

Novel Models of Supportive Care in Patients with Advanced Cancer

Jennifer Temel, MD
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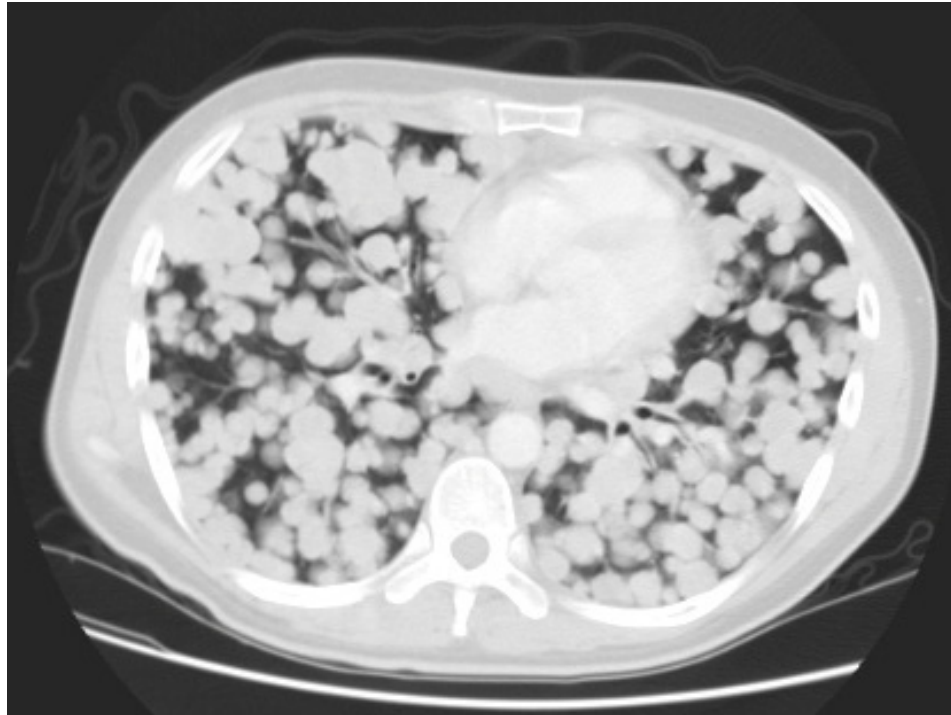
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Making the case for **novel models** of care in patients with advanced solid tumors

1. Patients experience a high physical symptom burden and *both* patients and families experience psychological suffering
2. Patients and their families often have a limited understanding of their illness and an inaccurate view of their prognosis
3. These patients face incredibly difficult decisions about their cancer treatment and end-of-life care
4. The care they receive is often intensive or “aggressive” and costly



Cancer therapy can improve symptoms... but it is not sufficient



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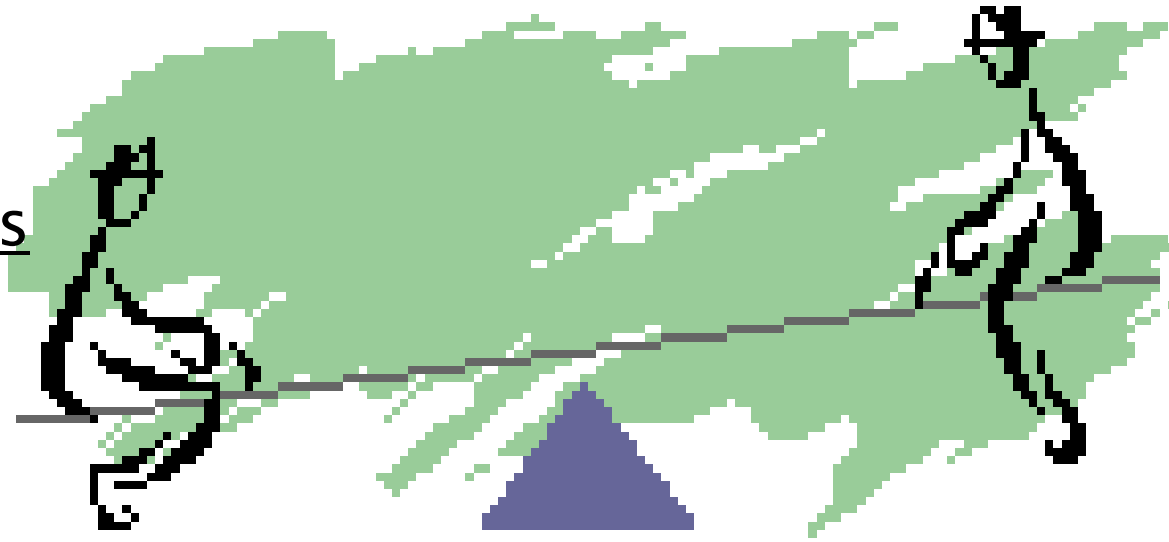


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Quality of Life in Advanced Cancer

Cancer-related Symptoms

Pain
Dyspnea
Fatigue



Chemo-related Symptoms

Fatigue
Nausea
Neuropathy

Psychosocial,
emotional, spiritual,
financial, family
caregiver issues not
impacted by therapy



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Illness and Prognostic Understanding and its Impact on Decision-Making



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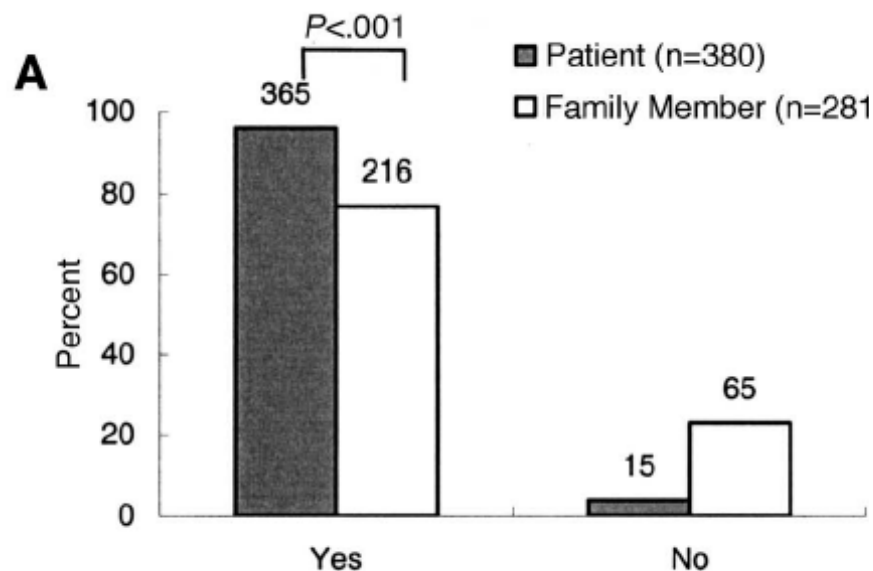
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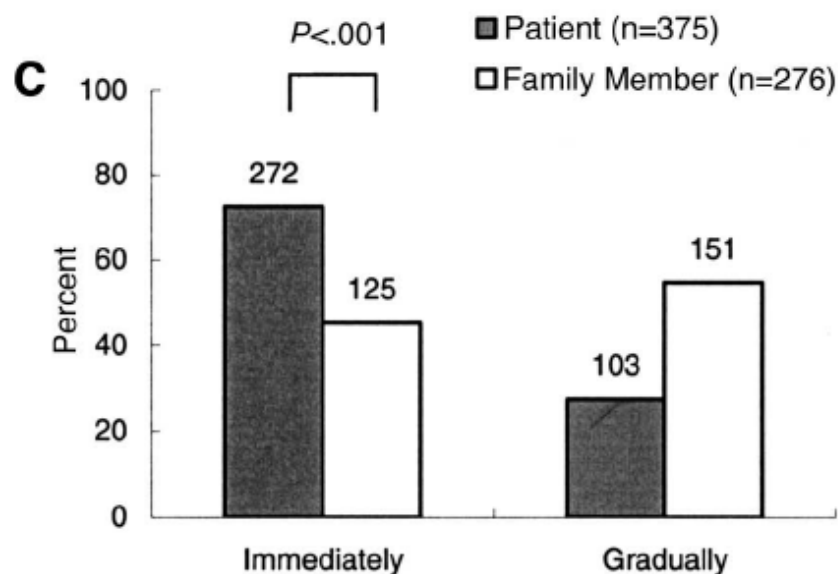
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What do patients with advanced cancer want to know about their illness?

