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**Association Between the Affordable Care Act Dependent Coverage Expansion and Cervical Cancer Stage and Treatment in Young Women.**


PMID: 26599188 [PubMed - indexed for MEDLINE]


**Cancer: Reshaping the cancer clinic.**

Schmidt C.

PMID: 26536216 [PubMed - indexed for MEDLINE]

ONS Connect. 2015 Sep;30(3):53.

**Physicians Propose Tool for Assessing Value of Cancer Care.**

McBride D.

PMID: 26449125 [PubMed - indexed for MEDLINE]
Factors influencing cost, length of hospital stay and mortality in colorectal cancer.

Caglar Bilgin B(1), Kahramanca S, Akin T, Emre Gokce I, Akin M, Kucukpinar T.

PURPOSE: Colorectal cancers (CRCs) are the most common cancers in the world after lung and prostate cancer in men and breast and lung cancer in women, and usually occur in the recto-sigmoid region. There are many factors that affect their morbidity and mortality. Some markers have been evaluated to predict disease prognosis. However, a gold standard prognostic biomarker has not yet been found for CRC. In the present study, we aimed to evaluate the factors associated with the duration and cost of hospital stay and mortality.

METHODS: Patients who were admitted to the emergency service and general surgery clinic with abdominal pain, rectal bleeding, weight loss, diminished stool discharge, and ileus were included in this study. Recorded were patient age, gender, comorbid factors, family history, surgical treatment procedure, elective or urgent surgical intervention, bowel cleansing before surgery, pathological stage, neutrophil/lymphocyte ratio (NLR), red cell distribution width (RDW), mean platelet volume (MPV) and CEA, CA 19.9 and hemoglobin levels.

RESULTS: The mean patient age was 61.2±12.4 years. The male/female ratio was 0.596(81/136). Emergency surgery was an independent factor increasing the cost and length of hospital stay (p=0.007 and p=0.018). Additionally, patients >65 years of age had increased length of hospital stay and mortality (p=0.008 and p=0.024, respectively). Anemic patients had 50% higher mortality risk compared with patients with normal hemoglobin levels (p=0.030).

CONCLUSION: Based on our results, anemic patients in the geriatric population who underwent emergency CRC surgery may have higher costs, longer hospital stay and greater mortality rates than other CRC patients.

PMID: 26416051 [PubMed - indexed for MEDLINE]

Int J Radiat Oncol Biol Phys. 2015 Sep 1;93(1):207-8

Treatment Costs of Early-Stage Lung Cancers Detected by Low-Dose Computed Tomography Screening.

Verma V(1), Zhen W(2).

PMID: 26279036 [PubMed - indexed for MEDLINE]
Pricing Cancer Drugs: When Does Pricing Become Profiteering?

Kushnick HL(1).

Comment on

PMID: 26270874 [PubMed - indexed for MEDLINE]

Paying a high price for cancer drugs.

[No authors listed]

PMID: 26251376 [PubMed - indexed for MEDLINE]

In Support of a Patient-Driven Initiative and Petition to Lower the High Price of Cancer Drugs.

US oncologists call for government regulation to curb drug price rises.

McCarthy M(1).

Comment on

PMID: 26208848 [PubMed - indexed for MEDLINE]

Cancer. 2015 Sep 15;121(18):3272-80.

Elimination of cost-sharing and receipt of screening for colorectal and breast cancer.

Fedewa SA(1),(2), Goodman M(2), Flanders WD(1),(2), Han X(1), Smith RA(3), M Ward E(1), Doubeni CA(4), Sauer AG(1), Jemal A(1),(2).
BACKGROUND: The aim of the cost-sharing provision of the Patient Protection and Affordable Care Act (ACA) was to reduce financial barriers for preventive services, including screening for colorectal cancer (CRC) and breast cancer (BC) among privately and Medicare-insured individuals. Whether the provision has affected CRC and BC screening prevalence is unknown. The current study investigated whether CRC and BC screening prevalence among privately and Medicare-insured adults by socioeconomic status (SES) changed before and after the ACA.

METHODS: Data obtained from the National Health Interview Survey pertaining to privately and Medicare-insured adults from 2008 (before the ACA) and 2013 (after the ACA) were used. There were 15,786 adults aged 50 to 75 years in the CRC screening analysis and 14,530 women aged ≥40 years in the BC screening analysis. Changes in guideline-recommended screening between 2008 and 2013 by SES were expressed as the prevalence difference (PD) and 95% confidence interval (95% CI) adjusted for demographics, insurance, income, education, body mass index, and having a usual provider.

RESULTS: Overall, CRC screening prevalence increased from 57.3% to 61.2% between 2008 and 2013 (P<.001). Adjusted CRC screening prevalence during the corresponding period increased in low-income (PD, 5.9; 95% CI, 1.8 to 10.2), least-educated (PD, 7.2; 95% CI, 0.9 to 13.5), and Medicare-insured (PD, 6.2; 95% CI, 1.7 to 10.7) individuals, but not in high-income, most-educated, and privately insured respondents. BC screening remained unchanged overall (70.5% in 2008 vs 70.2% in 2013) and in the low SES groups.

