



The ROI of Palliative Care

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March 22, 2104

Purpose

- ▶ Provide the evidence and tools to develop the most effective palliative care program possible

Palliative Care Financial Return on Investment

$$\text{ROI} = \frac{\text{Return} - \text{Program Cost}}{\text{Program Cost}}$$

Learning objectives

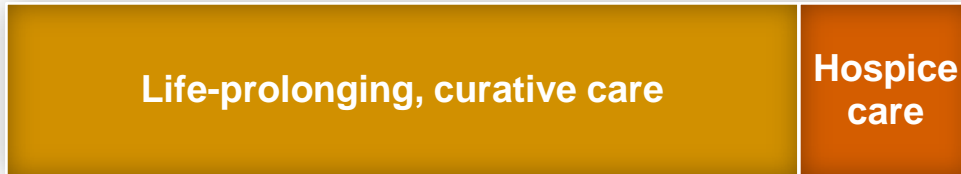
- Total return = financial return + other improved outcome(s)
- Financial return = cost avoidance + additional revenue
- Other outcomes = impacts on patients/family/staff

Measuring
the value of
palliative care



The new paradigm of palliative care

Traditional, delayed advanced care model



Advanced illness prognosis

Delayed palliative care can result in patient anxiety, increased readmits and lower quality of life.

Proactive advanced care model



Advanced illness prognosis

Providers proactively meet with patients to reduce anxiety, depression and hospital readmits, while increasing quality and even quantity of life.

What is palliative care, really?

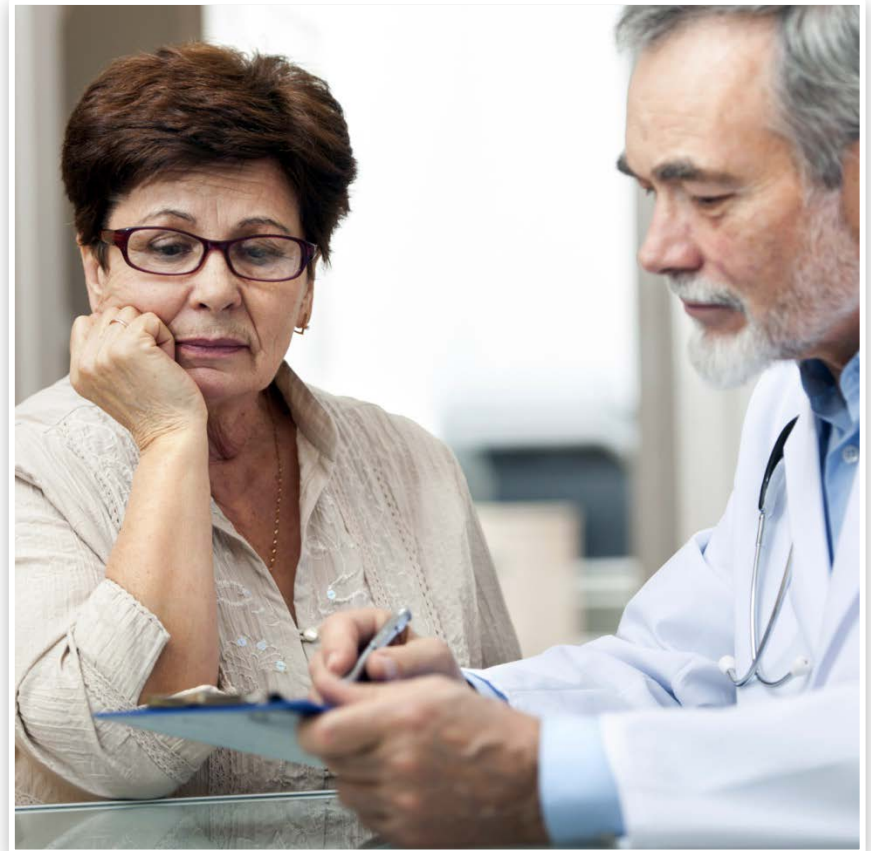
An “extra layer of support” for those facing serious illness, appropriate at any time in the care of a serious illness

Three essential processes:

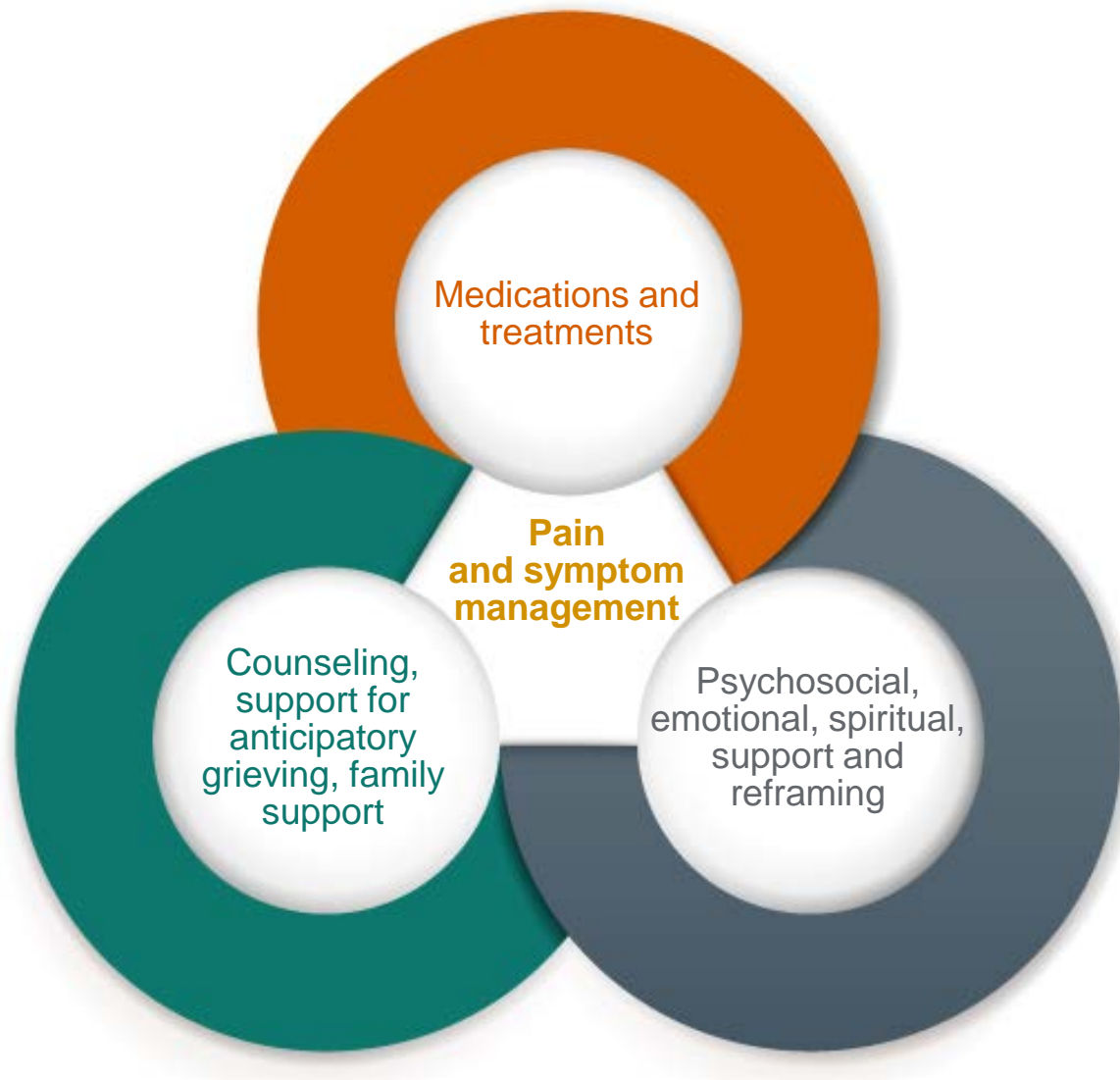
1. Pain and symptom management
2. Goals of care alignment
3. Care coordination

Three essential models:

1. Consultation
2. Co-management
3. Comprehensive care coordination



Pain and symptom management



Aligning goals of care with care delivered

Patient level interventions

Patient engagement: Shared decision making empowerment to understand trajectory of illness, goals of care clarification and realistic treatment options with burdens and benefits

Health system interventions

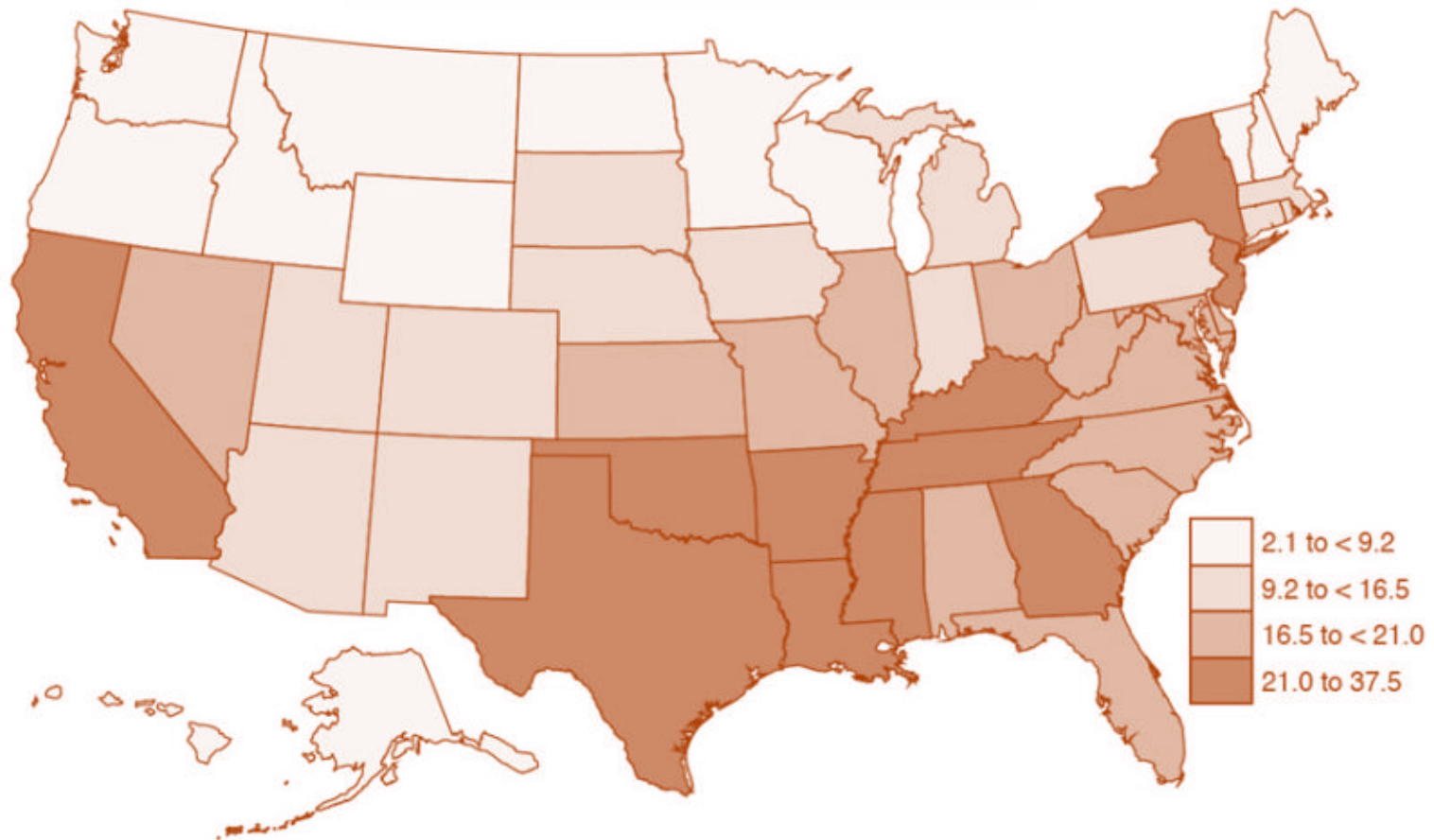
- Communication and coordination of care with specialists and PCPs
- Medication reconciliation
- POLST/advance directives systems

