the study; hospital and home health electronic medical records were reviewed.
- No significant differences in demographic information (Table 2) of PHAIM (n=154) in comparison to the UC (n=146) cohort, with exception of PHAIM patients significantly higher LACE index scores (p=0.004; CI=-1.331, -0.255).
- PHAIM patients were less likely to have any type of hospital encounter (p=0.009; CI=51.2,58.2), were less likely to be admitted (p=0.036; CI=50.4,59.1), and had 13% fewer readmissions (p=0.0183; CI=-23.7,-2.3), despite higher LACE index scores.
- The length of stay for observation encounters was significantly less for PHAIM (0.022; CI=0.107,inf.)
- PHAIM patients were more likely than UC patients to have completed AD (p=0.003; CI=13.2,50.7), and were more likely to have connection with a PCP (p=1.07e-6; CI=18.7,43.6).
- PHAIM patients were less likely to have died during the six-month study interval (p=0.022, CI=-16.5, 7.7), despite higher LACE index scores
- No significant differences were found in number of medications after six months, length of encounter for total or admission encounters, Hospice outcomes, or the total number of days spent in the hospital.

Conclusions

- The PHAIM program's combined primary palliative care and complex case management approach is associated with increased quality of care measures, and a significant decrease in readmission rates for patients six months from start of care.
- There were significant increases in quality of care measures in regard to AD completion and PCP connection. Additionally, PHAIM services are associated with decreased rates of hospital encounters, admissions, and overall readmissions despite having a higher average LACE score.
- PHAIM services, like other palliative care interventions, may impart a survival benefit based on significant difference number of deaths.

Acknowledgements

References

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