Effect of an Innovative Late Life Care Approach on Resource Utilization

Karl Fernstrom, MPH; Rebecca Prenevost, MPH, PhD; TC Tong; Heather Britt, MPH, PhD
Division of Applied Research, Allina Health

Allina Health | LifeCourse™ *Listen. Honor. Guide.*

University of Minnesota School of Public Health

LIFECOURSE

- Builds upon an expanded set of palliative care domains to promote whole person care
- Uses a family-oriented approach to understand needs, leverage strengths, and empower families to effectively support their loved ones
- Asks patients and caregivers to articulate individualized goals and take part in decision making
- Includes a trained lay healthcare worker as the primary contact across settings and over time

BACKGROUND

Health care quality must be redefined for individuals with serious illness. Care is complex and requires a greater number of clinicians and care settings. The dizzying number of interactions contributes to duplicative and unnecessary medical procedures (resource waste); conflicting treatment plans; and increased burden for patients.

RESEARCH OBJECTIVE

To evaluate the effects of a late life care model on healthcare utilization in a large healthcare delivery system.

DATA

- A prospective study of 373 intervention and 201 usual care patients between October 2012 and April 2015.
- Patients and controls were selected based on primary diagnosis, disease progression, and comorbidity mix.
- Utilization metrics included emergency department (ED) visits, inpatient days, palliative care visits, and proportion enrolled in hospice prior to death.

ANALYSIS

The analysis was conducted with internal EHR data on all enrolled patients. The analysis followed a pre- to post-enrollment utilization framework. Pre- and post-enrollment follow-up periods were variable based on patients' study enrollment dates and EHR data availability but were adjusted for in analyses.

FINDINGS

Visit Counts and LOS (Table 1)

- LifeCourse patients in their last 6 months of life had half as many inpatient days as the usual care group (6.4 vs. 12.8; p=0.044).
- There was no significant difference in the number of ED visits across groups.
- The proportion of advance directives in the intervention group increased significantly in the follow-up period compared to usual care (26% vs. 7%; p<0.001).
- LifeCourse patients also experienced higher inpatient and community-based palliative care utilization.

Hospice Enrollment (Table 2)

- The proportion of hospice enrollment prior to death was higher in the intervention group than the usual care group, the healthcare system in general, and the 2013 NHPCO national estimate.
- Disease-specific hospice enrollment was also highest in the intervention group.

Table 1. Selected healthcare utilization outcomes by treatment group

	Intervention (N=373)				Usual Care (N=201)				
	N	Mean ± SD	Min	Max	N	Mean ± SD	Min	Max	P-Value
ED Visits									
12 Mo. Pre-enrollment	372	1.7 ± 2.0	0	11	201	1.5 ± 1.8	0	10	0.201
12 Mo. Post-enrollment[a]	288	1.3 ± 2.3	0	17	177	1.5 ± 2.4	0	14	0.381
Change	288	-0.2 ± 2.4	-10	14	177	0.0 ± 2.5	-9	14	0.291
Last 6 Months of Life	84	1.9 ± 2.2	0	13	24	2.3 ± 1.7	0	7	0.407
Inpatient Days									
12 Mo. Pre-enrollment	372	5.0 ± 8.2	0	86	201	4.8 ± 7.1	0	49	0.680
12 Mo. Post-enrollment[a]	288	2.5 ± 6.2	0	43	177	3.4 ± 7.7	0	52	0.165
Change	288	-1.7 ± 8.0	-32	43	177	-0.9 ± 8.1	-47	36	0.325
Last 6 Months of Life	84	6.4 ± 7.3	0	27	24	12.8 ± 14.2	0	48	0.044
Inpatient Palliative Care Visits									
MD/NP Billable	75	6.8 ± 11.0	2	73	32	3.8 ± 2.6	1	11	0.029
Social Work	30	2.7 ± 6.3	1	35	6	1.8 ± 1.0	1	3	0.466
Spiritual	19	2.4 ± 1.7	1	7	10	1.5 ± 1.2	1	4	0.149
Community-Based Palliative Care Visits	7	8.6 ± 7.7	1	26	6	2.6 ± 1.3	1	4	0.089

a. Adjusted for variable follow-up time and prorated to a 12 month period

Table 2. Proportion of hospice use prior to death

	U.S.	Allina	Intervention	Usual Care
Overall	42.8	18.2	50.0	33.3
Heart Failure		25.3	52.1	30.0
Cancer		33.0	58.8	50.0
Dementia		27.3	38.9	

All data are percents. NHPCO estimates are for the 2013 calendar year. Allina EHR estimates are for patients with any hospice admission and a date of death in 2013 or later.

CONCLUSION

Early signals indicate that using a whole person approach and allowing patients to voice preferences and take an active, informed role in care decisions appears to have direct benefit upon utilization.

ACKNOWLEDGEMENTS: The LifeCourse approach and study are funded by the Robina Foundation.

167620 1015 ©2015 ALLINA HEALTH SYSTEM. TM – A TRADEMARK OF ALLINA HEALTH SYSTEM.