Community interventions

- Community POLST/MOLST efforts
- The Conversation Project and related
- Technology: prepare for your care
- Respecting Choice

Burdensome transitions during last three months of life

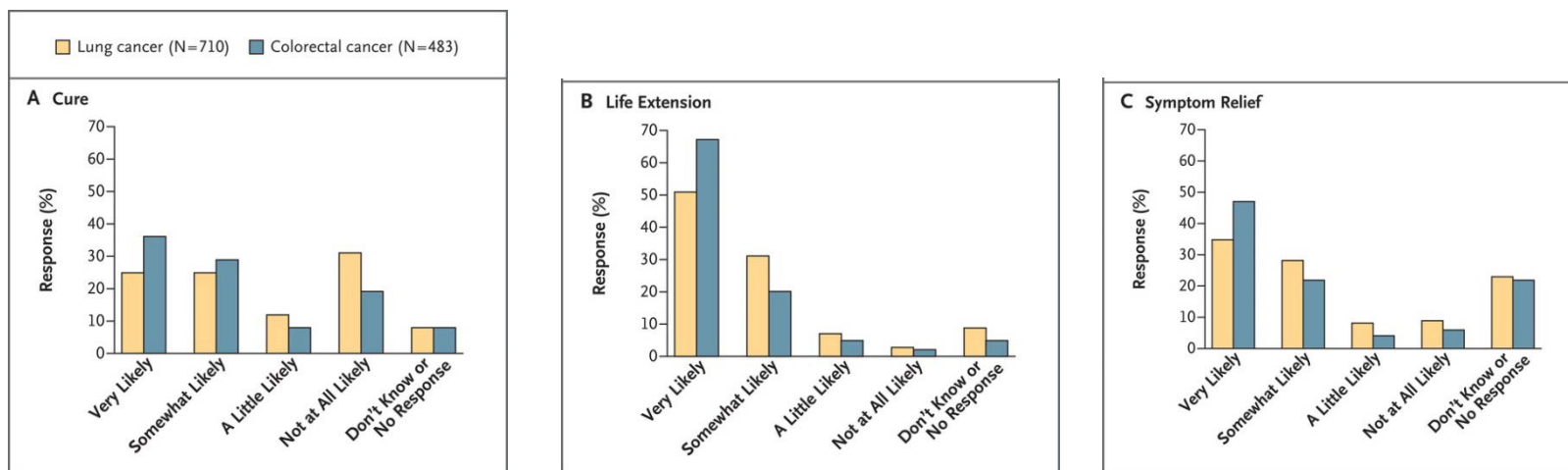
An estimated 19% of nursing home patients with advanced dementia experience a burdensome transition — often transfer to another nursing home or an unnecessary hospitalization



Map credit: Brown University. Dementia Patients Face Burdensome Transitions in Last 90 Days, Science Daily, September 29, 2011.
Retrieved online: <http://www.sciencedaily.com/releases/2011/09/110928180400.htm>

Patients have lack of understanding about Medical Care

Responses to questions about the likelihood that chemotherapy will have an effect, according to the type of effect and diagnosis



A majority of patients with these incurable diseases stated they believed that their chemotherapy would cure them

Association of end-of-life conversations with clinical outcomes

1

No change in
depression or anxiety

2

Earlier hospice
enrollment
(66% vs. 45%)

3

Lower rate of CPR
(0.8% vs. 6.7%)

4

Longer hospice with
better quality of life
(6.9 vs. 5.6)

5

Lower rate
of ventilation
(1.6% vs. 11%)

6

Less aggressive care
=
better quality of life
(6.4 vs. 4.6)

7

ICU admission
(4.1% vs. 12.4%)

8

Better quality of life
with improved
caregiver outcomes

Wright, AA et al, "Association between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment, JAMA. 2008;300(14): 1665–1673.

Ongoing care coordination

Ongoing patient engagement:

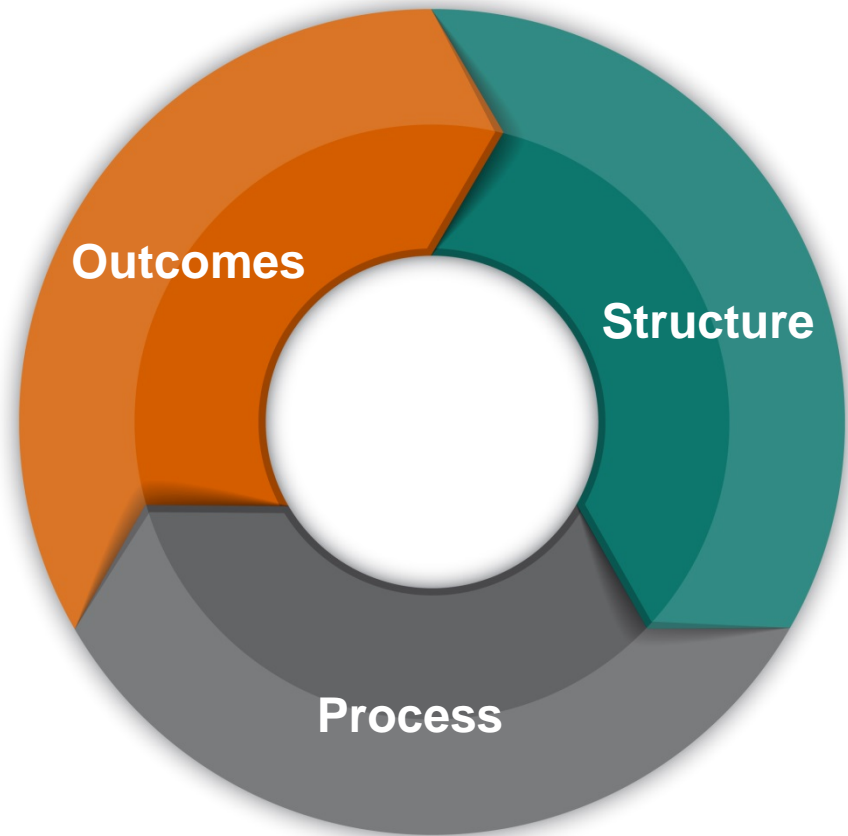
- Pain and symptom management
- Early recognition of change in condition and adjustments of care plan
- Ongoing changes in care plan based on patient and family goals of care
- Tremendous variation in the level of support provided by palliative care programs
- Studies show huge opportunity to identify errors during transfers in issues such as medication reconciliation

Most patients in the Oregon POLST registry make several changes in their intensity of care choices as their illness progresses

Health program: system performance improvement

Given the large array of processes in palliative care, the ROI will depend greatly on the:

- Population of patients chosen
- Structure of the team
- Location of the care delivery
- Processes emphasized
- Effectiveness of the interventions
- Outcomes measures chosen



Overall palliative care effectiveness is well-established

Outcome	How does PC help?	Best evidence
Patients live longer with higher QoL	More communication, Symptoms and Depression improved	Temel NEJM 2010
Greater family satisfaction with quality of care	More communication, greater comfort, preferences met	Casarett Arch Int Med 2011
Improved pain, symptoms and satisfaction with care	Symptom management and multidisciplinary team	Higginson JPSM 2003 El-Jawahri JSO 2011
Lower costs per day	Goals of care changed	Morrison Arch Int M 2008
Shorter ICU length of stay	Goals of care changed	Norton Crit Care Med 2007
Fewer hospitalizations, hospital days, readmissions and lower costs	Symptom management support to PCPs; GOC and ACP support to patients and families	Lukas JPM 2013
Fewer ED visits and hospital admissions	Better symptoms with in-home PC	Brumley JPM 2003
Fewer hospital admissions and inpatient deaths	Better symptoms with in-home PC	Brumley JAGS 2007
Fewer 30-day readmissions	Support with home PC or hospice	Enguidanos JPM 2012

Inpatient palliative care programs



Inpatient palliative care structure

Typically team based care

Physician, social worker, nurse, chaplain, other

Patient care

- Consultative
- Co-management

High acuity patients

- Trigger criteria and/or
- Referred by clinicians

Palliative care payment structure

- Hospital or external support
- Fee for service revenue

Significant investment and ongoing non-patient expense

- Physician and hospital education and performance improvement
- Unbillable clinical work (family conferences, etc.)

Cost savings from inpatient palliative care

ORIGINAL INVESTIGATION

Cost Savings Associated With US Hospital Palliative Care Consultation Programs

R. Sean Morrison, MD; Joan D. Penrod, PhD; J. Brian Cassel, PhD; Melissa Caust-Ellenbogen, MS; Ann Litke, MFA; Lynn Spragens, MBA; Diane E. Meier, MD; for the Palliative Care Leadership Centers' Outcomes Group

Background: Hospital palliative care consultation teams have been shown to improve care for adults with serious illness. This study examined the effect of palliative care teams on hospital costs.

Methods: We analyzed administrative data from 8 hospitals with established palliative care programs for the years 2002 through 2004. Patients receiving palliative care were matched by propensity score to patients receiving usual care. Generalized linear models were estimated for costs per admission and per hospital day.

