

Effect of Early Palliative Care on Health Care Costs in Patients with Metastatic NSCLC

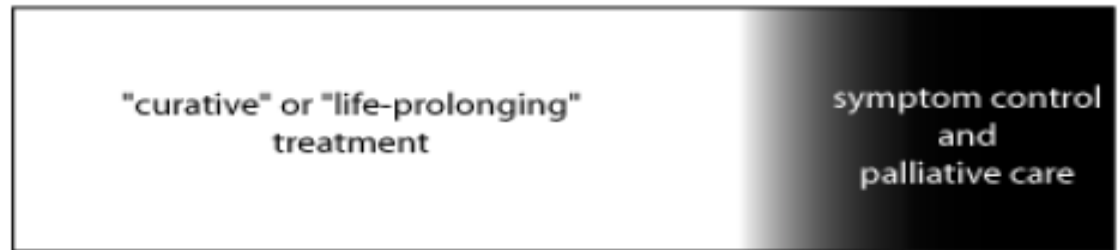
Greer JA, McMahon P, Tramontano A, Gallagher E,
Pirl WF, Jackson V, Temel JS
Massachusetts General Hospital Cancer Center



Integration of Palliative and Oncology Care

Relationship of "curative" or "life-prolonging" treatment to symptom control and palliative care for cancer

Prevalent Mix



At time of diagnosis

Death

Ideal Mix: The Continuum of Care

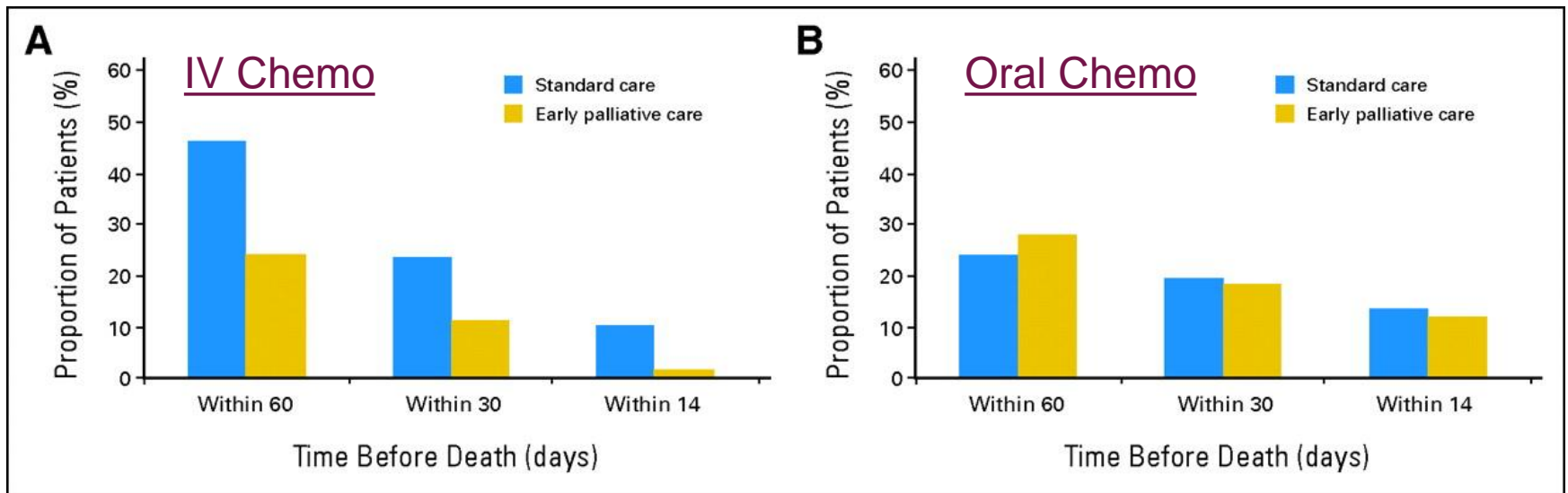


At time of diagnosis

Death

Early Palliative Care for Metastatic NSCLC

- Improvements in QOL, depression, and survival
- Higher quality care at the end of life
 - Longer lengths of stay in hospice
 - Lower rates of IV chemotherapy use

