

**ASSOCIATIONS BETWEEN PSYCHOSOCIAL
ATTRIBUTES OF PATIENTS AND ONCOLOGISTS WITH
POTENTIALLY INAPPROPRIATE INTERVENTIONS AT
THE END OF LIFE: SECONDARY ANALYSES OF VOICE**

PAUL DUBERSTEIN, JOSHUA FENTON, RICHARD KRAVITZ, RONALD
EPSTEIN

April 9 2018
Lown 2018
Washington, D.C.

Contested Arena, Contested Language

- When asked in public opinion polls, most individuals state they prefer to die peacefully at home, but many die in hospitals shortly after receiving treatments described as *inappropriate, futile, potentially burdensome, potentially avoidable, intensive, unduly intensive, aggressive, and somewhat emblematic of aggressive end-of-life care*.
- End-of-life (EoL) care is a contested arena, and so is the language used to describe that care.
- In this talk, I use the term potentially inappropriate interventions (PIIs) to refer to chemotherapy use, hospitalizations, emergency department (ED) visits and lack of timely hospice enrollment.

Problem: Potentially Inappropriate Interventions

↑ Healthcare costs

↓ Patient quality of life

↓ Caregiver bereavement
course

↑ Clinician moral distress

Decreasing PII – An Elusive Goal

- There have been numerous calls to improve end-of-life (EoL) care by decreasing PII.
- Beginning with the SUPPORT study (1995), it has been assumed that education and support might be sufficient.
- It is now becoming clear that psychological factors might also be relevant.

Brief Pivot

Back to 1968

Victor Fuchs (1968)

NEJM—Growing Demand for Medical Care

- Fuchs hinted that psychological factors might play a nontrivial role in the provision of technologically intensive health care.
- Argued that health care was one of only two sectors of the economy where “technologists have so much control over demand.” The only other sector was “the military in time of total war.”
- By drawing an analogy between medicine and the military, Fuchs seemed to quietly imply that the prospect of annihilation (i.e., death anxiety) leads fiscal policymakers to abandon otherwise widely-accepted economic principles.

Victor Fuchs (1968)

NEJM—Growing Demand for Medical Care

- Fuchs' paper *could* have stimulated research on the role of emotions (death anxiety, anxiety) in medical spending
- It didn't.
- There has been no programmatic research on patient and clinician emotions (or psychosocial attributes more broadly) and medical spending or health service utilization.

Need for Good (Psychological) Data

- Psychology and economics have largely remained siloed disciplines, but behavioral economics is gaining traction in medicine
- Mounting data show that PII are associated with psychological factors
 - physician organizational factors (local norms, local habits and customs)
 - patient's treatment preferences
 - patients psychosocial attributes (e.g., religious beliefs, emotion)
 - physician attitudes about particular interventions

36 percent of spending on end of life (EOL) treatments can be explained by “physician beliefs unsupported by clinical evidence.”

Cutler, D., Skinner, J., Stern, A.D., & Wennberg, D. (2013). Physician beliefs and patient preferences: A new look at regional variation in health care spending. National Bureau of Economic Research.

Need for Good (Psychological) Data

- Studies of PIIS have examined either patient attributes or physician attributes
- No prior study has simultaneously examined psychosocial characteristics of patients and oncologists

Values and Options In Cancer Care

R01 CA140419

PIs: R.M. Epstein, MD (U Rochester)

R.L. Kravitz, MD, MSPH (U California-Davis)

J. J. Fenton, MD, MPH (U California-Davis)

VOICE Caregiver Study

R01 CA168387

PIs: P.R. Duberstein, PhD (U Rochester)

H.G. Prigerson, PhD (Weill-Cornell)

The trial is registered with ClinicalTrials.gov (NCT01485627).

Aims of VOICE R01s

- Determine whether a multi-component intervention for oncologists, patients and caregivers improves:
 - communication
 - patient QOL prior to death
 - PIIIs
 - caregiver mental health outcomes following patient death
 - caregiver physical health

Research

JAMA Oncology | Original Investigation

Effect of a Patient-Centered Communication Intervention on Oncologist-Patient Communication, Quality of Life, and Health Care Utilization in Advanced Cancer The VOICE Randomized Clinical Trial

Ronald M. Epstein, MD, Paul R. Duberstein, PhD, Joshua J. Fenton, MD, MPH, Kevin Fiscella, MD, MPH, Michael Hoerger, PhD, Daniel J. Tancredi, PhD, Guibo Xing, PhD, Robert Gramling, MD, DSc, Supriya Mohile, MD, MS, Peter Franks, MD, Paul Kaesberg, MD, Sandy Plumb, BS, Camille S. Cipri, BS, Richard L. Street Jr, PhD, Cleveland G. Shields, PhD, Anthony L. Back, MD, Phyllis Butow, PhD, MPH, Adam Walczak, PhD, Martin Tattersall, MD, ScD, Alison Venuti, BS, Peter Sullivan, MSW, Mark Robinson, MSW, Beth Hoh, MSW, Linda Lewis, RN, Richard L. Kravitz, MD, MSPH

Supplemental content

IMPORTANCE Observational studies demonstrate links between patient-centered communication, quality of life (QOL), and aggressive treatments in advanced cancer, yet few randomized clinical trials (RCTs) of communication interventions have been reported.