Results: Of the 2966 palliative care patients who were discharged alive, 2630 palliative care patients (89%) were matched to 18 427 usual care patients, and of the 2388 palliative care patients who died, 2278 (95%) were matched to 2124 usual care patients. The palliative care patients who were discharged alive had an adjusted net savings of \$1696 in direct costs per admission ($P = .004$) and \$279 in direct costs per day ($P < .001$) including sig-

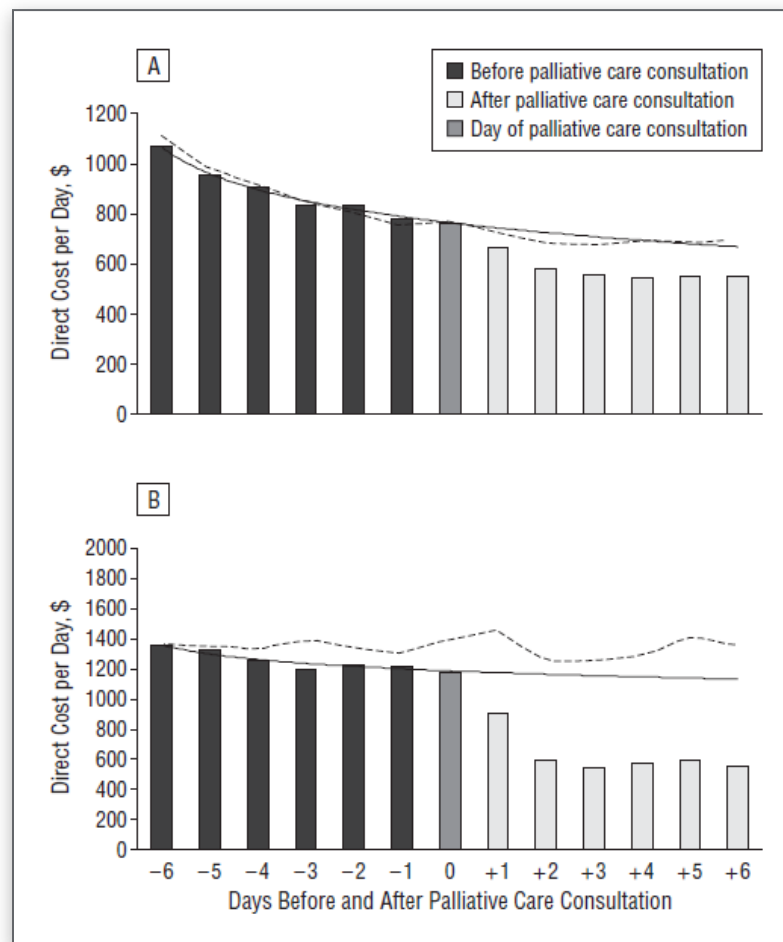
nificant reductions in laboratory and intensive care unit costs compared with usual care patients. The palliative care patients who died had an adjusted net savings of \$4908 in direct costs per admission ($P = .003$) and \$374 in direct costs per day ($P < .001$) including significant reductions in pharmacy, laboratory, and intensive care unit costs compared with usual care patients. Two confirmatory analyses were performed. Including mean costs per day before palliative care and before a comparable reference day for usual care patients in the propensity score models resulted in similar results. Estimating costs for palliative care patients assuming that they did not receive palliative care resulted in projected costs that were not significantly different from usual care costs.

Conclusion: Hospital palliative care consultation teams are associated with significant hospital cost savings.

Arch Intern Med. 2008;168(16):1783-1790

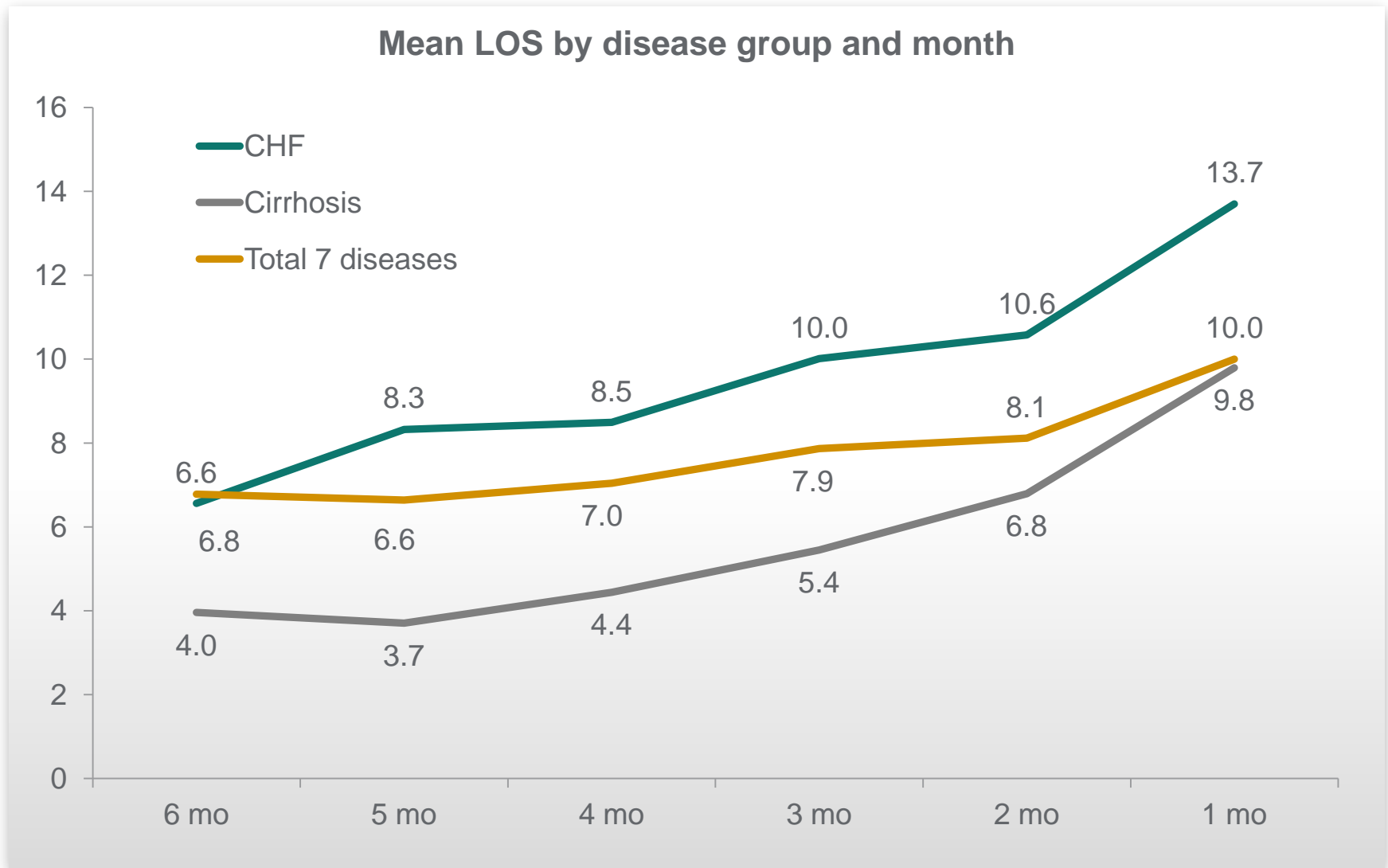
Inpatient palliative care savings in hospital costs

- Palliative care consultation was associated with a **reduction** in:
 - Direct hospital costs of almost \$1700 per admission (\$174 per day) for live discharges
 - \$5000 per admission (\$374 per day) for patients who died
- For an average 400-bed hospital containing an interdisciplinary palliative care team seeing 500 patients a year, **a net savings of \$1.3 million per year**
- These savings do not include readmission reduction and avoidance of subsequent hospitalizations.



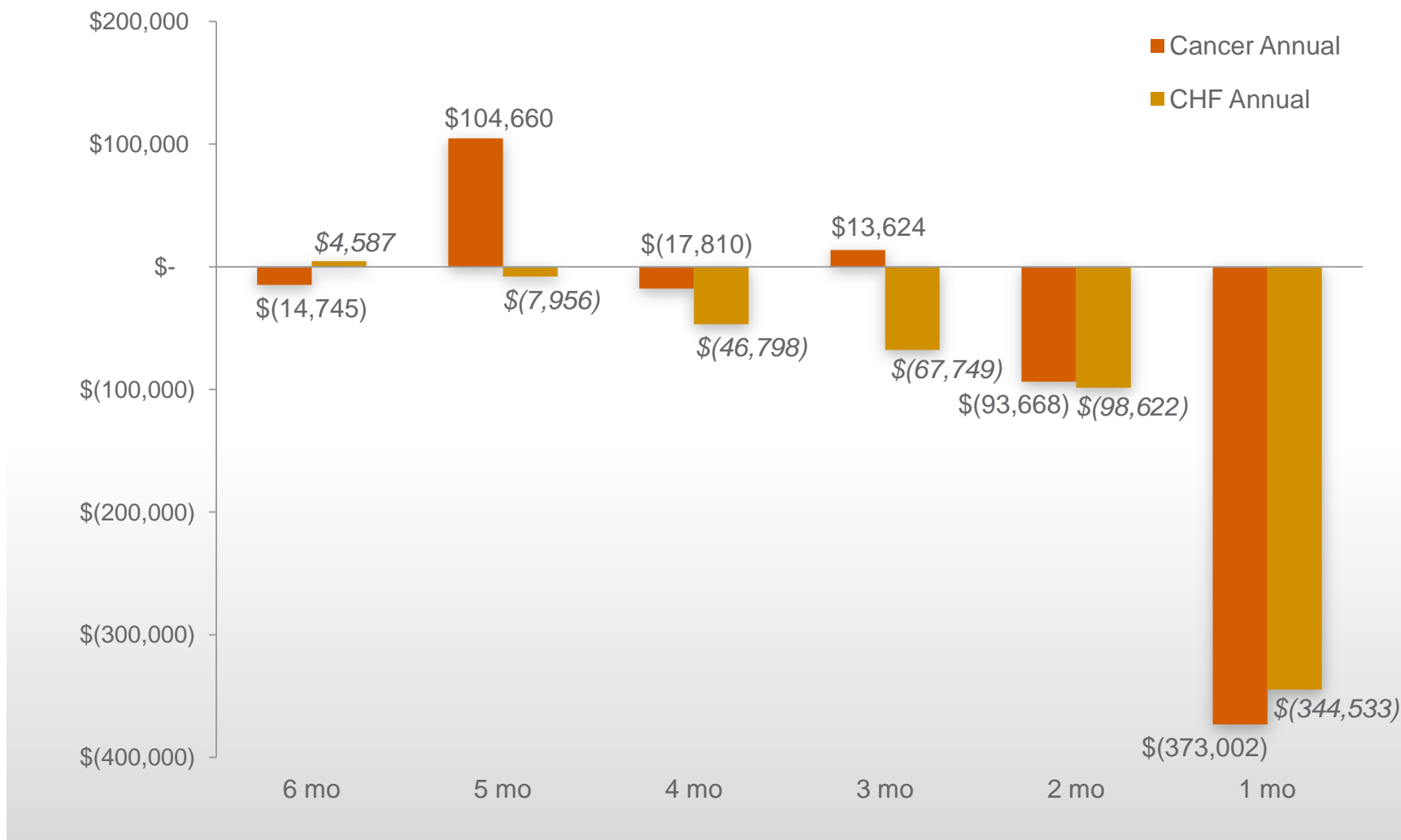
Morrison RS, et al. Cost savings associated with US hospital palliative care consultation programs. Arch Intern Med 2008 Sep 8;168(16):1783–90.

