

### 3.3 Economic Evaluation of ACP

#### O53

##### **A systematic review of economic evaluations of Advance Care Planning: data limitations and ethical considerations**

M. Nesari<sup>1</sup>, M. Douglas<sup>2</sup>, S. Ghosh<sup>2</sup>, P. Biondo<sup>2</sup>, N. Hagen<sup>2</sup>, J. Simon<sup>2</sup>, K. Fassbender<sup>2</sup>

<sup>1</sup>University of Alberta, Edmonton, Canada

**Background:** Evidence regarding the degree and direction of economic impacts of implementing Advance Care Planning (ACP) is inconsistent. Also, available reviews have not systematically assessed the quality of the costing data in the primary studies. We aimed to synthesize current evidence on the economic impacts of implementing ACP and explore implications for policy and practice.

**Methods:** We conducted a comprehensive search of online bibliographic databases. Reference lists of included articles were also reviewed. We assessed the quality of costing in studies using the Consensus on Health Economics Criteria Checklist (CHEC).

**Results:** We included 33 studies; the majority were from the USA (78.8 %). Studies were conducted in various settings, mostly hospitals (60%). Almost 64% of studies reported cost savings from the healthcare systems' perspectives; no study included patients' perspectives (out-of-pocket-costs). Assessing quality of costing using CHEC revealed weaknesses in studies including: flaws with costs identification (37.9%), measurement (39.3%), and valuation (44.8%); no consideration of intervention costs (87.9%); not including all relevant variables in sensitivity analyses (34.5%); and not discounting the costs (55.6%).

**Discussion:** We detected substantial methodological issues with current economic evaluations of ACP that compromise the validity of evidence. To inform policy makers about ACP, which is a multifaceted process, methodologically robust studies are needed that capture costs of the program from all major payers. A comprehensive report on cost evaluations is highly recommended. Meanwhile, respecting patient choice remains a valid clinical basis for promoting use of ACP.

#### O54

##### **Delivering system-wide advance care planning support in real-world settings: economic considerations. An exploratory, qualitative study in twelve international healthcare organisations**

J. Dixon, M. Knapp

London School of Economics and Political Science, London, United Kingdom

**Background:** Facilitation of ACP conversations is time consuming, whether undertaken in one or multiple shorter discussions. Our exploratory, qualitative study in twelve healthcare systems (US, Canada, New Zealand, Australia) providing system-wide ACP support explored:

-organizational rationales for provision, including perspectives on the economic case

-type and organization of staffing

-ways of providing high-quality, system-wide support cost-efficiently.

**Methods:** Interviews with leaders, ACP specialists, physicians, nurses, social workers and others (average n=13) were conducted in twelve purposively-sampled healthcare systems. Data were transcribed and thematically analysed using NVivo software.

**Results:** System-wide ACP support was primarily a strategic response to risks associated with increased availability and use of life-prolonging interventions in serious illness and frailty. Overall cost-savings were not expected. Staffing ACP support was challenging. While professionals often needed more protected time, promising approaches included team-based provision, especially physicians working with nurses and social workers, and systematic incorporation into chronic and routine care.

Skilled and experienced staff underpinned cost-effective provision. While dedicated facilitators were not scalable or sustainable, some level of specialism and voluntarism, with plentiful opportunities to develop skills in practice, was indicated.

ACP support was provided equally efficiently by experienced staff regardless of guides or approach used. Serious illness conversations could build on earlier ACP support. Community- and group-based approaches were thought cost-efficient, increasing reach and supporting later planning and decision-making.

**Conclusions:** Investments in ACP support were justified by management of organizational risk and high-quality patient care. Our findings identify areas where cost-efficiencies in provision of system-wide ACP support may be found

#### O55

##### **Evaluating costs of Advance Care Planning; results from the international ACTION study**

I. Korfa<sup>1</sup>, S. Polinder<sup>2</sup>, A. van der Heide<sup>2</sup>, N. Preston<sup>2</sup>, J. van Delden<sup>2</sup>, G. Miccinesi<sup>2</sup>, U. Lunder<sup>2</sup>, K. Pollock<sup>2</sup>, L. Deliens<sup>2</sup>, M. Groenvold<sup>2</sup>, J. Rietjens<sup>2</sup>

<sup>1</sup>Erasmus MC, Rotterdam, Netherlands

**Background:** Systematic evaluation of health care use and costs is important to identify the impact of advance care planning (ACP) programs. Such evaluations are currently scarce in Europe.

**Methods:** Our study was performed in the context of the ACTION trial, a randomized controlled study to evaluate effects of the ACTION Respecting Choices (RC) ACP intervention in patients with advanced cancer in six European countries. We applied a healthcare perspective and identified hospital care use from hospital medical records for 1 year after study inclusion. Unit prices were calculated for all six countries separately. The unit price of the 'Respecting Choices' ACP intervention was determined with the micro-costing method, which is based on detailed assessments of all resources used.

**Results:** Most intervention patients had one ACP conversation, one third had two. The average length was 90 minutes (standard deviation 45 minutes). Unit costs were comparable between countries for most interventions, with the exception of cancer-specific treatment. Most patients received chemotherapy, with a minority receiving surgery. Preliminary analyses showed similar patterns of health care use in both ACP and control groups: numbers of diagnostic procedures such as scans and biopsies were comparable; mean (range) length of hospital stay was 9 days (0 - 63) and 8 days (0 - 75) in intervention and control patients, respectively.

**Conclusion:** Unit costs of health care interventions were remarkably comparable between countries. The ACTION RC ACP intervention, consisting of conversations by patients, relatives, and facilitators, did not appear to affect hospital care use.