CONCLUSIONS: Increases in CRC screening prevalence between 2008 and 2013 were confined to respondents with low SES. These findings may in part reflect the ACA's removal of financial barriers.

PMID: 26042576 [PubMed - indexed for MEDLINE]
ratios (ICERs) in terms of additional costs per quality-adjusted life-years (QALYs) gained are presented. Two scenario analyses were conducted to investigate the role of changes in the 'worried-well' population and the route of diagnosis that might occur as a result of the campaigns.

RESULTS: The base-case theoretical model found the regional and national early awareness campaigns to be associated with QALY gains of 289 and 178 QALYs and ICERs of £13,660 and £18,173 per QALY gained, respectively. The scenarios found that increases in the 'worried-well' population may impact the cost-effectiveness conclusions.

CONCLUSIONS: Subject to the available evidence, the analysis suggests that early awareness campaigns in lung cancer have the potential to be cost-effective. However, significant additional research is required to address many of the limitations of this study. In addition, the estimated natural history model presents previously unavailable estimates of the prevalence and rate of disease progression in the undiagnosed population.

PMCID: PMC4647547
PMID: 26010412 [PubMed - indexed for MEDLINE]


A cost analysis of a pancreatic cancer screening protocol in high-risk populations.

Bruenderman E(1), Martin RC 2nd(2).

BACKGROUND: Pancreatic cancer is the 4th leading cause of cancer death in the United States. A screening protocol is needed to catch early-stage, resectable disease. This study suggests a protocol for high-risk individuals and assesses the cost in the context of the Affordable Care Act.

METHODS: Medicare and national average pricing were used for cost analysis of a protocol using magnetic resonance imaging/MRCP biannually in high-risk groups.

RESULTS: Costs per year of life added* based on Medicare and national average costs, respectively, are as follows: $638.62 and $2,542.37 for Peutz-Jeghers syndrome, $945.33 and $3,763.44 for hereditary pancreatitis, $1,141.77 and $4,545.45 for familial pancreatic cancer and "p16-Leiden" mutations, and $356.42 and $1,418.92 for new-onset diabetes over age 50 with weight loss or smoking.

CONCLUSIONS: A screening program using magnetic resonance imaging/MRCP is affordable in high-risk populations. The United States Preventive Services Task Force must re-evaluate its pancreatic cancer screening guidelines to make screening more cost-effective for the individual.

PMID: 26003200 [PubMed - indexed for MEDLINE]
Reimbursement of targeted cancer therapies within 3 different European health care systems.

Mihajlović J(1), Dolk C(2), Tolley K(3), Simoens S(4), Postma MJ(2).

PURPOSE: Targeted cancer therapies (TCTs) are drugs that specifically act on molecular targets within the cancer cell, causing its regression and/or destruction. Although TCTs offer clinically important gains in survival in one of the most challenging therapeutic areas, these gains are followed by considerable increases in health care expenditures. The aim of this study was to identify differences in the recommendations for TCTs in 3 European health care systems (Serbian, Scottish, and Dutch) and to examine the role of pharmacoeconomic (PE) assessments in such recommendations.

METHODS: A list of currently approved TCTs cited from the European Medicines Agency was cross-referenced with drug reimbursement reports issued by the National Health Insurance Fund for Serbia, the Scottish Medicines Consortium for Scotland, and the National Health Institute for the Netherlands. The following key variables were gathered from the reports: drug indication, registration status, reimbursement status, and outcome of the PE evaluation. FINDINGS: There were 41 TCTs approved by the European Medicines Agency for 70 cancer indications. Of the total number of TCT indications, 20 were reimbursed in Serbia, and 25 are still without a decision from the national agency. The remaining TCT indications (n = 25) are not registered in Serbia. None of the submissions or the PE analyses were publicly available. The Scottish Medicines Consortium positively assessed 26 TCT indications and rejected 30. All appraisals were published, and the majority contained full PE assessments. Finally, the Dutch agency accepted 60 TCT indications and disapproved the use of 1. The majority of reimbursed drugs were exempted from PE evaluation in accordance with 2 recent policies regarding expensive hospital drugs.

IMPLICATIONS: In the 3 examined health care systems, the reimbursement status of the TCTs differed significantly. Level of PE application within the TCT evaluation procedures seemed to largely affect the final
reimbursement decisions. Although, there are special policies in the Netherlands that enabled fast access for 98% of the TCTs that applied for reimbursement, a clear definition of cost-effectiveness threshold and strict requirements for full cost utility assessments in Scotland led to acceptance of only 46% of the TCT submissions. More precise PE guidelines must still be designed for TCT reimbursement in Serbia. Guidelines must account for specific epidemic and economic conditions of the country and could build on the experiences of Scotland and the Netherlands.