Hospital cost/LOS increase as death approaches



Slide adapted from Cassel and Kerr Presentation to California HealthCare Palliative Care Collaborative, 2013. Used with permission. Do not use without requesting permission.

Annual Medicare net margin by month for cancer and CHF inpatients in last six months of life



Structure and function variables for inpatient palliative care

Structure

- Team member qualifications, specialty
- Structure of IDT and program
- On-call availability, communication, documentation
- Formal screening criteria

Process variables

- Number of consults
- Timing of consult to request
- Source of consult
- Performance of trigger criteria
- Consults from trigger criteria
- Ratio of new consults to follow-up consults
- Identity of consultant
- Hospital day of consult
- Site of consultation
- Diagnosis of patient
- Number of ICU and other interdisciplinary rounds
- Family conferences
- Medical staff conferences

Outcome variables for inpatient palliative care

- Patient and family satisfaction
- Pain and symptom control at 24, 48 hours
- ICU length of stay, hospital length of stay (total and after consult)
- Cost of care per day before and after consult, procedures
- Total hospital cost
- Hospital mortality
- Nurse and physician satisfaction
- ICU nursing turnover
- Hospice referral rate, hospice length of stay
- Readmission rate, by diagnosis
- POLST completion rate
- Total cost of care last six months of life

Outpatient
palliative care
programs



Outpatient palliative care

New opportunities

- Savings or benefits difficult to capture in FFS medicine
- Medicare Advantage, ACOs and “delegated entities” offer opportunity
- Readmission reduction

Most programs show positive impacts

- Patient, family and clinician satisfaction increased
- Symptom management and quality of life
- Death at home
- Decreased aggressive treatments at the end of life
 - Decreased emergency department visits
 - Decreased hospitalization and readmission
 - Increased hospice use and length of stay

Widely varied program designs

- Telephonic nurse support to
- Comprehensive multi-disciplinary in-home care

Savings from no savings to over \$12,000 per patient enrolled

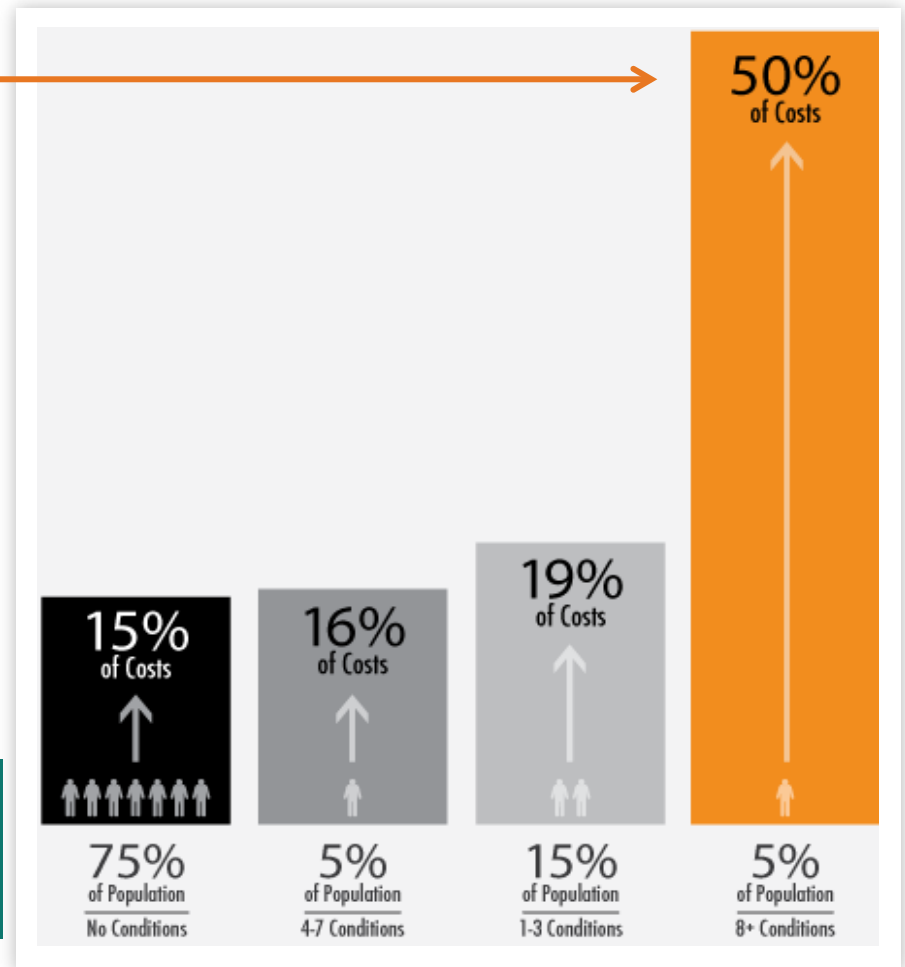
Distribution of medical spend

5% of the population drives
50% of the medical spend¹

Key cost drivers

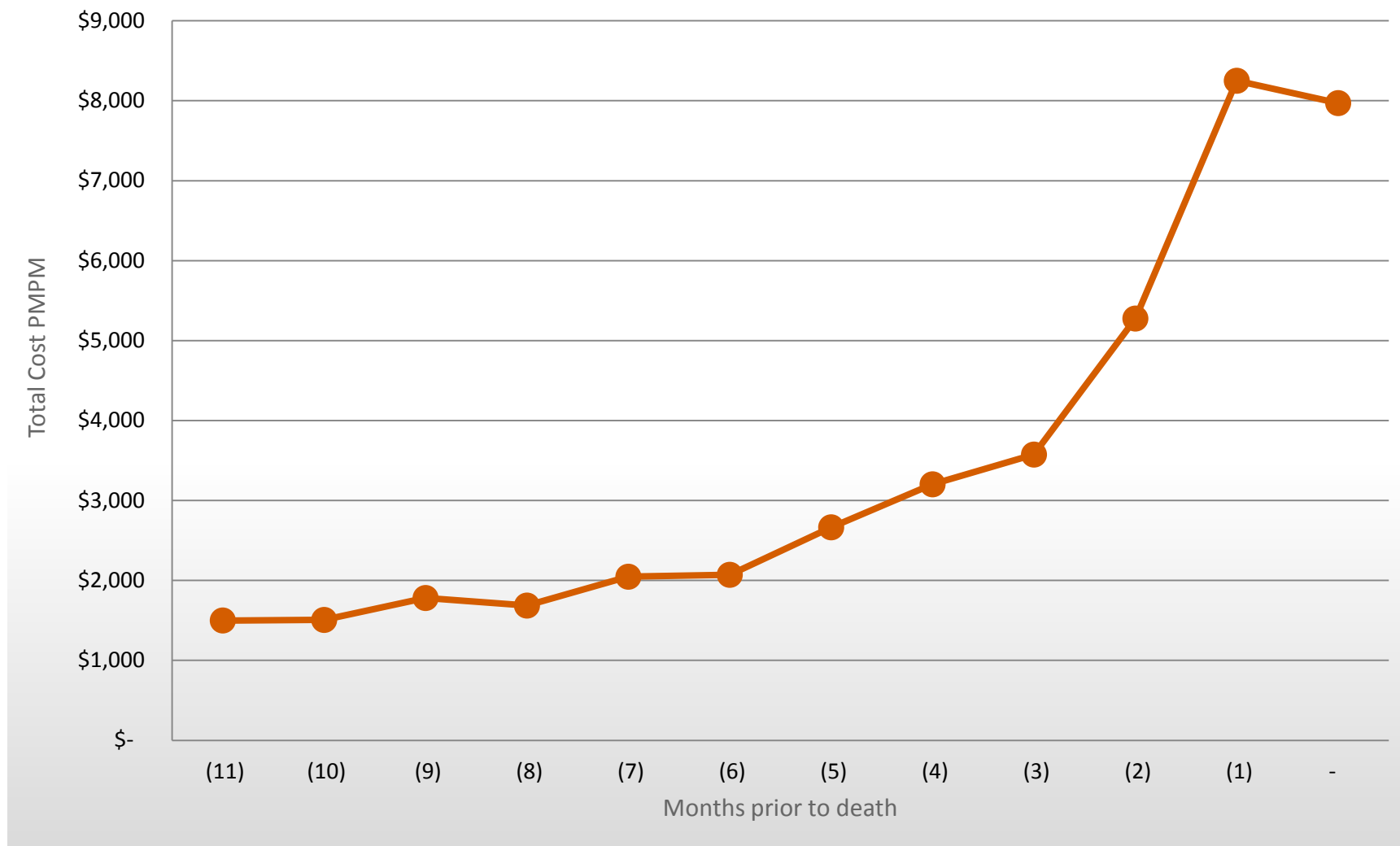
- Emergency room utilization
- Hospitalizations
- Uncoordinated care of chronic conditions
- End-of-life

**Right care. Right time.
Right place.**



¹ Stanton MW. The High Concentration of U.S. Health Care Expenditures. Research in Action, Issue 19. AHRQ Publication No. 06- 0060, June 2006. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/research/ria19/expendria.html>.

End of life costs: Medicare Advantage population example



Health care costs per member associated with a representative Medicare Advantage population during the final eleven months of life.

Outpatient palliative care can have substantial impact...

Four well-designed randomized interventions as well as a growing body of nonrandomized studies indicate that outpatient palliative can:

1. Improve satisfaction
2. Improve symptom control and quality of life
3. Reduce health care utilization
4. Lengthen survival in a population of lung cancer patients.”

“The available evidence supports the ongoing expansion of innovative palliative care service models throughout the care continuum to all patients with serious illness.”

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Moving Upstream: A Review of the Evidence of the Impact of Outpatient Palliative Care

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Vincent Nguyen, DO, CMD,^{2,9} Simone Rinaldi, ANP-BC, ACHPN,^{2,7} Donna Stevens, BS,^{2,10}
Lynn Spragens, MBA,^{2,11} and David Weissman, MD,^{2,12}

Abstract

Background: There is good evidence for the efficacy of inpatient palliative care in improving clinical care, patient and provider satisfaction, quality of life, and health care utilization. However, the evidence for the efficacy of nonhospice outpatient palliative care is less well known and has not been comprehensively reviewed.

Objective: To review and assess the evidence of the impact of outpatient palliative care.

Methods: Our study was a review of published, peer-reviewed outcomes research, including both observational studies and controlled trials of nonhospice outpatient palliative care services. We assessed patient, family caregiver, and clinician satisfaction; clinical outcomes including symptom management, quality of life, and mortality; and health care utilization outcomes including readmission rates, hospice use, and cost.