**Funding:** EU FP7.

## O56

### The cost-effectiveness of advance care planning for older adults with end-stage kidney disease.

M. Sellars<sup>1</sup>, J. Clayton<sup>2</sup>, K. Detering<sup>1</sup>, A. Tong<sup>2</sup>, D. Power<sup>1</sup>, R. Morton<sup>2</sup>

<sup>1</sup>Austin Health, Melbourne, Australia

<sup>2</sup>University of Sydney, Sydney, Australia

**Background:** We aimed to examine hospital costs and outcomes of a nurse-led ACP intervention compared with usual care in the last 12 months of life for older people with end-stage kidney disease (ESKD) managed with haemodialysis.

**Methods:** A case-control study of ACP in adults with ESKD from a major tertiary hospital and a simulation of the natural history of decedents on dialysis, using hospital data, to model the effect of ACP on end-of-life care preferences. Outcomes were assessed in terms of patients' end-of-life treatment preferences being met or not, and costs included all hospital-based care. The cost-effectiveness of ACP was assessed by calculating an incremental cost-effectiveness ratio (ICER), expressed in dollars per additional case of end-of-life preferences being met. Robustness of model results was tested through sensitivity analyses.

**Results:** The mean cost of ACP was AUD\$519 per patient. The mean hospital costs of care in last 12 months of life were \$100,579 for those who received ACP versus \$87,282 for those who did not. The proportion of patients in the model who received end-of-life care according to their preferences was higher in the ACP group compared with usual care (68% vs. 24%). The incremental cost per additional case of end-of-life preferences being met was \$28,421. The greatest influence on the cost-effectiveness of ACP was the probability of dying in hospital following dialysis withdrawal, and costs of acute care.

**Conclusions:** Our model suggests nurse-led ACP leads to receipt of patient preferences for end-of-life care, and may represent good value for money.

## O57

### Advance Care Planning for frail older adults: Findings on costs in a cluster randomised controlled trial

I. Korfage<sup>1</sup>, A. Overbeek<sup>2</sup>, S. Polinder<sup>2</sup>, J. Haagsma<sup>2</sup>, P. Billekens<sup>2</sup>, K. De Nooijer<sup>2</sup>, B. Hammes<sup>2</sup>, D. Muliaditan<sup>2</sup>, A. van der Heide<sup>2</sup>, J. Rietjens<sup>2</sup>

<sup>1</sup>Erasmus MC, Rotterdam, Netherlands

**Background:** Advance Care Planning aims at improving alignment of care with patients' preferences. This may affect costs of medical care.

**Aim:** To determine the costs of an Advance Care Planning programme and its effects on the costs of medical care and on concordance of care with patients' preferences.

**Design/settings/participants:** In a cluster randomised trial, 16 residential care homes were randomly allocated to the intervention group, where frail, older participants were offered facilitated Advance Care Planning conversations or to the control group. We calculated variable costs of Advance Care Planning per participant including personnel and travel costs of facilitators. Furthermore, we assessed participants' healthcare use during 12 months applying a broad perspective (including medical care, inpatient days in residential care homes, home care) and calculated costs of care per participant. Finally, we investigated whether treatment goals were in accordance with preferences. Analyses were conducted for 97 participants per group. Trial registration number: NTR4454.

**Results:** Average variable Advance Care Planning costs were €76 per participant. The average costs of medical care were not significantly different between the intervention and control group (€2360 vs €2235, respectively,  $p=0.36$ ). Costs of inpatient days in residential care homes (€41,551 vs €46,533) and of home care (€14,091 vs €17,361) were not significantly different either. Concordance of care with preferences could not be assessed since treatment goals were often not recorded.

**Conclusions:** The costs of an Advance Care Planning programme were limited. Advance Care Planning did not significantly affect the costs of medical care for frail older adults.

## O58

### New US advance care planning billing codes - Who's using it and for whom?

H. Lum<sup>1</sup>, P. Shanbhag<sup>2</sup>, A. Daddato<sup>2</sup>

<sup>1</sup>University of Colorado and VA GRECC, Aurora, United States of America

<sup>2</sup>University Of Colorado School Of Medicine, Aurora, United States of America

**Background:** In the US, new reimbursement for advance care planning (ACP) started on January 1, 2016. This study aims to describe patient and practitioner characteristics related to use of the new billing codes, including documentation of the ACP process and advance directives.

**Methods:** Retrospective, cross-sectional analysis of the billing code 99497 from January 1, 2016 thru June 30, 2018 in outpatient visits in a large healthcare system. We describe patient-level and practitioner-level characteristics. We reviewed clinical documentation elements from a sample of patient visits from high- and low-utilizing practitioners.

**Results:** Seventy-six practitioners used the ACP billing code in 3421 outpatient visits for 2884 patients. Patients

were mean age 73 (range 20-104 years), 57% female, and 2% rural residing. 35% of patients had an advance directive on file. Mean number of billing encounters per practitioner was 45 (range 1–704). Visits occurred in primary care settings (family medicine, internal medicine, geriatric medicine) and two subspecialty clinics (neurology, cardiology). ACP was billed multiple times for 150 patients (5.2%), with a range of two to four visits. The average time between unique visits was 330 days. The most commonly documented topics were code status, POLST/MOST form, and surrogate decision maker. 28% of ACP documents on file were completed within seven days of the ACP billing visit.

**Conclusions:** This is the first study to describe use of ACP billing codes in outpatient settings. Practitioners are using the ACP billing code mostly in primary care settings, among older adults, and occasionally multiple times.