PMID: 25638534  [PubMed - indexed for MEDLINE]


Pinho I(1), Santos JV, Dinis-Ribeiro M, Freitas A.

Author information:
(1)acenter for Health Technology and Services Research (CIntesis) bDepartment of Health Information and Decision Sciences (Cides), Faculty of Medicine, University of Porto cGastroenterology Department, Portuguese Oncology Institute, Porto, Portugal.

OBJECTIVE: Data on the burden of gastrointestinal diseases are incomplete, particularly in Southern European countries. The aim of this study was to estimate the burden of digestive diseases in Portugal.

PATIENTS AND METHODS: This was a retrospective observational study based on the national hospitalizations database that identified all consecutive episodes with a first diagnosis of a digestive disease between 2000 and 2010 using ICD-9-CM codes. Comparative analyses were carried out to assess hospitalization trends of major indicators over time and across regions.

RESULTS: More than 75,000 deaths attributable to digestive diseases were observed, representing 16% of the overall in-hospital mortality. Over half of these (59%) were premature deaths (in patients <75 years of age). Biliary tract disease was the most common digestive disorder leading to hospitalization (249,817 episodes, 5210 episodes of acute stone-related cholecystitis in 2010, with an 11% increase compared with 2000). Gastric cancer was responsible for the highest number of in-hospital deaths (10,278) and alcohol-related liver disorders accounted for the highest in-hospital premature deaths (7572). Both costs and the in-hospital mortality rate for major digestive diseases showed a significant positive relation with progression of time (β=0.195, P<0.001); however, when adjusted for age, this was not significant. Significant positive associations were found between age and in-hospital mortality (odds ratio=1.032, P<0.001) and between costs and in-hospital mortality (odds ratio=1.054, P<0.001).

CONCLUSION: In Portugal, digestive diseases represent a major burden, with evidence of an increasing trend. An ageing population contributes strongly towards this increase, placing further demands on
healthcare organizations. Diseases such as gastric cancer, biliary tract disease and alcohol-related liver disorders may require particular attention.

PMID: 25629572  [PubMed - indexed for MEDLINE]

J Clin Oncol. 2015 Mar 1;33(7):786-809.

**Clinical cancer advances 2015: Annual report on progress against cancer from the American Society of Clinical Oncology.**

Masters GA(1), Krilov L(2), Bailey HH(1), Brose MS(1), Burstein H(1), Diller LR(1), Dizon DS(1), Fine HA(1), Kalemkerian GP(1), Moasser M(1), Neuss MN(1), O'Day SJ(1), Odenike O(1), Ryan CJ(1), Schilsky RL(1), Schwartz GK(1), Venook AP(1), Wong SL(1), Patel JD(1).

PMID: 25605863  [PubMed - indexed for MEDLINE]

BMJ. 2015 Jan 14;350:h223.

**Many cancer deaths could be eliminated by greater awareness and access to latest treatments, report says.**

Hawkes N(1).

PMID: 25589377  [PubMed - indexed for MEDLINE]


**NHS England pulls funding from 25 cancer treatments.**

Kmietowicz Z(1).

PMID: 25588769  [PubMed - indexed for MEDLINE]

The burden of disease in older people and implications for health policy and practice.


23% of the total global burden of disease is attributable to disorders in people aged 60 years and older. Although the proportion of the burden arising from older people (≥60 years) is highest in high-income regions, disability-adjusted life years (DALYs) per head are 40% higher in low-income and middle-income regions, accounted for by the increased burden per head of population arising from cardiovascular diseases, and sensory, respiratory, and infectious disorders. The leading contributors to disease burden in older people are cardiovascular diseases (30·3% of the total burden in people aged 60 years and older), malignant neoplasms (15·1%), chronic respiratory diseases (9·5%), musculoskeletal diseases (7·5%), and neurological and mental disorders (6·6%). A substantial and increased proportion of morbidity and mortality due to chronic disease occurs in older people. Primary prevention in adults aged younger than 60 years will improve health in successive cohorts of older people, but much of the potential to reduce disease burden will come from more effective primary, secondary, and tertiary prevention targeting older people. Obstacles include misplaced global health priorities, ageism, the poor preparedness of health systems to deliver age-appropriate care for chronic diseases, and the complexity of integrating care for complex multimorbidities. Although population ageing is driving the worldwide epidemic of chronic diseases, substantial untapped potential exists to modify the relation between chronological age and health. This objective is especially important for the most age-dependent disorders (ie, dementia, stroke, chronic obstructive pulmonary disease, and vision impairment), for which the burden of disease arises more from disability than from mortality, and for which long-term care costs outweigh health expenditure. The societal cost of these disorders is enormous.

PMID: 25468153 [PubMed - indexed for MEDLINE]

Measuring the societal burden of cancer: the cost of lost productivity due to premature cancer-related mortality in Europe.