Results: Four well-designed randomized interventions as well as a growing body of nonrandomized studies indicate that outpatient palliative care services can: 1) improve patient satisfaction, 2) improve symptom control and quality of life, 3) reduce health care utilization, and 4) lengthen survival in a population of lung cancer patients.

Conclusions: The available evidence supports the ongoing expansion of innovative outpatient palliative care service models throughout the care continuum to all patients with serious illness.

But results of varied outpatient programs are inconsistent

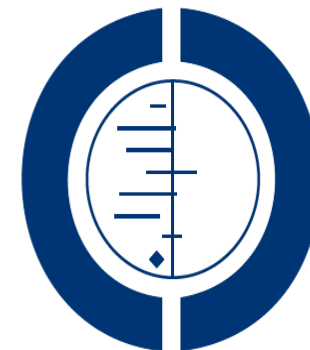
2013 Cochrane review discusses limited conclusive research at present

“The results provide clear and reliable evidence that home palliative care increase the chance of dying at home and reduces symptom burden in particular for patients with cancer, without impacting on caregiver grief.”

“Impacts of home palliative care programs on cost are inconclusive.”

Effectiveness and cost-effectiveness of home palliative care services for adults with advanced illness and their caregivers (Review)

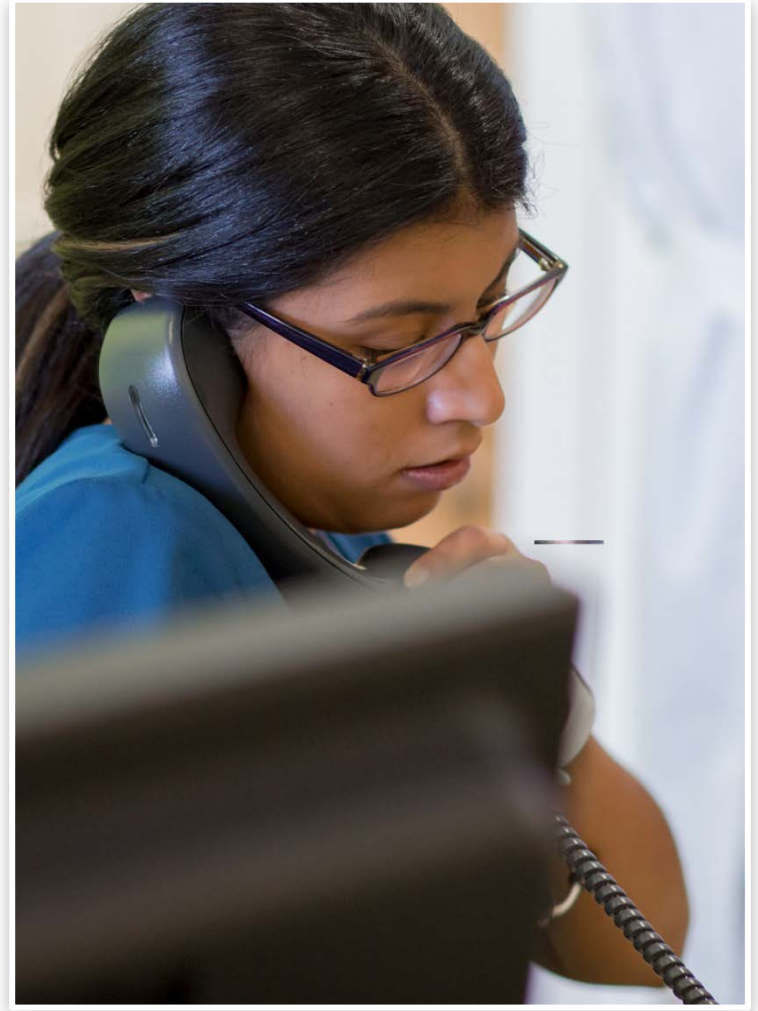
Gomes B, Calanzani N, Curiale V, McCrone P, Higginson IJ



**THE COCHRANE
COLLABORATION®**

Telephonic nurse case management and hospice

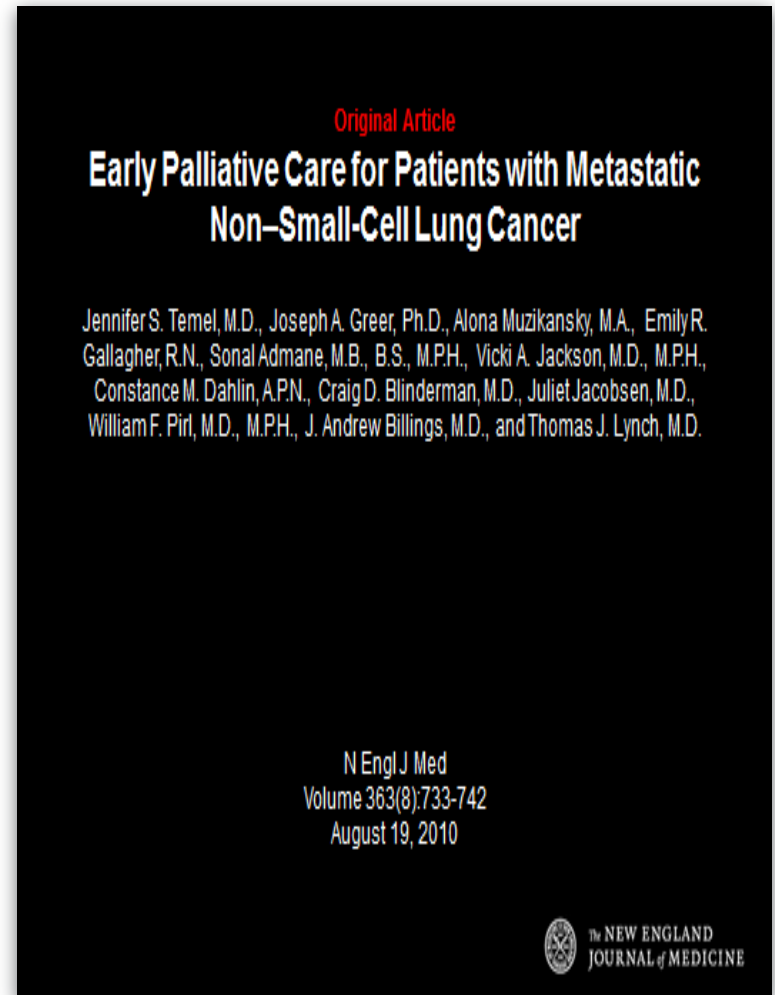
- Aetna Compassionate CareSM Program
- Telephonic nurse case management program with training in palliative care motivational interviewing
- Patients with advanced illness
- Concurrent curative care with hospice for commercial patients
- Results reported include:
 - Increased early hospice election
 - Initial 22% cost reduction reported compared to historical controls¹
 - Recently \$12,600 cost savings per enrolled patient reported²



1 Health Affairs, 2009 1357–1359; 2 Results per Randall Krakauer, Wall Street Journal, 2/24/14.

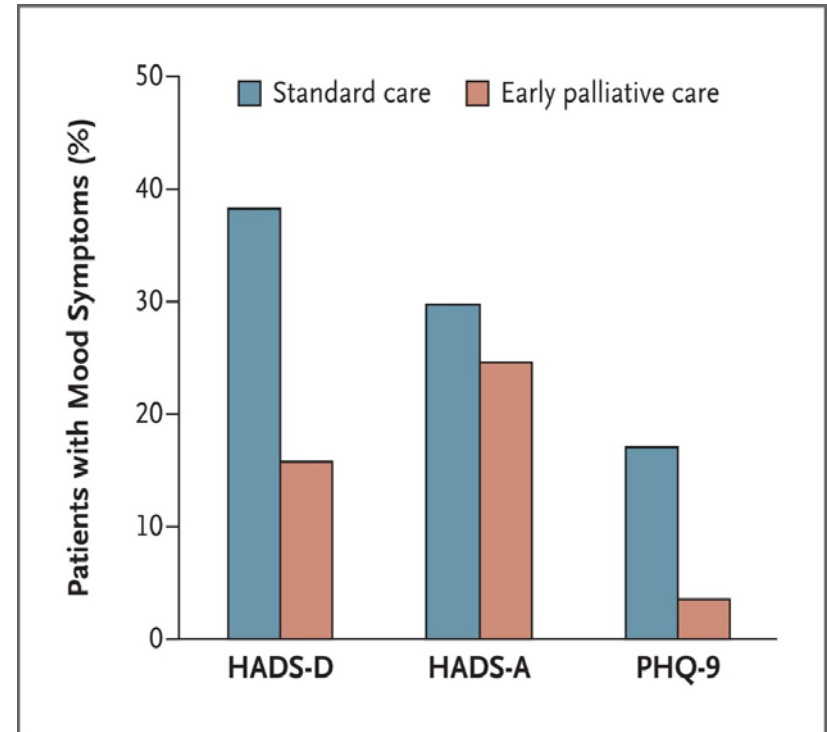
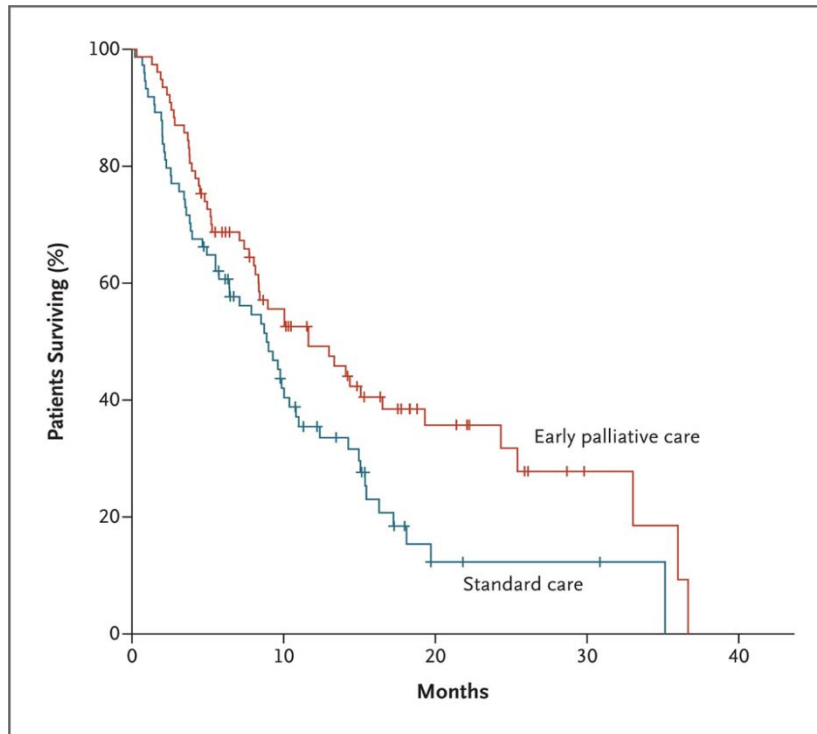
Clinic-based early palliative care

- Patients with metastatic non-small cell lung cancer
- Average of four palliative care clinic visits (range 0–8)
- Significant improvements in quality of life and longevity
- Decreased hospitalization and chemotherapy near end of life
- Increased Hospice enrollment
- Estimated net savings per patient \$2,882/patient



Temel JS, et al. Early Palliative Care for Patients with Metastatic Non-Small-Cell Lung Cancer. N Engl J Med 2010; 363: 733–742.