Do you want to be informed the truth?



When is the appropriate time to be informed the truth?



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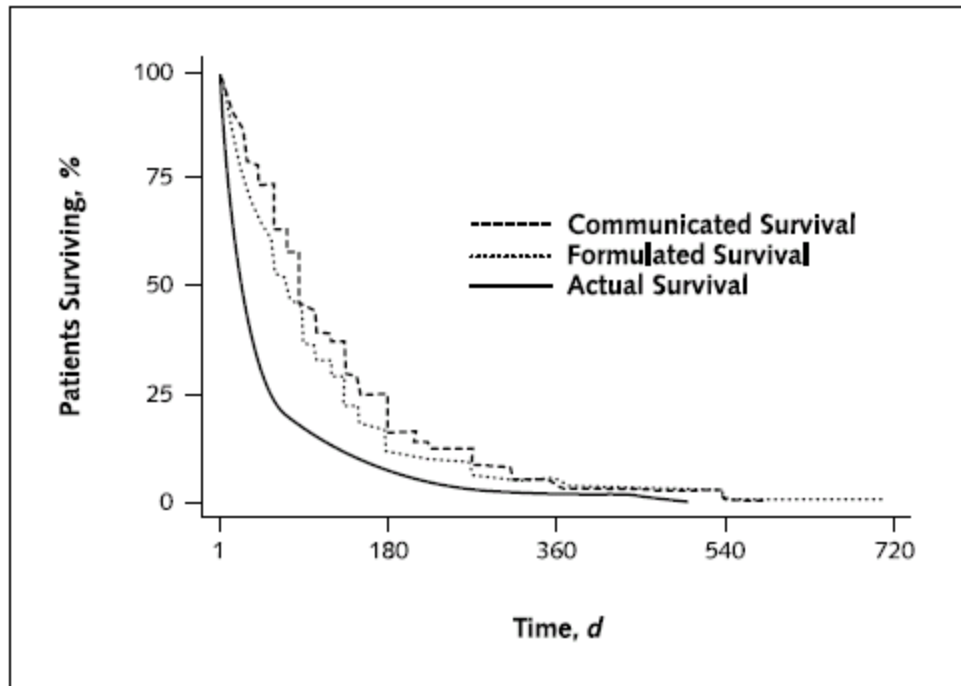
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Yun, JCO 22 (2) 2004

What do clinicians tell patients about their prognosis?



The differences between actual survival, formulated survival, and communicated survival in 300 terminally ill patients with cancer are shown. The median actual survival was 26 days, the median formulated survival was 75 days, and the median communicated survival was 90 days.

Median formulated
prognosis
75 days

Median communicated
prognosis
90 days

Median actual survival
26 days



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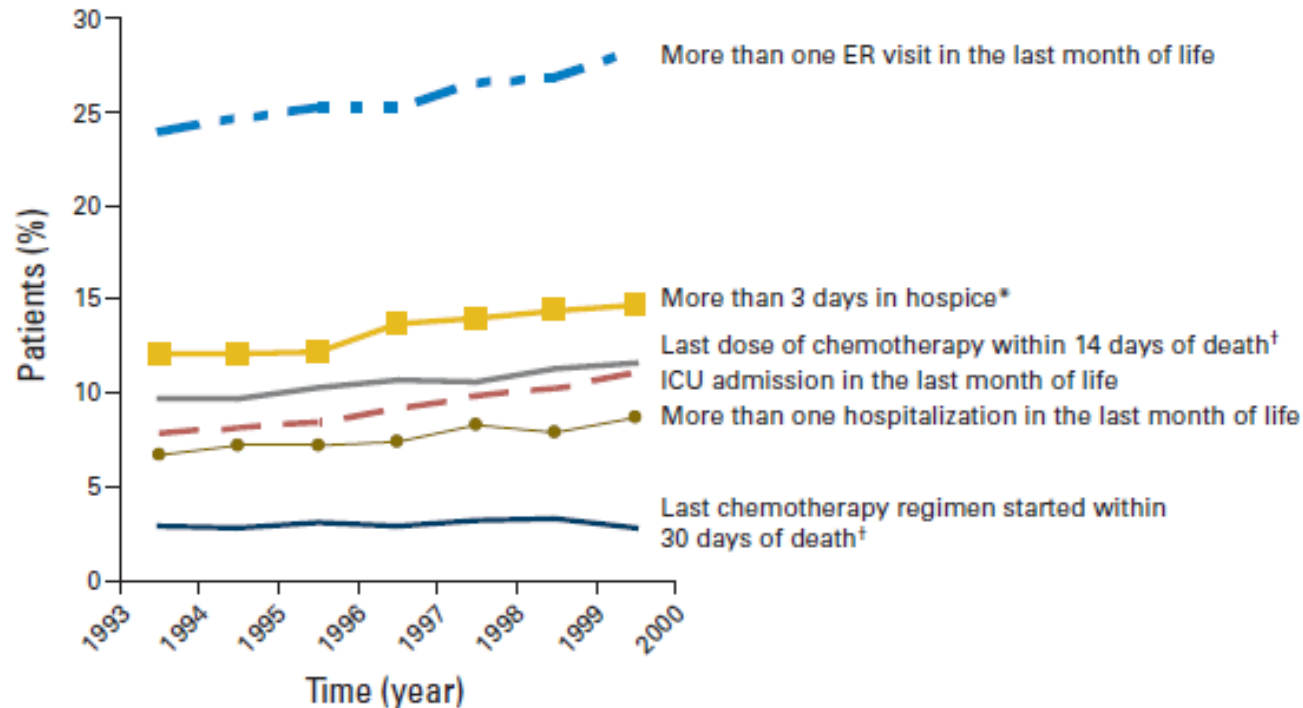
Lamont, Annals of Int Med 134 (12) 2001

What is the problem with patients having an overly optimistic prognosis?