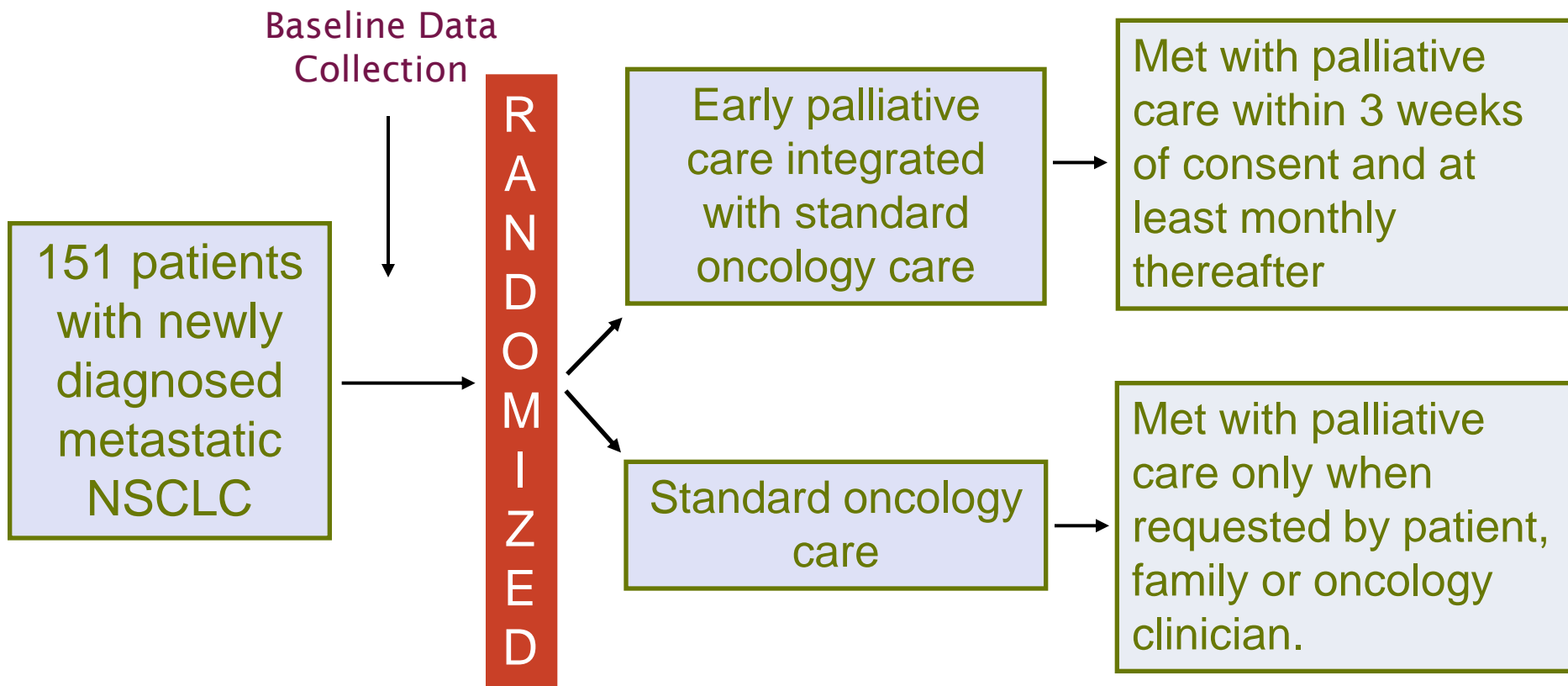


Temel et al., NEJM 2010, 363(8):733-42; Greer et al., JCO 2012, 30(4):394-400

Study Objective

- To explore the effect of early palliative care on health care costs at the end of life including:
 - Inpatient hospital visits
 - Outpatient clinic visits
 - Chemotherapy administration
 - Hospice services