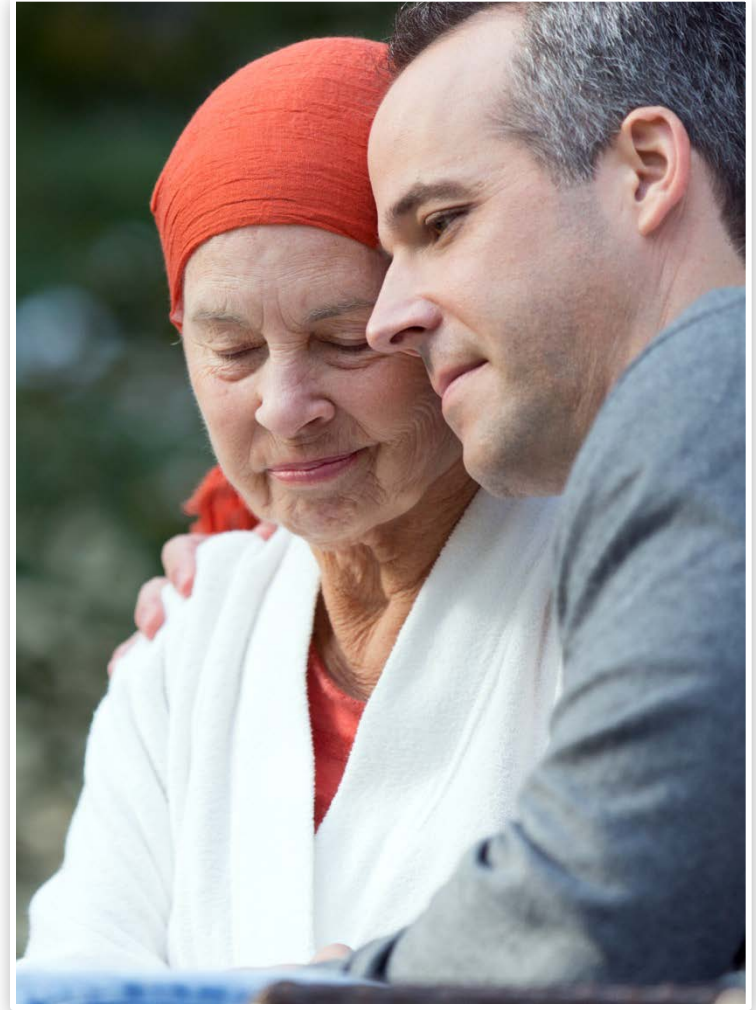
Impact of outpatient clinic palliative care



Temel JS, et al. Early Palliative Care for Patients with Metastatic Non-Small-Cell Lung Cancer. N Engl J Med 2010; 363: 733–742.

Effect of early palliative care on chemotherapy in metastatic non-small cell cancer

- No change in number of chemotherapy regimens overall
- 50% reduction in chemotherapy in last six months of life ($P=0.05$)
- Median 60 days (versus 40 days in control group) interval between last chemotherapy and death ($p=0.02$)
- 60% enrollment in hospice >1 week versus 33% in control group ($p=0.004$)

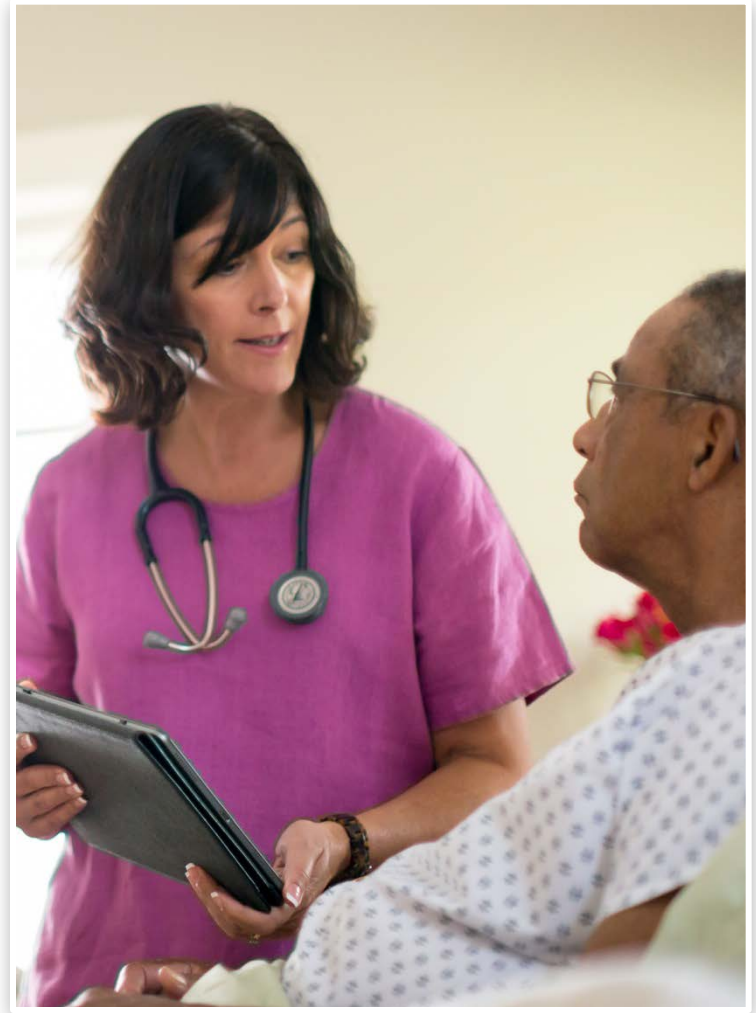


Greer JA, et al. Effect of early palliative care on chemotherapy use and end-of life care in patients with metastatic non-small-cell lung cancer. J Clin Oncol Dec 2011, Epub ahead of print.

No impact on cost:

Comprehensive care team palliative care

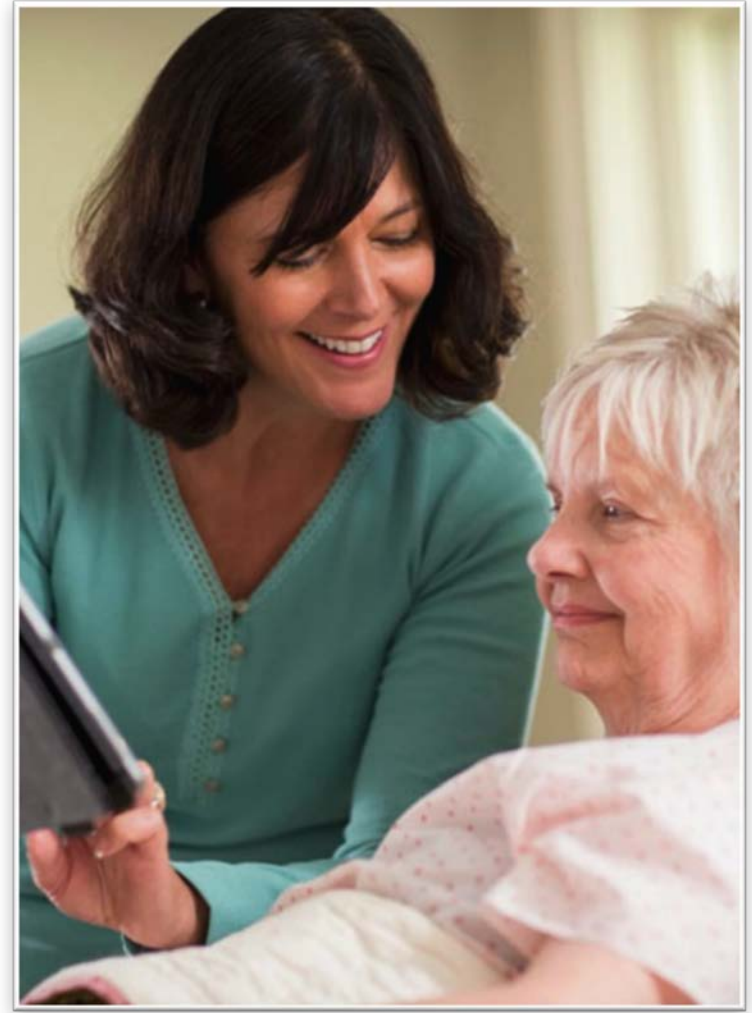
- Multi-disciplinary palliative care team intervention
- Patients with multiple diagnoses (advanced CHF, COPD, Cancer) with 1–5 year life expectancy
- Palliative care team did not initiate treatments, and recommendations were usually not adopted by primary care physicians
- Patients noted improved control of dyspnea, spiritual well being, sleep and anxiety and overall satisfaction with care and reduced urgent care and PCP visits
- Otherwise, no differences in pain control, hospitalizations, emergency room visits or cost



Rabow, MW et al, The comprehensive care team: a controlled trial of outpatient palliative care consultation, Arch Int Med 2004;164: 83–91.