- Patients with an overly optimistic perception of their prognosis are more likely to choose aggressive therapy and less likely to receive hospice care.
 - Patients who overestimated their chance of survival were:
 - 2.5 times more likely to receive life-extending therapy.
 - significantly less likely to have discussed hospice care.



Intensive or “Aggressive” Care Near the EOL



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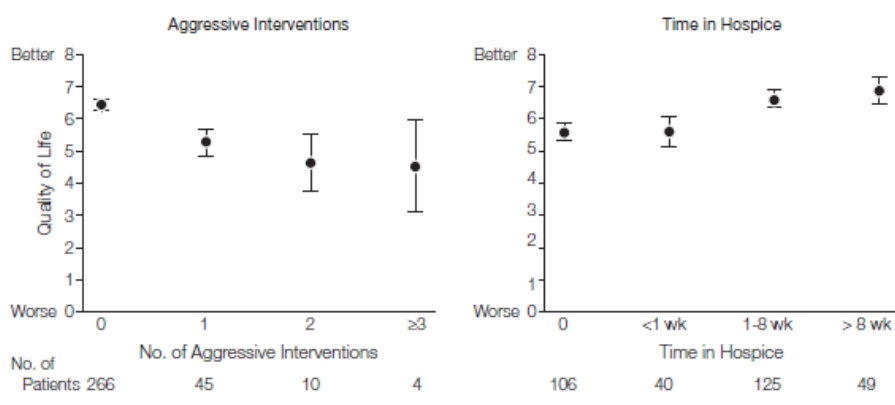
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Earle JCO 26 (23) 2008

Aggressive Care Near the EOL is.....Bad for Patients and their Family Caregivers

Patient QOL

Figure. Relationship Between Quality of Life and End-of-Life Care



Caregiver Outcomes

Caregiver Bereavement Outcomes	Aggressive Medical Care	
	Standardized β Coefficient ^a	P Value
Health-related quality of life ^b		
Overall	-0.15 ^{c,d}	.004
Self-reported health	-0.12 ^c	.04
Physical function	-0.10 ^{c,g}	.05
Mental health	-0.11 ^{c,i}	.06
Role limitation	0.17 ^{c,k}	.008
Change in health adjusted OR, (95% CI)	0.57 (0.29 to 1.11) ^c	.10
Grief reaction		
Felt prepared for death	-0.30 ^{c,l}	<.001
Regret	0.17	0.01
Mental disorders ^m		
Any mental disorder adjusted OR (95% CI)	2.25 (0.81 to 6.23) ^{c,n}	.12
Major depressive disorder adjusted OR (95% CI)	3.37 (1.12 to 10.13) ^{c,n}	.03



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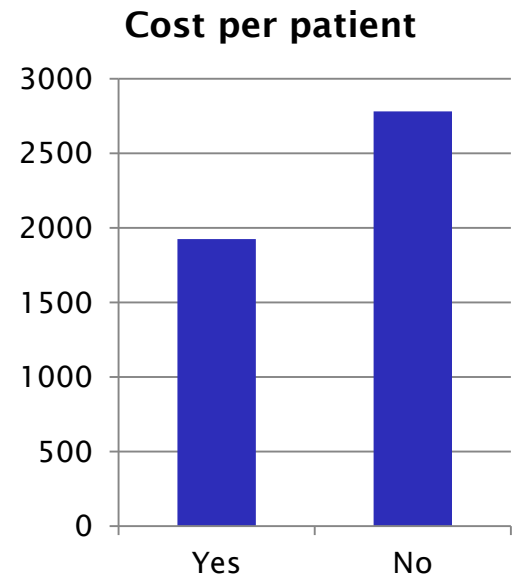
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Aggressive Care Near the EOL is...Costly

Variable	Discussed EOL Care Preferences With Physician		Adjusted Odds Ratio (95% Confidence Interval) ^a	P Value
	Yes (n=75)	No (n=70)		
Medical care received during the last week of life, No. (%)				
Intensive care unit stay	2 (2.7)	10 (14.3)	0.01 (0.02-0.60)	.01
Ventilator use	1 (1.3)	10 (14.3)	0.030 (0.002-0.300)	.005
Resuscitation	1 (1.3)	6 (8.6)	0.10 (0.02-1.30)	.09
Chemotherapy	4 (5.3)	7 (10.0)	0.5 (0.1-1.8)	.30
Inpatient hospice used	8 (10.7)	5 (7.1)	1.8 (0.5-6.5)	.34
Inpatient hospice stay ≥1 wk	4 (5.3)	2 (2.9)	3.7 (0.4-38.2)	.27
Outpatient hospice used	58 (77.3)	40 (57.1)	3.2 (1.5-6.9)	.004
Outpatient hospice stay ≥1 wk	52 (69.3)	34 (48.6)	2.5 (1.2-5.0)	.01
Place of death, No. (%) ^b				
Intensive care unit	2 (2.9)	9 (13.2)	0.10 (0.03-0.70)	.02
Hospital	15 (21.7)	18 (26.5)	0.7 (0.3-1.6)	.45
Inpatient hospice	5 (7.2)	3 (4.4)	1.9 (0.4-8.8)	.44
Home	47 (68.1)	38 (55.9)	1.3 (0.6-2.6)	.49



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Inpatient Palliative Care Consults Decrease Cost of Care

Table 4. Adjusted Costs for Live Discharges and Hospital Deaths

Cost	Live Discharges				Hospital Deaths			
	Usual Care (95% CI), \$	Palliative Care (95% CI), \$	Net Δ	P Value	Usual Care (95% CI), \$	Palliative Care (95% CI), %	Net Δ	P Value
Total costs admission	19 379 (18 984-19 773)	16 737 (15 546-17 927)	-2642	.02	37 391 (34 952-39 830)	30 494 (28 414-32 575)	-6896	.001
Total costs per day	1450 (1430-1470)	1171 (1082-1260)	-279	<.001	2468 (2332-2603)	1918 (1787-2050)	-549	<.001
Direct costs per admission	11 140 (10 884-11 395)	9445 (8761-10 126)	-1696	.004	22 674 (20 871-24 477)	17 765 (16 201-19 330)	-4908	.003
Direct costs per day	830 (815-846)	656 (588-723)	-174	<.001	1484 (1391-1577)	1110 (1029-1191)	-374	<.001
Laboratory costs	1227 (1185-1268)	803 (712-893)	-424	<.001	2765 (2443-3086)	1838 (1588-2088)	-926	<.001
ICU costs	7096 (5801-8390)	1917 (1646-2187)	-5178	<.001	14 542 (13 685-15 399)	7929 (7181-8676)	-6613	<.001
Pharmacy costs	2190 (2116-2265)	2001 (1821-2180)	-190	.12	5625 (4890-6361)	4081 (3530-4632)	-1544	.04
Imaging costs	890 (868-913)	949 (884-1014)	58	.52	1673 (1563-1782)	1540 (1433-1646)	-133	.21

What should try to achieve when designing supportive care interventions to improve quality of care?