Hanly P(1), Soerjomataram I, Sharp L.

Every cancer-related death in someone of working age represents an economic loss to society. To inform priorities for cancer control, we estimated costs of lost productivity due to premature cancer-related mortality across Europe, for all cancers and by site, gender, region and country. Cancer deaths in 2008 were obtained from GLOBOCAN for 30 European countries across four regions. Costs were valued using the
human capital approach. Years of productive life lost (YPLL) were computed by multiplying deaths between 15 and 64 years by working-life expectancy, then by country-, age- and gender-specific annual wages, corrected for workforce participation and unemployment. Lost productivity costs due to premature cancer-related mortality in Europe in 2008 were €75 billion. Male costs (€49 billion) were almost twice female costs (€26 billion). The most costly sites were lung (€17 billion; 23% of total costs), breast (€7 billion; 9%) and colorectum (€6 billion; 8%). Stomach cancer (in Southern and Central-Eastern Europe) and pancreatic cancer (in Northern and Western Europe) were also among the most costly sites. The average lost productivity cost per cancer death was €219,241. Melanoma had the highest cost per death (€312,798), followed by Hodgkin disease (€306,628) and brain and CNS cancer (€288,850). Premature mortality costs were 0.58% of 2008 European gross domestic product, highest in Central-Eastern Europe (0.81%) and lowest in Northern Europe (0.51%). Premature cancer-related mortality costs in Europe are significant. These results provide a novel perspective on the societal cancer burden and may be used to inform priority setting for cancer control.

PMID: 25066804  [PubMed - indexed for MEDLINE]
Manag Care. 2015 Sep;24(9):40-8.

**Cost Differences Between Open and Minimally Invasive Surgery.**

Fitch K, Engel T, Bochner A.

**PURPOSE:** To analyze the cost difference between minimally invasive surgery (MIS) and open surgery from a commercial payer perspective for colectomy, ventral hernia repair, thoracic resection (resection of the lung), and hysterectomy.

**DESIGN:** A retrospective claims data analysis was conducted using the 2011 and 2012 Truven Health Analytics MarketScan Commercial Claims and Encounter Database. Study eligibility criteria included age 18-64 years, pharmacy coverage, ≥ 1 month of eligibility in 2012, and a claim coded with 1 of the 4 surgical procedures of interest; the index year was 2012.

**METHODOLOGY:** Average allowed facility and professional costs were calculated during inpatient stay (or day of surgery for outpatient hysterectomy) and the 30 days after discharge for MIS vs open surgery. Cost difference was compared after adjusting for presence of cancer, geographic region, and risk profile (age, gender, and comorbidities).

**RESULTS:** In total, 46,386 cases in the 2012 MarketScan database represented one of the surgeries of interest. The difference in average allowed surgical procedure cost (facility and professional) between open surgery vs adjusted MIS was $10,204 for colectomy; $3,721, ventral hernia repair; $12,989, thoracic resection; and $1,174, noncancer hysterectomy (P < .001 for all comparisons). The difference in average allowed cost in the 30 days after surgery between open surgery vs adjusted MIS was $1,494 for colectomy, $1,320 for ventral hernia repair, negative $711 for thoracic resection, and negative $425 for noncancer hysterectomy (P < .001 for all comparisons, except P = .487 for thoracic resection).

**CONCLUSION:** MIS was associated with statistically significantly lower costs than open surgery for all 4 analyzed surgeries.

PMID: 26521339  [PubMed - indexed for MEDLINE]

**A Longitudinal Assessment of Outcomes and Healthcare Resource Utilization After Immediate Breast Reconstruction-Comparing Implant- and Autologous-based Breast Reconstruction.**

Fischer JP(1), Fox JP, Nelson JA, Kovach SJ, Serletti JM.

OBJECTIVES: Immediate breast reconstruction (IBR) after mastectomy for cancer has increased in recent years, yet long-term, modality-specific comparative data are lacking. We performed this study to compare short- and long-term outcomes after expander, autologous (AT), and direct-to-implant (DI) breast reconstruction.

METHODS: Using four state-level inpatient and ambulatory surgery databases, we conducted a retrospective cohort study of adult women who underwent mastectomy with immediate breast reconstruction from 2008 to 2009. Our primary outcomes were complications within 90 days of surgery, rate of secondary breast surgery within 3 years, and cumulative healthcare charges.