OBJECTIVE To determine whether a combined intervention involving oncologists, patients with advanced cancer, and caregivers would promote patient-centered communication, and to estimate intervention effects on shared understanding, patient-physician relationships, QOL, and aggressive treatments in the last 30 days of life.

DESIGN, SETTING, AND PARTICIPANTS Cluster RCT at community- and hospital-based cancer clinics in Western New York and Northern California; 38 medical oncologists (mean age 44.6 years, 11 [29%] female) and 265 community-dwelling adult patients with advanced nonhematologic cancer participated (mean age, 64.4 years, 146 [55.0%] female, 235 [89%] white, enrolled August 2012 to June 2014; followed for 3 years); 194 patients had participating caregivers.

INTERVENTIONS Oncologists received individualized communication training using standardized patient instructors while patients received question prompt lists and individualized communication coaching to identify issues to address during an upcoming oncologist visit. Both interventions focused on engaging patients in consultations, responding to emotions, informing patients about prognosis and treatment choices, and balanced framing of information. Control participants received no training.

MAIN OUTCOMES AND MEASURES The prespecified primary outcome was a composite measure of patient-centered communication coded from audio recordings of the first oncologist visit following patient coaching (intervention group) or enrollment (control). Secondary outcomes included the patient-physician relationship, shared understanding of prognosis, QOL, and aggressive treatments and hospice use in the last 30 days of life.

RESULTS Data from 38 oncologists (19 randomized to intervention) and 265 patients (130 intervention) were analyzed. In fully adjusted models, the intervention resulted in clinically and statistically significant improvements in the primary physician-patient communication end point (adjusted intervention effect, 0.34; 95% CI, 0.06-0.62; $P = .02$). Differences in secondary outcomes were not statistically significant.

CONCLUSIONS AND RELEVANCE A combined intervention that included oncologist communication training and coaching for patients with advanced cancer was effective in improving patient-centered communication but did not affect secondary outcomes.

TRIAL REGISTRATION clinicaltrials.gov Identifier: NCT01485627

JAMA Oncol. doi:10.1001/jamaoncol.2016.4373
Published online September 9, 2016.

Author Affiliations: Author affiliations are listed at the end of this article.

Corresponding Author: Ronald M. Epstein, MD, Center for Communication and Disparities Research, Department of Family Medicine, University of Rochester Medical Center, 1381 South Ave, Rochester, NY 14620 (ronald.epstein@urmc.rochester.edu).

JAMA Oncology

RM Epstein, PR Duberstein, JJ Fenton, et al

Effect of a Patient-Centered Communication Intervention on Oncologist-Patient Communication, Quality of Life, and Health Care Utilization in Advanced Cancer: The VOICE Randomized Clinical Trial

Published online September 9, 2016

Available at jama.com and on The JAMA Network Reader at mobile.jamanetwork.com

Main VOICE Findings

- The VOICE intervention improved communication between oncologists and patients/caregivers, but had no statistically significant effects on on patient quality of life or PII.
- (Caregiver outcomes data are currently being analyzed.)

The Sample

Oncologist Eligibility

- Four community-based cancer clinics, three academic medical centers, and three community hospitals in Western New York and Sacramento, CA.
- Oncologists were eligible if they treated non-hematologic malignancies within the study facilities and were not planning to move out of the area.

Patient Eligibility

Goal: identify patients with median life expectancy of 9-12 months

- **INCLUSION**

- Oncologist has consented to participate
- Age 21 years or older
- Stage IV solid (non-hematological) cancer
- Stage III patients were eligible if oncologist “would not be surprised” if the patient died within 12 months.

- **EXCLUSION**

- Anticipating bone marrow transplantation or dx with hematologic cancer
- Unable to complete orally-administered surveys in English
- Hospitalized or in hospice care

The Assessments

Secondary Analyses

Independent Variables (Patient-reported)

- At study entry, patients were provided with a hypothetical scenario and asked about their treatment preferences. *“If your cancer doctor advised you that there is no further anti-cancer treatment available that would be helpful, which of the following would you want?”*
- *Experimental treatments – such as experimental chemotherapy with unknown benefit for your disease*
- *Life support – a breathing machine, a tube for feeding or electric shock to the heart*
- *Palliative care – which is comfort care, focus on quality of life but not cure*

Independent Variable (Oncologist-reported)

- At study entry, oncologists were administered a modified version of the Control Preference Scale.
- *Physicians have varying levels of comfort making decisions about treatments with their patients... Overall, how comfortable would you feel if a patient requested that you make decisions using all that is known about the treatments.*
- Response options ranged from 1 (Not at all Comfortable) to 5 (Very Comfortable).
- Higher scores were presumed to reflect greater comfort with medical paternalism.