1. Focus on patients in the ambulatory care setting
2. Allow patients to continue to receive cancer care and therapy
3. Provide relief from the physical and psychological symptoms
4. Enhance communication between patients and clinicians to improve decision-making
5. Provide more appropriate care at the EOL



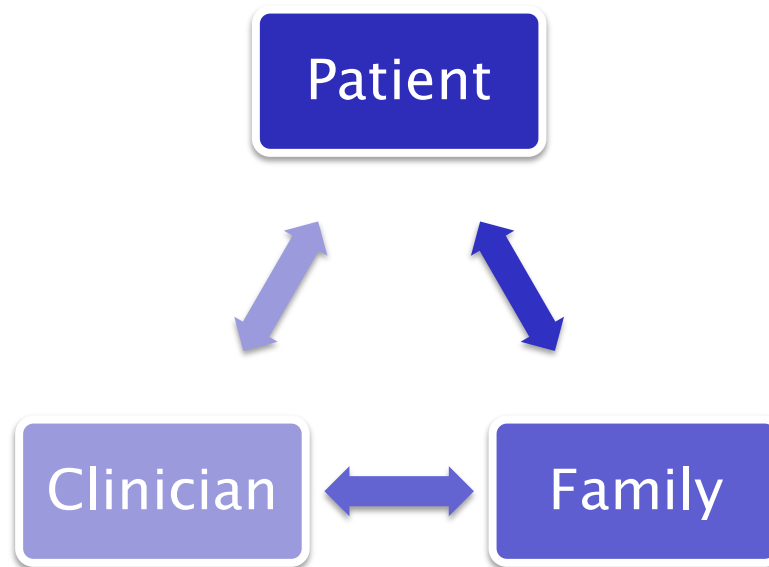
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Potential Targets for Supportive Care Interventions to Improve Quality of Care



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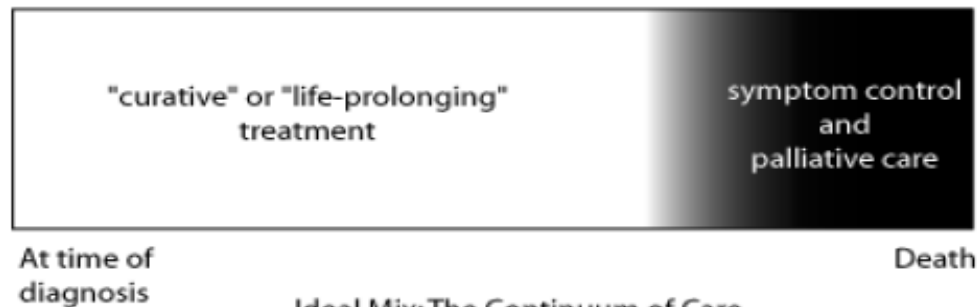


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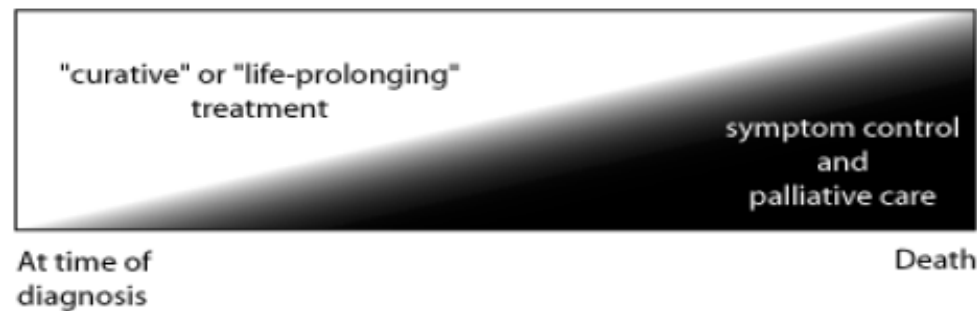
Integrating Palliative and Oncology Care

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

Prevalent Mix



Ideal Mix: The Continuum of Care



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Early, Integrated Palliative Care in Patients with Metastatic Lung Cancer

150 patients
with newly
diagnosed
metastatic
NSCLC

Early palliative
care integrated
with standard
oncology care

Standard
oncology care

Palliative Care Model

- ❖ Palliative care provided by physicians and nurse practitioners
- ❖ Visits scheduled a minimum of every 3 weeks
- ❖ Visits occurred in the Cancer Center (medical oncology, radiation oncology or chemotherapy visits)
- ❖ Oncology and palliative care visits were done in tandem or simultaneously
- ❖ Visits were not scripted or prescribed
- ❖ If patients were admitted to the hospital, they were followed by the palliative care team



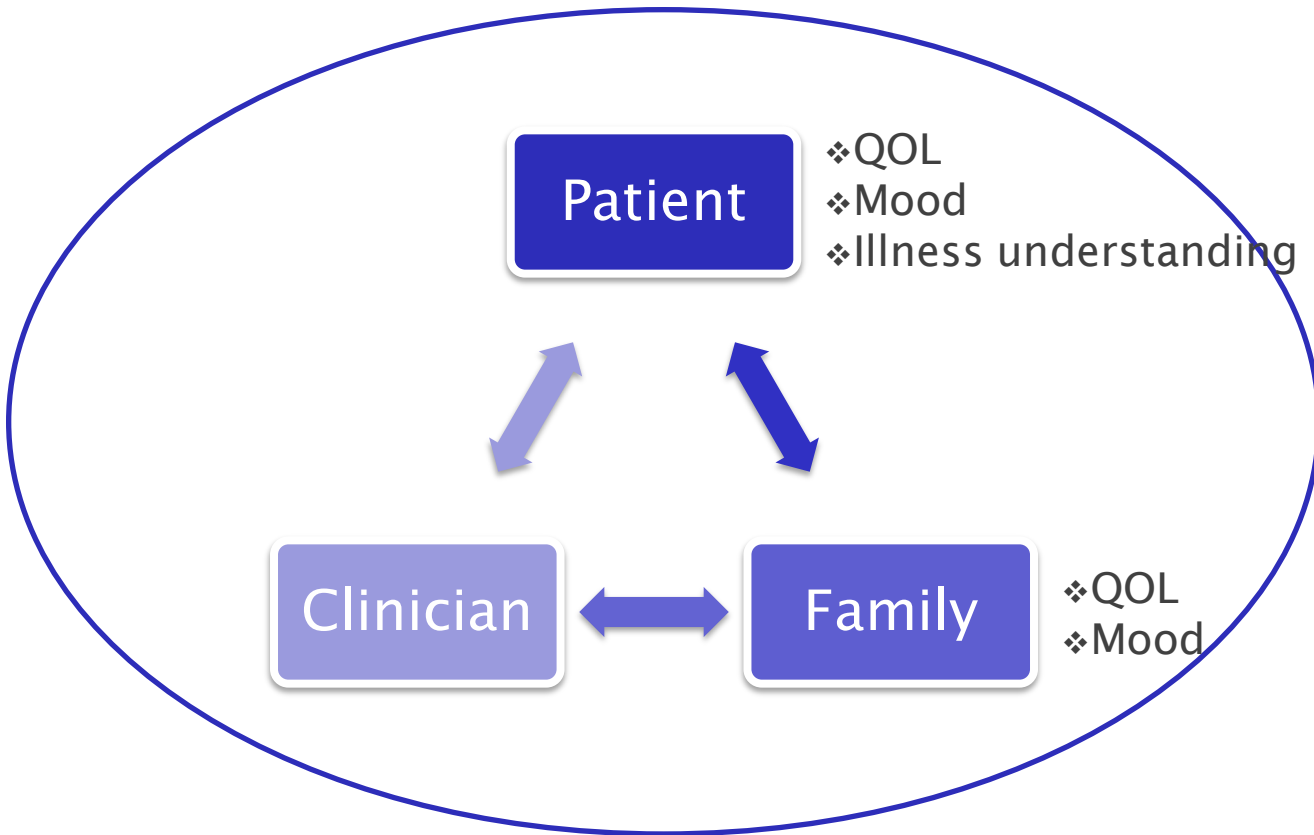
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Early Palliative Care Model