Study Design



Study Eligibility Criteria

- Metastatic NSCLC diagnosed within the previous 8 weeks
- ECOG performance status 0-2
- Ability to read and respond to questions in English
- Planning to receive care at Massachusetts General Hospital Cancer Center

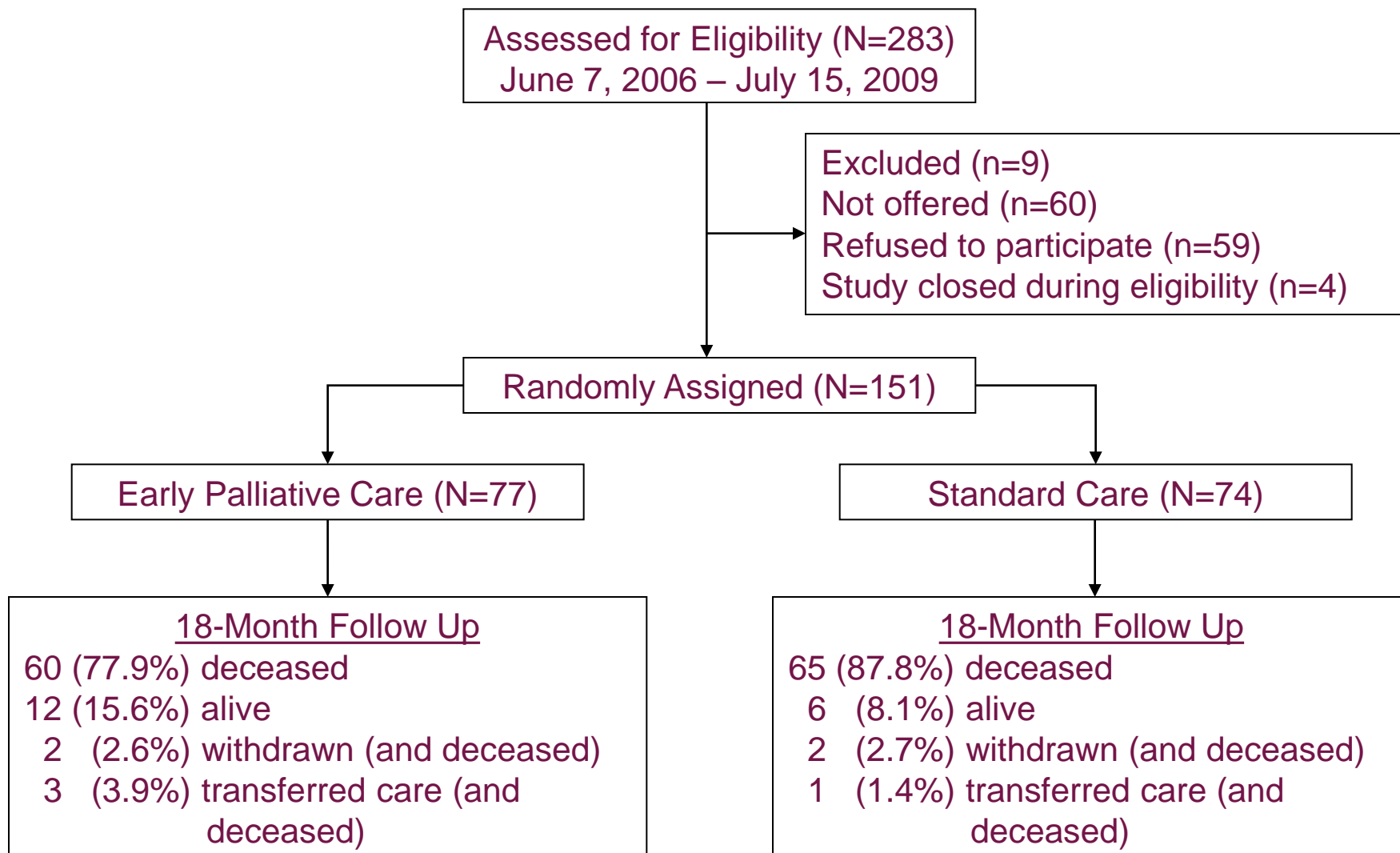
Data Collection

- Queried hospital accounting system and participants' electronic medical records to obtain data on care during final month of life:
 - Inpatient visits (ED and hospitalizations)
 - Outpatient visits (all visits regardless of specialty)
 - Chemotherapy administration (IV, oral, protocol)
 - Hospice referral and location of death
- Health care expenditures estimated based on hospital costs and CMS reimbursement rates for provided services and medications