Brumley: Comprehensive in-home palliative care

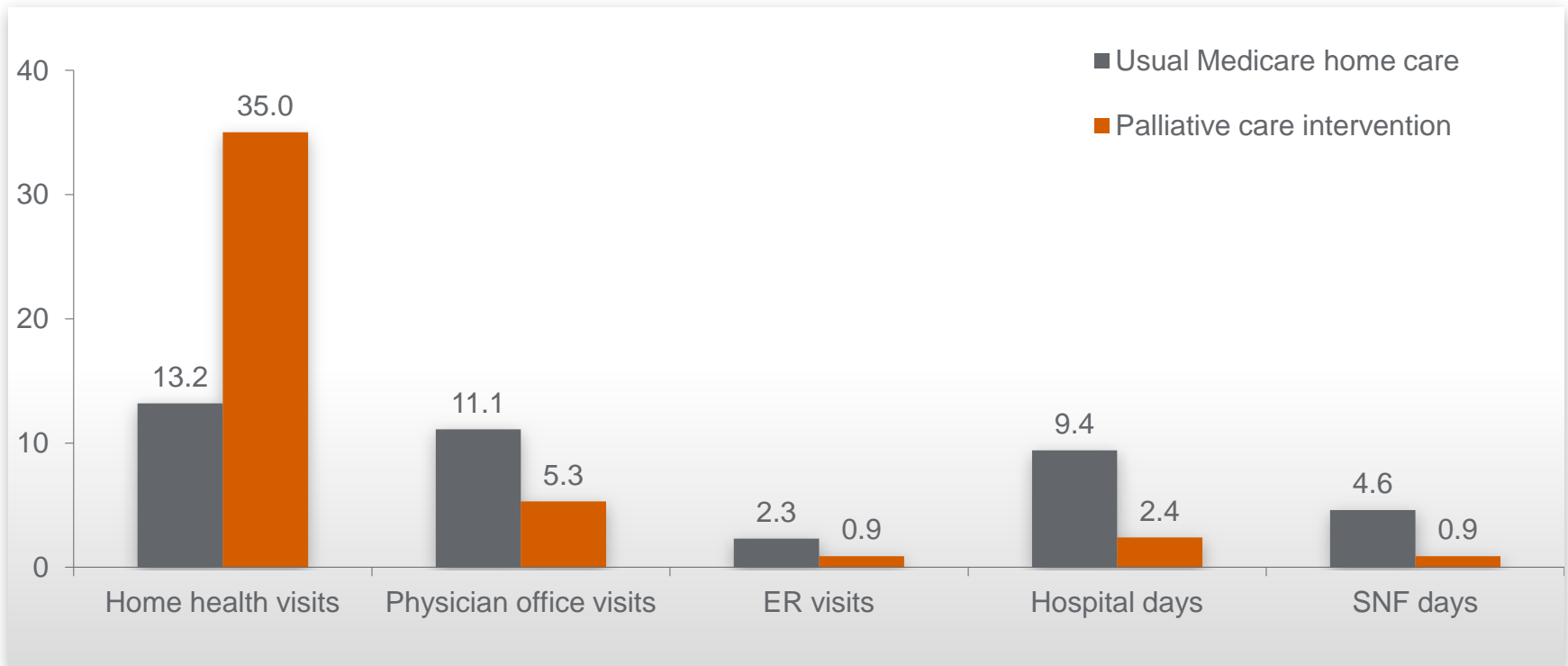
- High risk patients selected on basis of claims data and diagnoses
- Randomized control trial to usual care vs. comprehensive, in-home care with 24-hour on-call services
- Significantly increased number of home care visits and significant reductions in hospital, emergency department and other costs
- Net cost savings of **\$6,000 per enrolled patient** seen



RCT: Palliative care at home for the chronically ill

Improves quality, markedly reduces cost

- RCT of Service Use Among Heart Failure, Chronic Obstructive Pulmonary Disease, or Cancer Patients While Enrolled in a Home Palliative Care Intervention or Receiving Usual Home Care, 1999–2000
- KP Study Brumley, R.D. et al. JAGS 2007

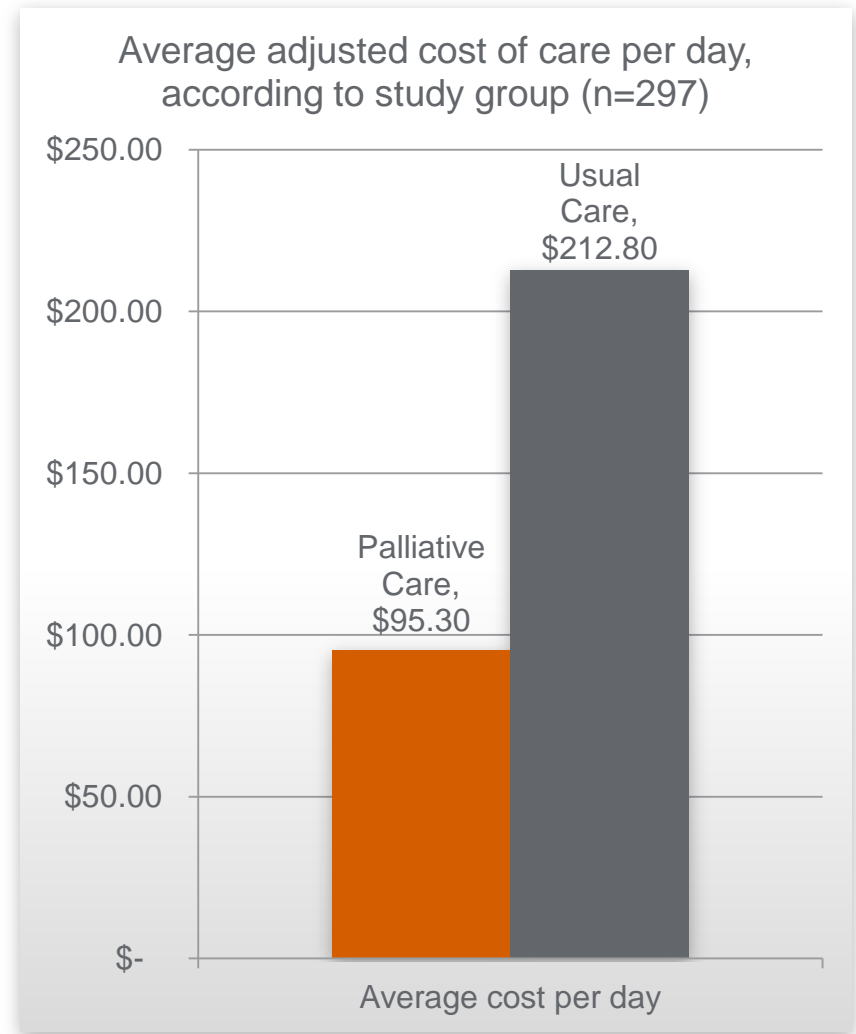


Slide adapted from Cassel and Kerr Presentation to California HealthCare Palliative Care Collaborative, 2013.

Outpatient palliative care

Outcomes demonstrated through home-based palliative care programs:

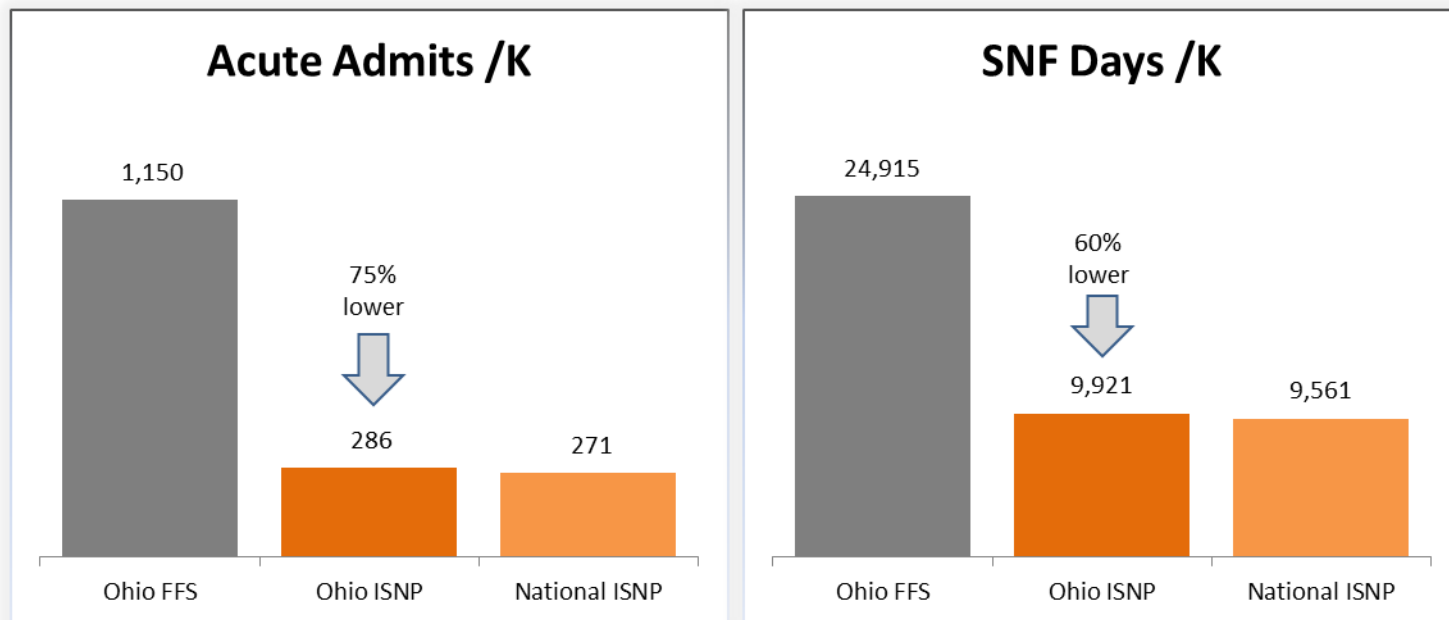
- Improved patient satisfaction at 30 and 90 days after enrollment
- Improved the likelihood of dying at home
- Significantly reduced the cost of care overall and by average cost per day



Brumley R, et al. Increased satisfaction with care and lower costs: results of a randomized trial of in-home palliative care. J Am Geriatr Soc 55:993-1000, 2007.