Resource Utilization

- ❖Chemotherapy administration
- ❖Hospice
- ❖Location of death



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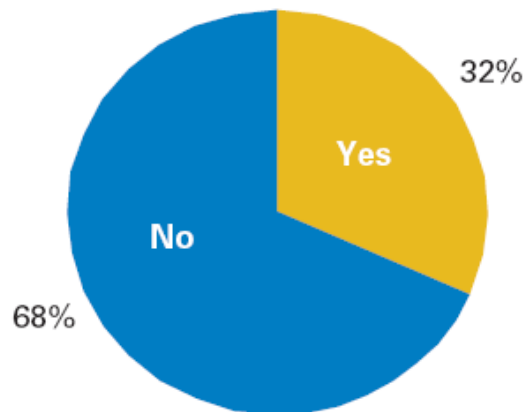
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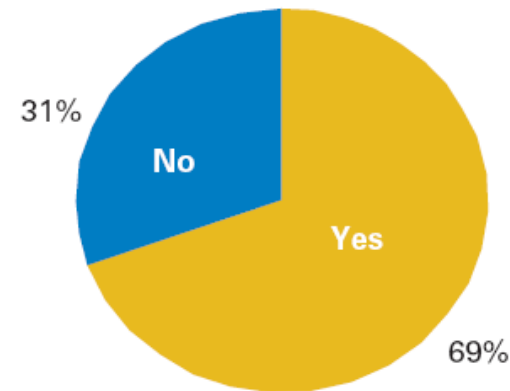
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Baseline Perceptions of Prognosis and Goals of Treatment

My cancer is curable



Goal of therapy is to get rid of all cancer



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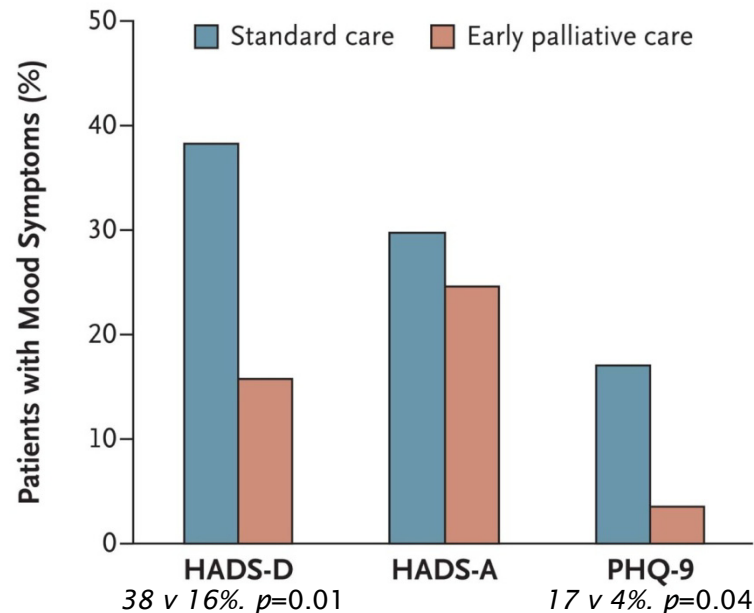


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Temel JCO 29 (17) 2011

Impact of Early Palliative Care on Patient Reported Measures

Variable	Standard Care (N=47)	Early Palliative Care (N=60)	Difference between Early Care and Standard Care (95% CI)	P Value†	Effect Size‡
FACT-L score	91.5±15.8	98.0±15.1	6.5 (0.5–12.4)	0.03	0.42
LCS score	19.3±4.2	21.0±3.9	1.7 (0.1–3.2)	0.04	0.41
TOI score	53.0±11.5	59.0±11.6	6.0 (1.5–10.4)	0.009	0.52



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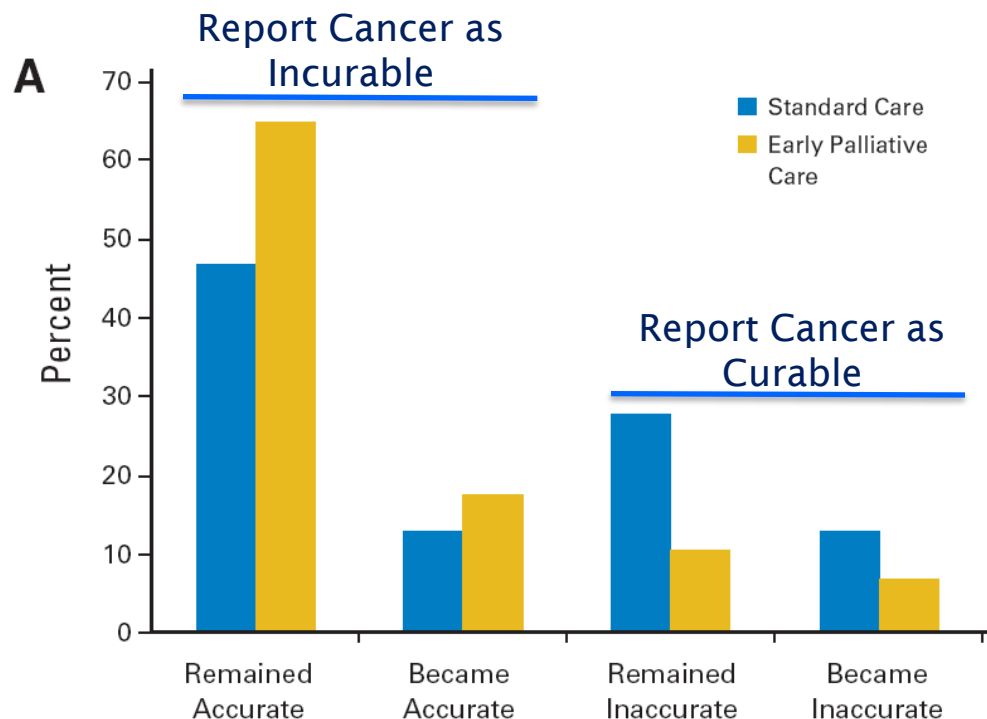
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Temel NEJM 363 (8) 2010