Outcome Measure and Analysis

- Difference in mean health care costs in the final month of life by group (total and by category):
 - Inpatient visits
 - Outpatient visits
 - Chemotherapy administration
 - Hospice services
- Descriptive statistics (mean, SD, range)

Study Flow



Patient Demographic Characteristics

Sample Demographics	Standard Care N=74 Mean (SD) or N (%)	Early Palliative Care N=77 Mean (SD) or N (%)	p-value
Age Mean (SD)	64.9 (9.4)	65.0 (9.7)	0.94
Female	36 (49)	42 (55)	0.52
Race			0.06
Caucasian	70 (95)	77 (100)	
African American	3 (4)	0 (0)	
Asian	1 (1)	0 (0)	
Ethnicity			1.00
Hispanic	1 (1)	1 (1)	
Marital Status			1.00
Married	45 (61)	48 (62)	
Single	9 (12)	9 (12)	
Divorced/Separated	12 (16)	12 (16)	
Widowed	8 (10)	8 (10)	

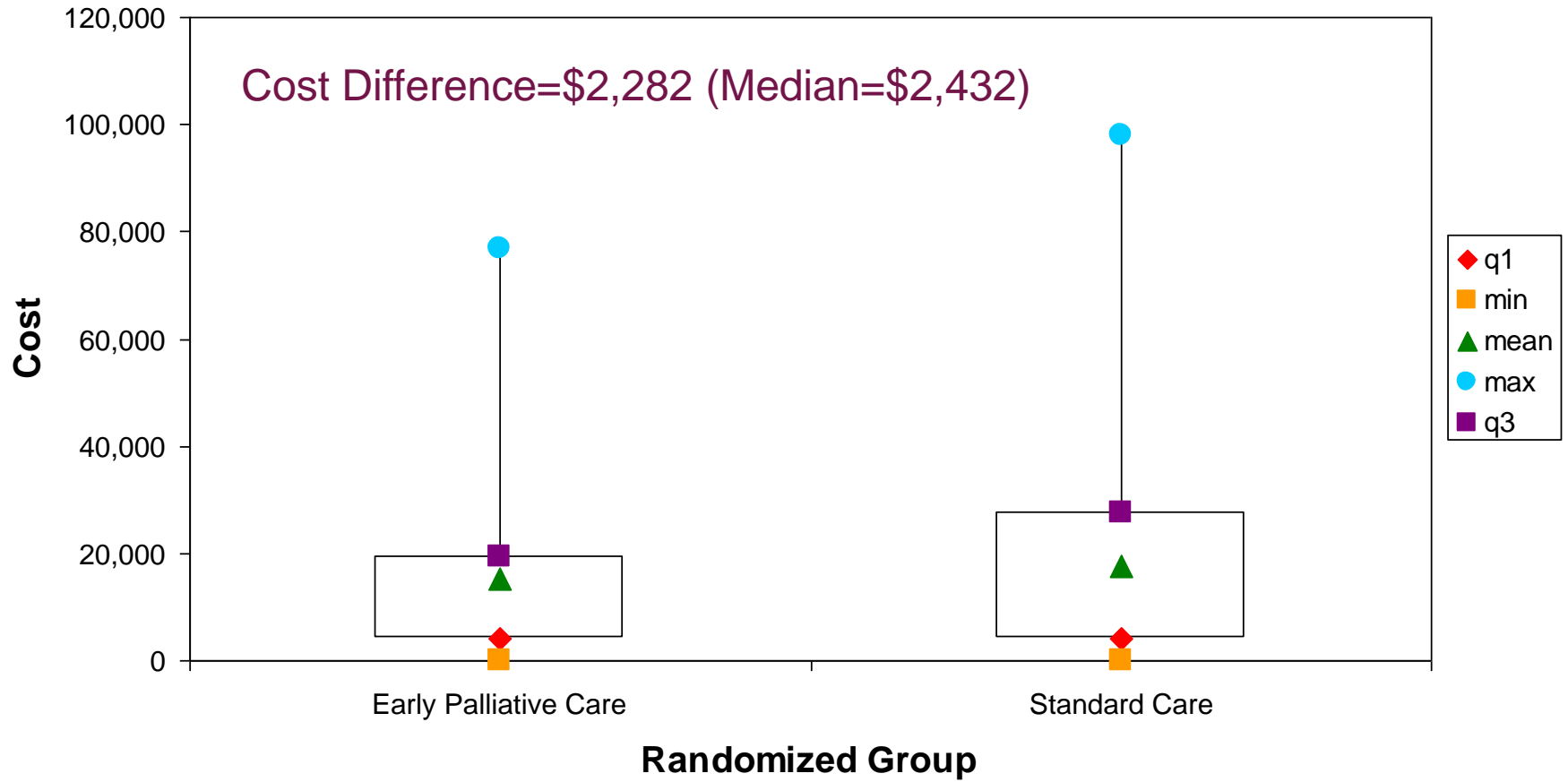
Baseline Clinical Characteristics

Clinical Characteristics	Standard Care N=74 N (%)	Early Palliative Care N=77 N (%)	p-value
ECOG PS:			
0	30 (41)	26 (34)	0.24
1	35 (47)	46 (60)	
2	9 (12)	5 (6)	
Initial Anticancer Therapy:			
Platinum-Based Regimen	35 (47)	35 (45)	0.82
Single Agent Chemotherapy	3 (4)	9 (12)	
Oral EGFR-TKI	6 (8)	6 (8)	
Radiation	26 (35)	27 (35)	
Both Chemo and Radiation	3 (4)	0 (0)	
No Anti-Cancer Therapy	1 (1)	0 (0)	
Type of Initial Regimen:			
Standard Therapy	35 (75)	36 (72)	0.78
Clinical Trial	12 (25)	14 (28)	

Mean Total Costs Per Patient at End of Life

N=125

Total Health Care Costs During Last 30 Days of Life



Mean Costs at End of Life by Category