RESULTS: The final cohort included 15,154 women who underwent mastectomy with tissue expander (TE: 70.5%), autologous (AT: 18.1%), or direct to implant (DI: 11.3%) reconstruction. Ninety-day complications were lowest after expander and highest after AT breast reconstruction (TE = 6.5% [reference] vs AT = 13.1% [2.09, 1.82-2.41] vs DI = 6.6% [1.03, 0.84-1.27], P < 0.001). However, adjusted rates of secondary breast procedures were most frequent after expander (2021/1000 discharges) and least frequent after AT (949.0/1000 discharges) reconstruction (P < 0.001). Specifically, unplanned revisions were highest among the tissue expander cohort (TE = 59.2% vs AT = 34.4% vs DI = 45.9%, P < 0.001). The cumulative, adjusted healthcare charges for secondary breast procedures differed slightly across groups (TE = $63,806 vs AT = $66,882 vs DI = $64,145, P < 0.001).

CONCLUSIONS: Complications and secondary breast procedures, including unplanned revisions, after breast reconstruction are common and vary by reconstructive modality. The frequency of these secondary procedures adds substantial healthcare charges to the care of the breast reconstruction patient.

PMID: 26366550  [PubMed - indexed for MEDLINE]


**Resource utilization in esophagectomy: When higher costs are associated with worse outcomes.**

Gaitonde SG(1), Hanseman DJ(1), Wima K(1), Sutton JM(1), Wilson GC(1), Sussman JJ(1), Ahmad SA(1), Shah SA(1), Abbott DE(1).
INTRODUCTION: Care of the esophagectomy patient requires significant resources. We sought to determine which patient and provider variables contribute to resource utilization and their association with clinical outcomes.

METHODS: 6,737 patients undergoing esophagectomy were identified from the University Healthsystem Consortium (UHC). Linear and logistic regression models were used to determine whether characteristics, including age, severity of illness (SOI) and procedural volume were associated with mortality, length of stay (LOS), discharge disposition, readmission rates, and cost.

RESULTS: Older patients were twice as likely to suffer post-operative death (OR 2.12; 95%CI 1.7-2.7), three times more likely to be discharged to extended care facilities (31.9% vs. 10.6%, P<0.001), and cost 8.4% more ($27,628 vs. $25,481, P<0.001). Similarly, patients with higher SOI were more likely to suffer post-operative death (OR 14.6; 4.7-45.9), be readmitted (OR 1.3; 1.1-1.6), and have longer hospital stays (RR 1.3; 1.8-2.1). Patients with the highest index hospital costs were five times more likely to be discharged to an extended care facility (P<0.001).

CONCLUSION: Older patients and those with a higher SOI have higher perioperative mortality, readmission rates, hospital costs, and require more post-operative care. With increasingly scrutinized health care costs, these data provide guidance for more careful patient selection.

PMID: 26186718 [PubMed - indexed for MEDLINE]


A cost-effectiveness comparison between early surgery and non-surgical approach for incidental papillary thyroid microcarcinoma.

Lang BH(1), Wong CK(2).

BACKGROUND: The issue of whether all incidental papillary thyroid microcarcinoma (PTMC) should be managed by early surgery (ES) has been questioned and there is a growing acceptance that a non-surgical approach (NSA) might be more appropriate. We conducted a cost-effectiveness analysis comparing the two strategies in managing incidental PTMC.

METHODS: Our base case was a hypothetical 40-year-old female diagnosed with a unifocal intra-thyroidal 9 mm PTMC. The PTMC was considered suitable for either strategy. A Markov decision tree model was constructed to compare the estimated cost-effectiveness between ES and NSA after 20 years. Outcome probabilities, utilities and costs were derived from the literature. The threshold for cost-effectiveness was set at USD 50,000/quality-adjusted life year (QALY). A further analysis was done for patients < 40 and ≥ 40 years. Sensitivity and threshold analyses were used to examine model uncertainty.

RESULTS: Each patient who adopted NSA over ES cost an extra USD 682.54 but gained an additional 0.260 QALY. NSA was cost saving (i.e. less costly and more effective) up to 16 years from diagnosis and
remained cost-effective from 17 years onward. In the sensitivity analysis, NSA remained cost-effective regardless of patient age (< 40 and ≥ 40 years), complications, rates of progression, year cycle and discount rate. In the threshold analysis, none of the scenarios that could have changed the conclusion appeared clinically likely.

CONCLUSIONS: For a selected group of incidental PTMC, adopting NSA was not only cost saving in the initial 16 years but also remained cost effective thereafter. This was irrespective of patient age, complication rate or rate of PTMC progression.

PMID: 26104754  [PubMed - indexed for MEDLINE]


Kim CW(1), Baik SH, Roh YH, Kang J, Hur H, Min BS, Lee KY, Kim NK.