Changes Over Time in Perceptions of Prognostic Understanding



Palliative care v standard care
82.5% v 59.6%, $p=0.02$



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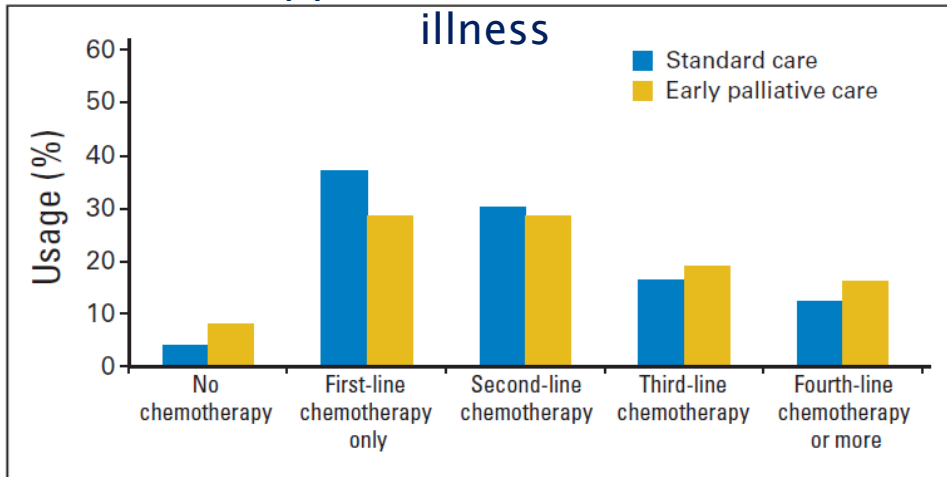


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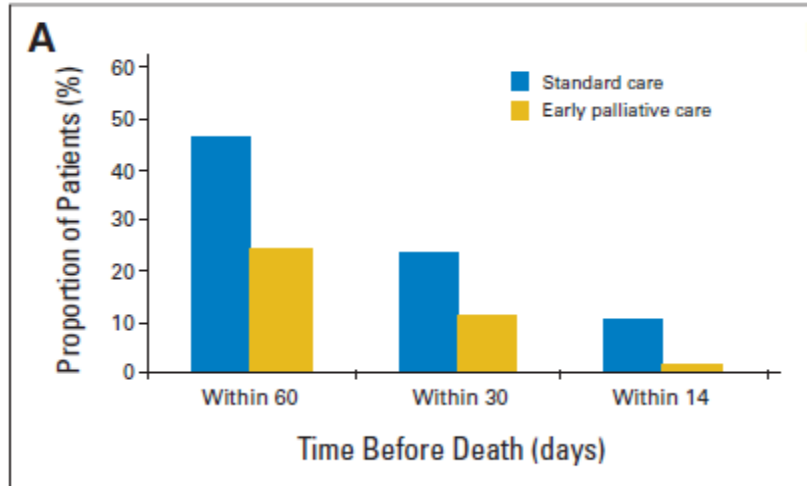
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Chemotherapy Utilization

Chemotherapy utilization over the course of illness



Chemotherapy utilization near the EOL



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Greer, JCO 30 (4) 2012

Resource Utilization

Variable	Standard Care N (%) or Median	Early Palliative Care N (%) or Median	P- Value
Hospice Care			
Received hospice care	44/67 (66)	44/62 (71)	0.57
Received hospice care > 7 days before death	21/63 (33)	36/60 (60)	0.004
Median days on hospice	9.5 (1-268)	24 (2-116)	0.02
Location of Death			
Home	36/66 (55)	40/61 (66)	0.28
Inpatient hospice	13/66 (20)	9/61 (15)	0.49
Hospital/nursing home/rehabilitation facility	17/66 (26)	12/61 (20)	0.53



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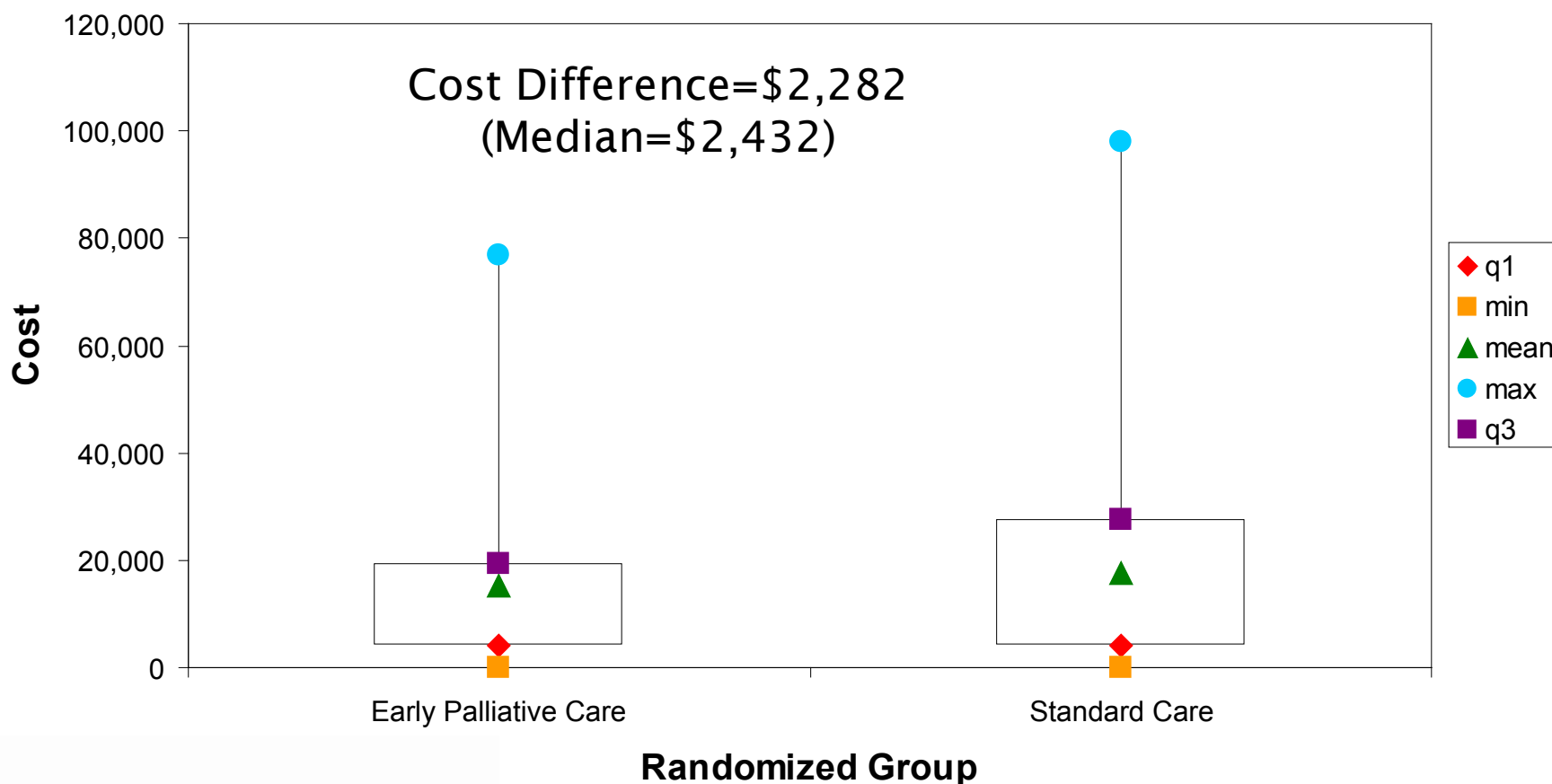