Skilled nursing home comprehensive care

Improves quality of care while reducing cost by ~50%

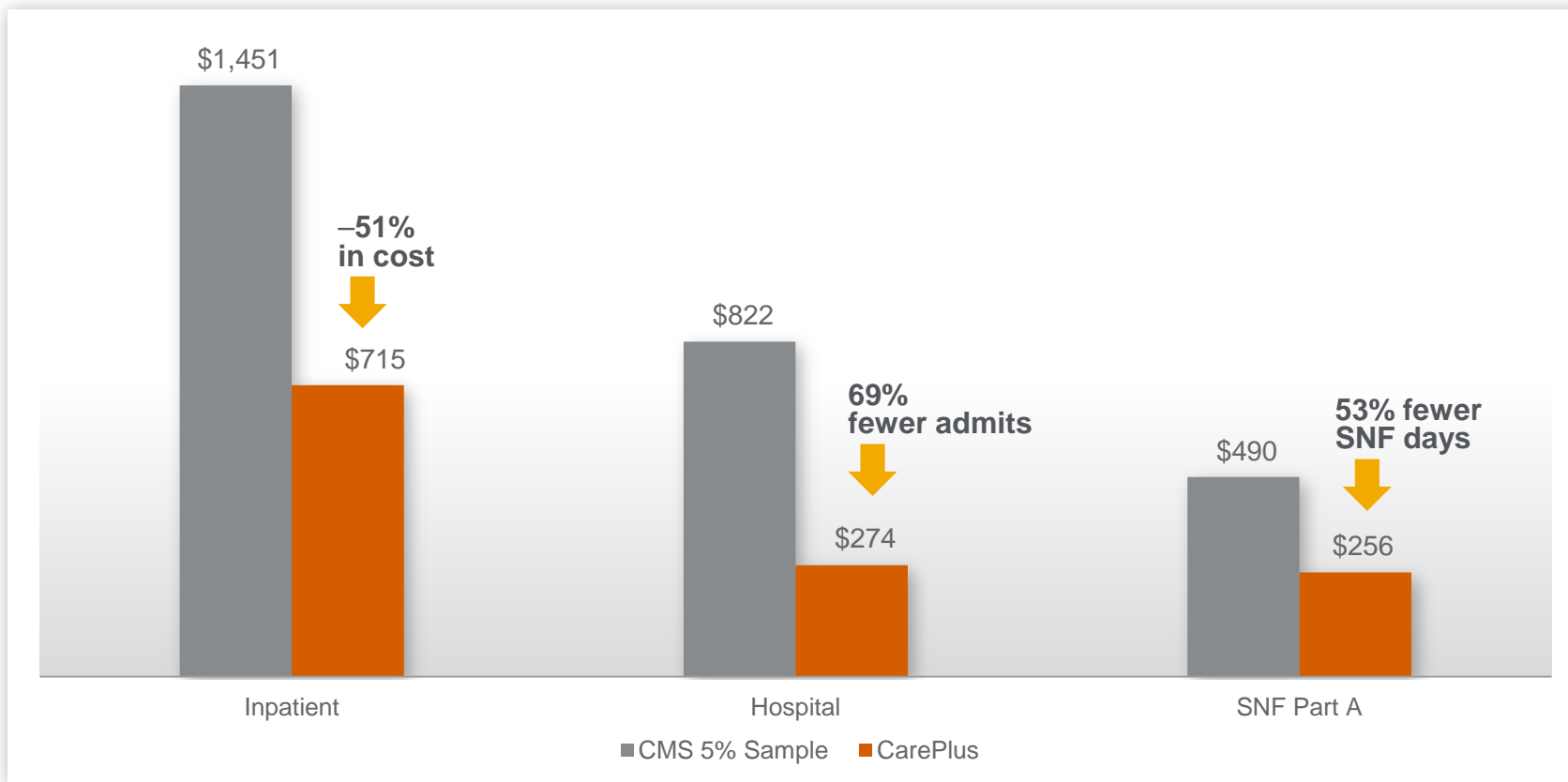


- Personalized care led by a highly-trained nurse practitioner, enhancing quality of care for residents living in nursing facilities. **An added layer of care.**
- Providers are on-site focusing on patient symptoms, improving communication with patients and families, identify and treat patient's change in condition on-site, avoiding complications and trauma due to unnecessary hospitalizations.
- Built on ~27 years of Evercare experience managing patients with complex medical needs.

2011 Part A/B expense compares Optum CarePlus Institutional to CMS 5% sample long-term care institutional members in Ohio ISNP counties; CarePlus ISNP medical expense excludes clinical FTE costs.

Reduces admissions and SNF Part A days

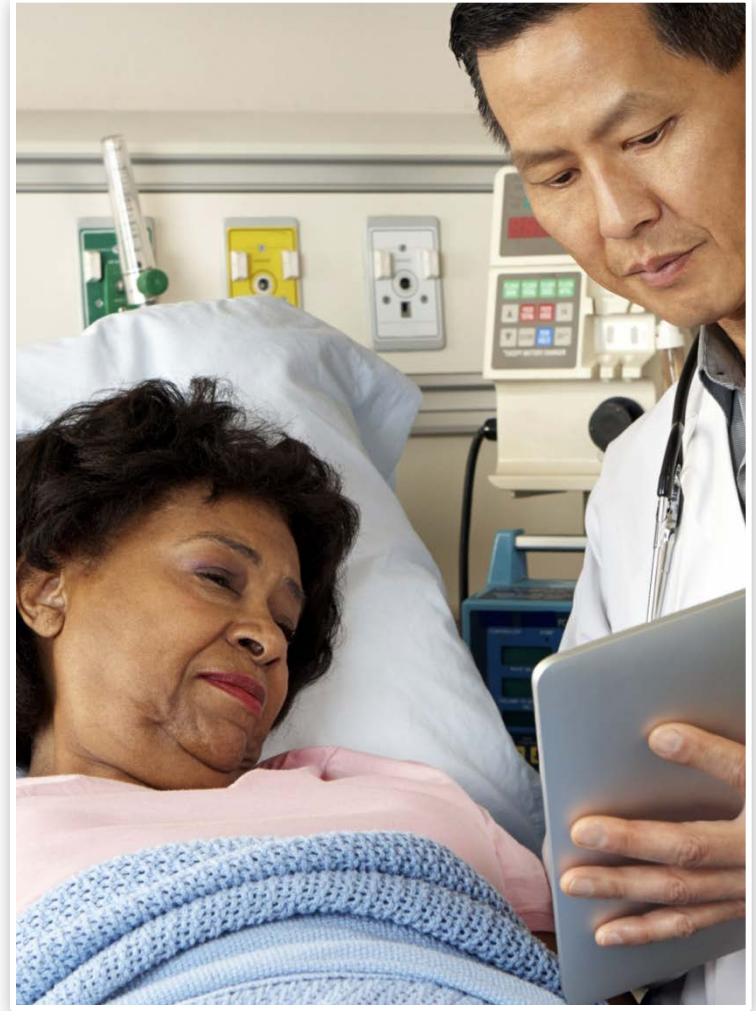
Institutional palliative care improves quality of care while reducing cost by ~50%



2011 Part A/B expense compares Optum CarePlus Institutional to CMS 5% sample long-term care institutional members in Ohio counties. 5% sample data selected to reflect UnitedHealthcare Nursing Home Plan membership mix between Dual/Non-dual, Hospice and ESRD. Optum CarePlus Institutional medical expense excludes clinical FTE costs.

Comprehensive palliative care consultation

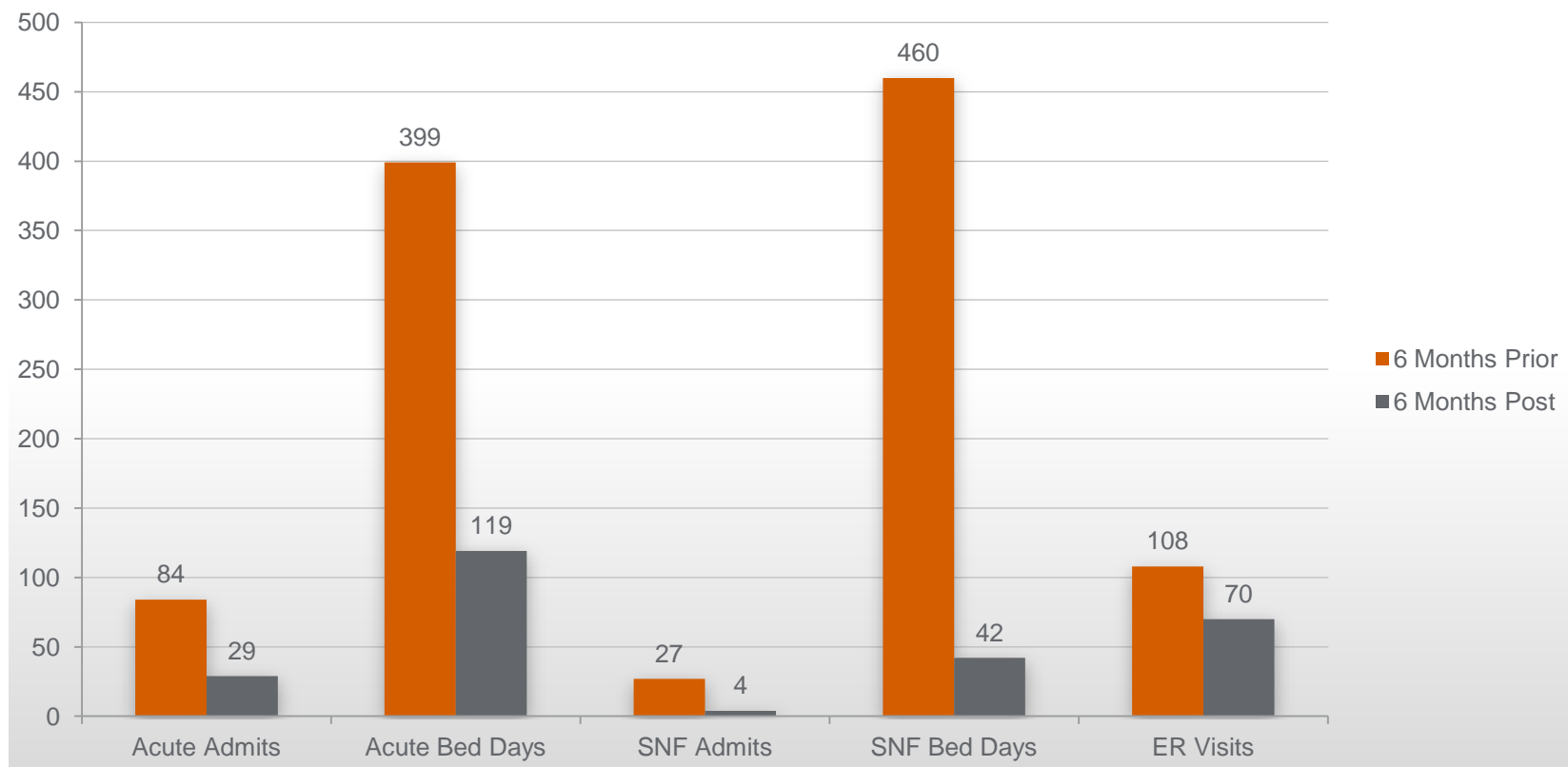
- High-risk, complex patient referral criteria
- Comprehensive, interdisciplinary assessment and care plan development
 - Physician/nurse practitioner home visit
 - Social worker and chaplain support and visits as needed
- Close coordinator with primary care physician
- Ongoing, intermittent visits for palliative care support
- Primary care physician provides on-call services
- Approximately 3–4 visits per patient (on average)
- 30–40% hospice referral in first six months



Outpatient palliative care consultation program results

*Does **not** control for regression to the mean: comparison to propensity adjusted control group underway.

Impact of Palliative Care: Hospital/SNF/ER
Utilization Six Months Prior and Post Program



Optum Palliative Care and Monarch Healthcare palliative care program analysis for starts of care between March 2012 and August 2012. n=49.

Considerations for cost effective palliative care ROI

Start with a needs assessment and get buy-in

- What patient group presents the greatest opportunity?
- Get as much data as possible
- Location of service
- Diagnosis?
- Physician/Leadership buy-in and support?
- Is there a way to align the clinical impacts and economic impacts?

Design program to meet most important process gaps

- Consider the needs for training and system changes
- Consider optimal structure — consultation to co-management
- Match business plan to clinical understanding
- Maximize staffing effectiveness — every staff member operating at highest level of license
- Get baseline data and plan for assessment/ QAPI as much as possible
- Utilize technology to enhance effectiveness

Conclusions

Many patients in our system need an extra layer of support, which is palliative care

- The potential for improved value in health care from palliative care is enormous with realistically up to a 5–10% reduction in total Medicare costs
- Multiple studies show significant savings from programs in inpatient and outpatient palliative care programs
- The alternatives for new program development are extraordinary with a broad range of palliative care programs
- Success is not guaranteed, but is very possible with good design and implementation



Discussion



Thank you.