Although the total cost of robotic surgery (RS) is known to be higher than that of laparoscopic surgery (LS), the cost-effectiveness of RS has not yet been verified. The aim of the study is to clarify the cost-effectiveness of RS compared with LS for rectal cancer. From January 2007 through December 2011, 311 and 560 patients underwent totally RS and conventional LS for rectal cancer, respectively. A propensity score-matching analysis was performed with a ratio of 1:1 to reduce the possibility of selection bias. Costs and perioperative short-term outcomes in both the groups were compared. Additional costs due to readmission were also analyzed. The characteristics of the patients were not different between the 2 groups. Most perioperative outcomes were not different between the groups except for the operation time. Complications within 30 days of surgery were not significantly different. Total hospital charges and patients' bill were higher in RS than in LS. The total hospital charges for patients who recovered with or without complications were higher in RS than in LS, although their short-term outcomes were similar. In patients with complications, the postoperative course after RS appeared to be milder than that of LS. Total hospital charges for patients who were readmitted due to complications were similar between the groups. RS showed similar short-term outcomes with higher costs than LS. Therefore, cost-effectiveness focusing on short-term perioperative outcomes of RS was not demonstrated.

PMCID: PMC4616367
PMID: 26039115  [PubMed - indexed for MEDLINE]


INTRODUCTION: Owing to limited data on hospital resources consumed in caring for the oldest-old, we examined the use of pancreaticoduodenectomy (PD)-relevant hospital resources in patients of increasing age treated in high-volume hospitals participating in the University HealthSystem Consortium.

METHODS: Perioperative outcomes, resource use, and direct costs were compared across increasing age groups in 12,766 PDs (<70 years, n = 8,564; 70-79 years, n = 3,302; ≥80 years, n = 900) performed in 79 high-volume hospitals between 2010 and 2014. Linear regression models with and without covariate adjustments were used to assess the impact of older age.

RESULTS: The oldest-old experienced fewer readmissions and had equivalent intensive care unit use and mortality rates compared with both younger cohorts. However, those ≥80 years experienced more complications, blood transfusions, greater total parenteral nutrition (TPN) use, longer duration of stay, and higher direct hospital costs compared with those <70 years. No differences were found between patients ≥80 years and those 70-79 years with respect to the administration of blood products, TPN, or the direct cost of PD.

CONCLUSION: Our findings suggest the ability to deliver quality pancreatic surgical care to an aging population without strong associations to increased resource utilization. As the number of octogenarians undergoing PD continues to grow, the impact of this technically complex procedure on other important cancer care metrics, including patient-reported outcomes and quality of life, requires further assessment.

PMID: 26013984 [PubMed - indexed for MEDLINE]


Meara JG(1), Leather AJ(2), Hagander L(3), Alkire BC(4), Alonso N(5), Ameh EA(6), Bickler SW(7), Conteh L(8), Dare AJ(2), Davies J(9), Mérisier ED(10), El-Halabi S(11), Farmer PE(12), Gawande A(13), Gillies R(14), Greenberg SL(15), Grimes CE(2), Gruen RL(16), Ismail EA(17), Kamara TB(18), Lavy C(19), Ganbold L(20), Mkandawire NC(21), Raykar NP(22), Riesel JN(23), Rodas E(24), Rose J(25), Roy N(26), Shrime MG(27), Sullivan R(28), Verguet S(29), Watters D(30), Weiser TG(31), Wilson IH(32), Yamey G(33), Yip W(34).

PMID: 25987187 [PubMed - indexed for MEDLINE]

Govaert JA(1), Fiocco M(2), van Dijk WA(3), Scheffer AC(4), de Graaf EJ(5), Tollenaar RA(6), Wouters MW(7); Dutch Value Based Healthcare Study Group.

BACKGROUND: Healthcare providers worldwide are struggling with rising costs while hospitals budgets are under stress. Colorectal cancer surgery is commonly performed, however it is associated with a disproportionate share of adverse events in general surgery. Since adverse events are associated with extra hospital costs it seems important to explicitly discuss the costs of complications and the risk factors for high-costs after colorectal surgery.

METHODS: Retrospective analysis of clinical and financial outcomes after colorectal cancer surgery in 29 Dutch hospitals (6768 patients). Detailed clinical data was derived from the 2011-2012 population-based Dutch Surgical Colorectal Audit database. Costs were measured uniform in all participating hospitals and based on Time-Driven Activity-Based Costing.

FINDINGS: Of total hospital costs in this study, 31% was spent on complications and the top 5% most expensive patients were accountable for 23% of hospitals budgets. Minor and severe complications were respectively associated with a 26% and 196% increase in costs as compared to patients without complications. Independent from other risk factors, ASA IV, double tumor, ASA III, short course preoperative radiotherapy and TNM-4 stadium disease were the top-5 attributors to high costs.

CONCLUSIONS: This article shows that complications after colorectal cancer surgery are associated with a substantial increase in costs. Although not all surgical complications can be prevented, reducing complications will result in considerable cost savings. By providing a business case we show that investments made to develop targeted quality improvement programs will pay off eventually. Results based on this study should encourage healthcare providers to endorse quality improvement efforts.

PMID: 25960291 [PubMed - indexed for MEDLINE]
BACKGROUND: We estimated medical costs attributable to venous thromboembolism (VTE) among patients currently or recently hospitalized for major operation.