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Greer, JCO 30 (4) 2012

Impact of Early Palliative Care on Health Care Costs at the EOL

Total Health Care Costs During Last 30 Days of Life

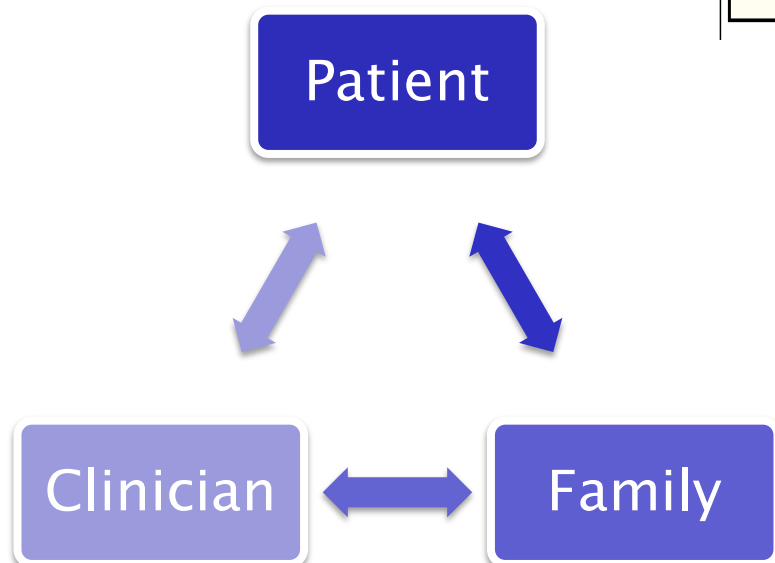


Costs at End of Life by Category

	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

Targeting Clinicians

SOUNDING BOARD



Bending the Cost Curve in Cancer Care

Thomas J. Smith, M.D., and Bruce E. Hillner, M.D.

IMPORTANCE OF END-OF-LIFE DISCUSSIONS

We also drive up costs and provide poorer care as a result of what we fail to do: engage in discussions about the possibility of death, end-of-life choices, and ways patients make the transition to the prospect of dying. In a study at our institution of 75 hospitalized patients with cancer, the oncologist had initiated a discussion of advance directives with only 2 patients.³¹ In a prospective, multicenter study of 360 patients, only 37% of the patients and their families could recall having a discussion about impending death with the physician.³² Such a discussion is a prerequisite to good planning. Oncologists wait until symptoms appear or until they believe that nothing more can be done.³³ In one study, at 2 months before their death, half the patients with metastatic lung cancer had not had a discussion with their doctors about hospice.³⁴ This may explain why in a recent series the average length of stay in hospice for patients with lung cancer was 4 days.³⁵



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Can we alter oncologists behavior to initiate EOL discussions?

❖ Intervention based upon the theory of academic detailing to improve clinician decision-making and practice behaviors



Email most acceptable

Sent early in the course of disease

Succinct and clearly identify patient

Contain minimal clinical information

Sent close to the time of visit



First email sent morning of first outpatient appointment after signing consent

Subsequent emails sent morning of first outpatient appointment following start of new line of therapy

Emails sent to attending MD and all others scheduled to see patient (fellow or nurse practitioner)



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Temel, JCO in press 2012

Rate of Code Status Documentation

Variable	Email Prompt Cohort N (%)	Historical Cohort N (%)	p-value	OR (95% CI)
Code status documented in outpatient setting	33/98 (33.7)	12/83 (14.5)	.003	3.00 (1.43, 6.31)
Full Code	4/98 (4.1)	2/83 (2.4)	.69	1.72 (0.31, 9.66)
DNR/DNI	29/98 (29.6)	10/83 (12.0)	.006	3.07(1.39, 6.76)
Code status documented in inpatient setting	2/100 (2.0)	13/100 (13.0)	.005	0.14(0.03, 0.62)



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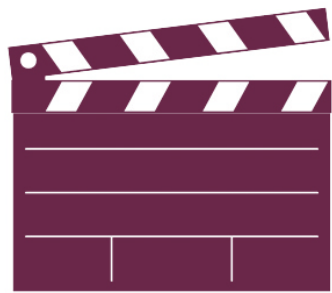
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Temel, JCO in press 2012

Targeting Patients



Clinician

e 3 minute video of CPR:
Developed and edited
with an expert panel
of oncologists,
intensivists, decision
making experts,
patients and families,

Even when discussions regarding
intitation preferences are initiated,
they are often ineffective due to poor
communication and patients' lack of
sufficient medical knowledge to engage in
decisions.