Dependent Variable --Potentially Inappropriate Interventions, Last 30 Days

	Criteria	Scoring
Chemotherapy	Initiation or continuation of IV or oral chemotherapy, excluding hormonal therapy	<ul style="list-style-type: none">• ≤ 14 days of death (2 points)• 15-30 days (1 point)• not at all (0 points)
Emergency department or hospital admission	Admission to Emergency Department or any unit in hospital except a palliative/hospice unit	<ul style="list-style-type: none">• more than two (2 points)• two (1 point)• none or one (0 points)
Hospice	Hospice enrollment	<ul style="list-style-type: none">• Dichotomous (Yes/No)

Results

Covariates	Mortality Status	
	Deceased N=151	Alive N=114
Randomization arm, n (%)		
Intervention	71 (47%)	59 (52%)
Control	80 (53%)	55 (48%)
Site, n (%)		
Sacramento, CA	38 (25%)	56 (49%)
Western NY	113 (75%)	58 (51%)
Breast cancer oncologist, n (%)		
No	126 (83%)	92 (81%)
Yes	25 (17%)	22 (19%)
Cancer aggressiveness, n (%)		
Aggressive	89 (59%)	44 (39%)
Less aggressive	62(41%)	70 (61%)

More Covariates	Mortality Status	
	Deceased N=151	Alive N=114
Patient age, mean (SD)	65.2 (10.6)	63.2 (12.2)
Gender, n (%)		
Male	69 (46%)	50 (44%)
Female	82 (54%)	64 (56%)
Patient education, n (%)		
HS or less	44 (29%)	29 (25%)
Some college or more	107 (71%)	85 (75%)

INDEPENDENT VARIABLES	Mortality Status	
	Deceased N=151	Alive N=114
Oncologist comfort with medical paternalism	3.2 (1.2)	3.3(1.1)
Patient prefers exper'l treatments, n (%)		
Yes	50 (33%)	32 (28%)
No	101 (67%)	81 (71%)
Patient prefers life support, n (%)		
Yes	18 (12%)	12 (11%)
No	133 (88%)	102 (89%)
Patient prefers palliative care, n (%)		
Yes	138 (91%)	110 (96%)
No	13 (9%)	4 (4%)

Multivariate Regressions

	Chemotherapy	ED/ Hospital Admissions	Hospice Admission
Patient prefers experimental treatments	.207 (.087)	-.004 (.075)	-.349 (.397)
Oncologist comfort with paternalism	.070 (.035)	.058 (.026)	-.135 (.188)
Patient prefers life support	-.108 (.161)	-.077 (.116)	-.042 (.423)
Oncologist comfort with paternalism	.080 (.036)	.059 (.026)	-.150 (.180)
Patient does not prefer palliative care	-.176 (.098)	-.070 (.102)	-1.705 (1.303)
Oncologist comfort with paternalism	.079 (.037)	.059 (.026)	-.165 (.196)

Standardized effect sizes of oncologist comfort with paternalism ranged from .21 to .26.

Effect Sizes, Luck, and Ethics

- Standardized effects of physician comfort with medical paternalism (.21 to .26) quantify variation in EoL care (chemotherapy, hospital stays) attributable to oncologists' responses to a hypothetical patient who requests that the oncologist make decisions about treatments.
- Wilkinson and Truog (2013) have written about the “luck of the draw”
 - The general idea is that patients are “assigned” to particular physicians by a stochastic process, i.e., chance.
 - Even in the outpatient setting, patients are often assigned to physicians based on availability and sub-sub specialization (e.g., in a particular type of cancer) rather than patient choice.
 - The “luck of the draw” poses ethical dilemmas because effect sizes reported here and elsewhere (Cutler et al., 2013) are not ignorable.

Clinical Implications

- Our preliminary findings do not call for a particular type of intervention to modify PIIIs.
- However, the findings do suggest a need to move away from information-intensive interventions toward interventions that recognize the fundamental role of emotions and ethical attitudes (i.e. comfort with medical paternalism) in EoL care.

Limitations

- Generalizability is limited by the cohort, which was relatively small for utilization research, disproportionately white, relatively well-educated, and comprised of patients and oncologists in NY and CA who were willing to enter a clinical trial to improve communication.
- The parent VOICE trial was not designed or powered to examine risk markers for PIIIs
- Findings cannot be presumed to generalize to patients with hematological cancers.

Conclusion

- Physician comfort with medical paternalism and patient preference for experimental treatments were independently associated with receipt of chemotherapy at the EoL. Patients of physicians who report being very comfortable with paternalism were more likely to use other costly services.
- Interventions to modify PIIIs will be more successful when they address the core emotions and ethical attitudes that are presumed to underlie patient preference for experimental treatments and physician comfort with medical paternalism.

Thanks

- To the patients, caregivers, and physicians who participated in the study, the NIH, the University of Rochester Department of Psychiatry Hendershot Endowment, dedicated study staff (Sandra Plumb, Martha Tuttle, and Camille Cipri) and our research assistants.

Collaborators

- **University of Rochester**

- Benjamin Chapman
- Susan Ladwig
- Supriya Mohile
- Sally Norton
- Marsha Wittink

- **Tulane University**

- Michael Hoerger

- **UC– Davis**

- Daniel Tancredi
- Guibo Xing

- **Weill Cornell**

- Paul Maciejewski
- Holly Prigerson