METHODS: Using Rochester Epidemiology Project resources, we identified all Olmsted County, MN, residents with objectively diagnosed incident VTE within 92 days of hospitalization for major operation during an 18-year period, 1988-2005 (n = 355). One Olmsted County resident hospitalized for major operation without VTE was matched to each case on event date (±1 year), type of operation, duration of previous medical history, and active cancer status. Subjects were followed in Rochester Epidemiology Project provider-linked billing data for standardized, inflation-adjusted direct medical costs from 1 year before index (case's VTE event date and control's matched date) to earliest of death, emigration, or December 31, 2011. We used generalized linear modeling to predict costs for cases and controls and used bootstrapping methods to assess uncertainty and significance of mean adjusted cost differences.

RESULTS: Adjusted mean predicted costs were more than 1.5-fold greater for cases ($55,956) than for controls ($32,718) (P ≤ .001) from index to up to 5 years postindex. Cost differences between cases and controls were greatest within the first 3 months after index (mean difference = $12,381). Costs were greater for cases than controls (mean difference = $10,797) from 3 months to up to 5 years postindex and together accounted for about half of the overall cost difference.

CONCLUSION: VTE during or after recent hospitalization for major operation contributes a substantial economic burden; VTE-attributable costs are greatest in the initial 3 months but persist for up to 5 years.

PMCID: PMC4346535 [Available on 2016-03-01]
PMID: 25633736 [PubMed - indexed for MEDLINE]


Characteristics of highly performing surgical oncology units—a personal reflection on the Mayo and Cleveland Clinic models.

Sutton PA.

PMID: 25624162 [PubMed - indexed for MEDLINE]

Gynecol Oncol. 2015 Feb;136(2):300-4.
OBJECTIVE: Sentinel lymph node biopsy (SLNB) is an acceptable method of evaluating groin lymph nodes in women with vulvar cancer. The purpose of this study is to assess the cost and effectiveness of SLNB compared to universal inguinofemoral lymphadenectomy (LND) for vulvar cancer.

METHODS: A modified Markov decision model was generated to compare two surgical approaches for newly diagnosed, early-stage vulvar cancer: (1) radical vulvectomy+LND and (2) radical vulvectomy+SLNB. Published data were used to estimate survival outcomes, probability of positive lymph nodes and lymphedema. Costs of surgery and radiation and lymphedema therapies were estimated from published data. Lymphedema's effect on quality of life (QOL) was extrapolated from other disease sites and assigned a utility score of 0.84. Multiple sensitivity analyses were performed.

RESULTS: SLNB was less costly ($13,449 versus $14,261) and more effective (4.16 quality-adjusted life years (QALYs) versus 4.00 QALYs) than LND. The model was sensitive to the impact of lymphedema on QOL. Unless the impact of lymphedema on QOL was minimal (utility score>0.975) SLNB dominated LND. Variations in the rate of positive SLNB and probability of lymphedema over clinically reasonable ranges did not alter the results.

CONCLUSIONS: SLNB is a cost-effective strategy for the treatment of newly diagnosed vulvar cancer, mainly due to the impact of lymphedema on QOL.

PMID: 25478927 [PubMed - indexed for MEDLINE]
Health Care Costs Among Renal Cancer Patients Using Pazopanib and Sunitinib.

MacLean EA(1), Sandin R, Mardekan J.

Comment in
  J Manag Care Spec Pharm. 2015 Sep;21(9):841-3.

Comment on
  J Manag Care Spec Pharm. 2015 Jan;21(1):37-44, 44a-d.

Publications that aim to assess the economics of different therapies are important because they complement clinical trial data and may aid in decision making. We therefore read with interest the study by Hansen et al. in the January 2015 issue of JMCP. This study compared costs between pazopanib (PAZ) and sunitinib (SU) in the first-line treatment of patients with metastatic renal cell carcinoma (mRCC).1 The authors assessed health care costs through assignment of costs from the Truven Health MarketScan Databases to the self-reported health care resource utilization (HCRU) data from the population studied in the phase III noninferiority clinical trial COMPARZ (Pazopanib versus sunitinib in metastatic renal cell carcinoma).2 We are writing to comment on the conclusions drawn from the results presented, the methodology used, and to request additional information and clarification on data presented.

PMID: 26308231 [PubMed - indexed for MEDLINE]
Cancer Immunotherapies--and Their Cost--Take Center Stage at ASCO's 2015 Annual Meeting.

Adams KT.

PMID: 26281468  [PubMed - indexed for MEDLINE]


Tools for Taking the Measure Of Cancer Drugs.

Silverman E.

PMID: 26281461  [PubMed - indexed for MEDLINE]

Bull Cancer. 2015 Sep;102(9):719-29.

[uPA/PAI-1, Oncotype DX™, MammaPrint®. Prognosis and predictive values for clinical utility in breast cancer management].