	Standard Care N=65	Early Palliative Care N=60	Cost Difference
Inpatient Visits % of patients Mean cost (SD)	46% \$12,665 (20,580)	38% \$9,555 (17,275)	\$3,110
Outpatient Visits % of patients Mean cost (SD)	80% \$1,415 (1,649)	77% \$1,683 (2,027)	\$268
Chemotherapy % of patients Mean cost (SD)	42% \$1,654 (1,654)	28% \$1,014 (1,913)	\$640
Hospice Services % of patients Mean cost (SD)	65% \$1,808 (2,117)	70% \$2,933 (4,011)	\$1,125

Summary

- Health care costs at the end of life vary widely among patients with metastatic NSCLC.
- Patients in the palliative care group had a mean total health care cost that was \$2,282 less expensive than the standard care group in the final month of life.
- Any increased expenditures of the intervention for outpatient visits and longer lengths of stay in hospice appear to be offset by lower costs for inpatient visits and chemotherapy administration.

Study Limitations

- Exploratory, secondary analysis with small sample
- Limited generalizability
- Missing data for patients still alive
- Examination of end-of-life care versus entire course of disease

Conclusions

- In this sample of patients with metastatic NSCLC, results show no evidence of greater average health care costs per patient at the end of life due to early palliative care.
- A large-scale and sufficiently powered follow-up study of the intervention may reveal potential cost savings for early palliative care with respect to inpatient visits and chemotherapy use.

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