year

of CPR



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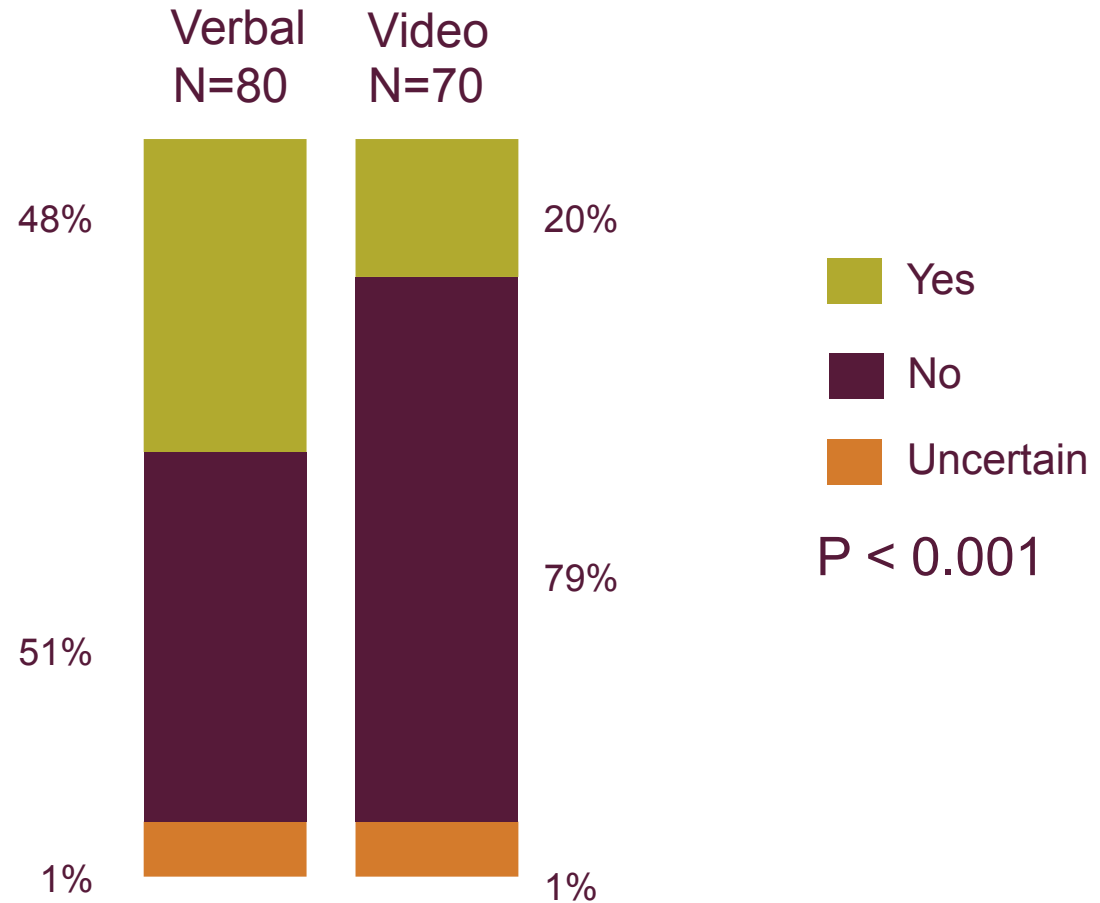
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Volandes, ASCO 2012

Patient Preference for CPR



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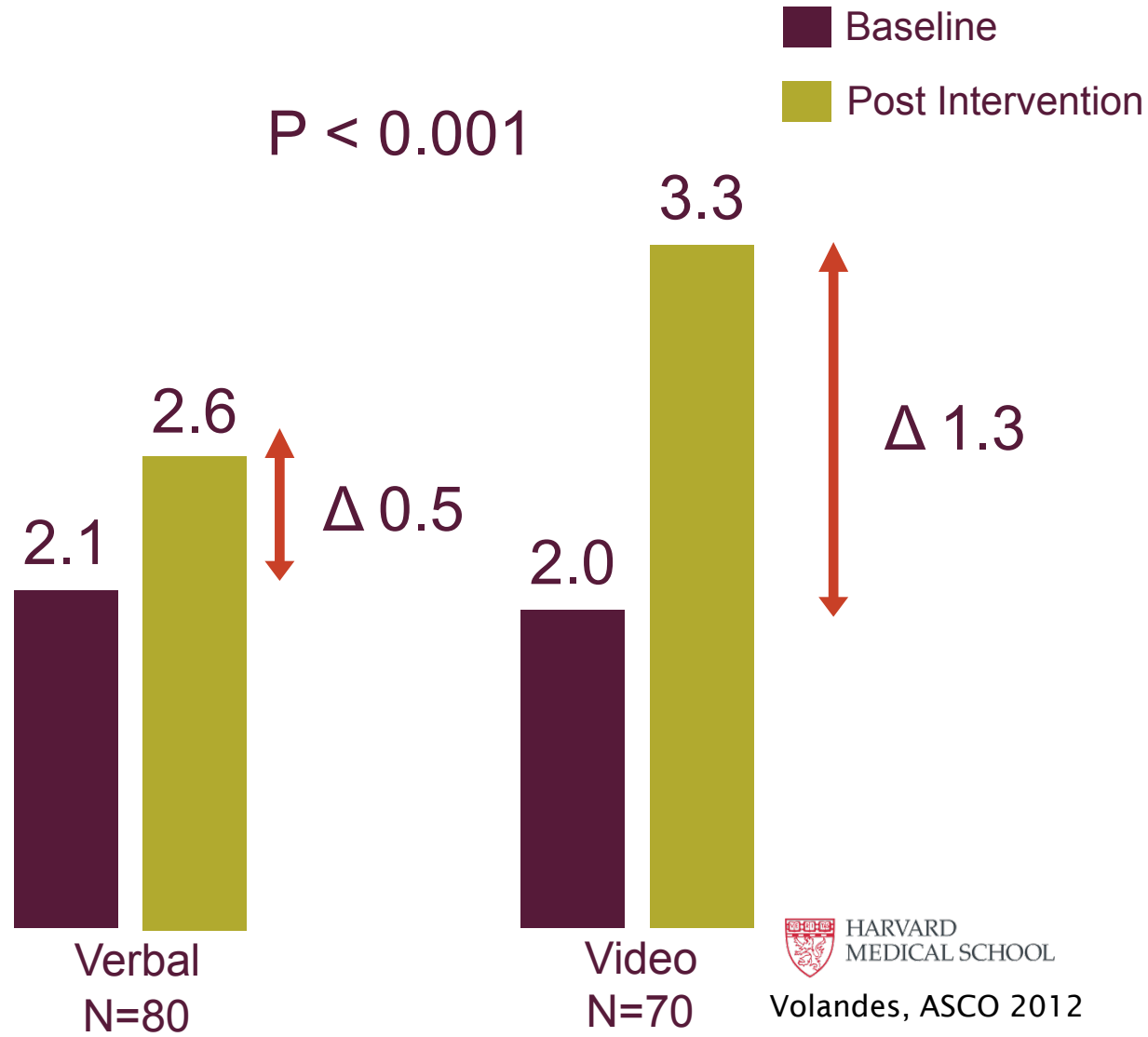
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Knowledge Regarding CPR

4 Questions:

1. Definition of CPR
2. Chance of survival after CPR
3. Complications from CPR
4. Chance of leaving hospital after CPR



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Volandes, ASCO 2012

Summary

- Novel models of care targeting health care delivery systems, clinicians and patients can alter patterns of care to:
 - Decrease resource utilization
 - Increase rates of EOL care discussions and documentation
 - Enhance patients perception/ knowledge regarding interventions near the EOL
- Further research to investigate the impact of these interventions on the cost of cancer care is warranted.
- Thank you to the Thoracic Oncology Team and Patients and the Supportive Care Research Group at MGH
- Support provided by:
 - Conquer Cancer Foundation
 - American Cancer Society
 - National Institutes of Nursing Research
 - Golf Fights Cancer
 - The Joanne Hill Monahan Fund



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