[Article in French]

Luporsi E(1), Bellocq JP(2), Barrière J(3), Bonastre J(4), Chetritt J(5), Le Corroller AG(6), de Cremoux P(7), Fina F(8), Gauchez AS(9), Lamy PJ(10), Martin PM(8), Mazouni C(4), Peyrat JP(11), Romieu G(10), Verdoni L(12), Mazeau-Woynar V(12), Kassab-Chahmi D(13); Institut National du Cancer.

PMID: 26235416  [PubMed - indexed for MEDLINE]

J Clin Oncol. 2015 Aug 10;33(23):2537-44

Detecting Germline PTEN Mutations Among At-Risk Patients With Cancer: An Age- and Sex-Specific Cost-Effectiveness Analysis.

Ngeow J(1), Liu C(1), Zhou K(1), Frick KD(1), Matchar DB(1), Eng C(2).
PURPOSE: Cowden syndrome (CS) is an autosomal dominant disorder characterized by benign and malignant tumors. One-quarter of patients who are diagnosed with CS have pathogenic germline PTEN mutations, which increase the risk of the development of breast, thyroid, uterine, renal, and other cancers. PTEN testing and regular, intensive cancer surveillance allow for early detection and treatment of these cancers for mutation-positive patients and their relatives. Individual CS-related features, however, occur commonly in the general population, making it challenging for clinicians to identify CS-like patients to offer PTEN testing.

PATIENTS AND METHODS: We calculated the cost per mutation detected and analyzed the cost-effectiveness of performing selected PTEN testing among CS-like patients using a semi-quantitative score (the PTEN Cleveland Clinic [CC] score) compared with existing diagnostic criteria. In our model, first-degree relatives of the patients with detected PTEN mutations are offered PTEN testing. All individuals with detected PTEN mutations are offered cancer surveillance.

RESULTS: CC score at a threshold of 15 (CC15) costs from $3,720 to $4,573 to detect one PTEN mutation, which is the most inexpensive among the different strategies. At base-case, CC10 is the most cost-effective strategy for female patients who are younger than 40 years, and CC15 is the most cost-effective strategy for female patients who are between 40 and 60 years of age and male patients of all ages. In sensitivity analyses, CC15 is robustly the most cost-effective strategy for probands who are younger than 60 years.

CONCLUSION: Use of the CC score as a clinical risk calculator is a cost-effective prescreening method to identify CS-like patients for PTEN germline testing.

PMCID: PMC4525048 [Available on 2016-08-10]
PMID: 26169622 [PubMed - indexed for MEDLINE]


Kovic B(1), Xie F(2).

Comment in

PURPOSE: The Avastin in Glioblastoma trial has shown that patients newly diagnosed with glioblastoma multiforme (GBM) treated with bevacizumab plus radiotherapy and temozolomide versus radiotherapy and temozolomide alone showed improvement in progression-free survival, possibly leading to a new indication
for first-line use of bevacizumab in GBM. The cost-utility of this new intervention remains unknown; therefore, we developed a Markov model estimating the incremental cost-utility ratio (ICUR) from a Canadian public payer perspective.

METHODS: We incorporated trial data for state transitions and treatment effects from the Avastin in Glioblastoma trial, costs and resource use data from Canadian published studies and databases, and utility parameters from published literature. We addressed uncertainty through one-way deterministic and probabilistic sensitivity analyses, extended the model to lifetime horizon and by another arm to compare first-line versus second-line use of bevacizumab on progression, performed value of information analysis, and performed US costing sensitivity analysis.

RESULTS: Adding bevacizumab to radiotherapy and temozolomide resulted in increases of 0.13 quality-adjusted life-years (QALYs) and $80,000 per patient over 2-year time horizon at the base case analysis. The ICUR was $607,966/QALY (95% CI, $305,000/QALY to $2,550,000/QALY), with 0% chance of being cost effective at the $100,000/QALY willingness-to-pay threshold and never going below $450,000/QALY in the one-way sensitivity analysis. The ICUR using the US costing data was $787,519/QALY. The lifetime ICUR was $439,764/QALY (95% CI, $235,000/QALY to $1,520,000/QALY), never going below $350,000/QALY in the sensitivity analysis. Second-line use of bevacizumab on progression is more effective and less expensive than its first-line use. Value of information analysis revealed that future research is unwarranted.

CONCLUSION: Bevacizumab has only limited effectiveness and is therefore not likely to be cost effective in treating adult patients with newly diagnosed GBM.

PMID: 26014296 [PubMed - indexed for MEDLINE]


Gallego CJ(1), Shirts BH(1), Bennette CS(1), Guzauskas G(1), Amendola LM(1), Horike-Pyne M(1), Hisama FM(1), Pritchard CC(1), Grady WM(1), Burke W(1), Jarvik GP(1), Veenstra DL(2).

PURPOSE: To evaluate the cost effectiveness of next-generation sequencing (NGS) panels for the diagnosis of colorectal cancer and polyposis (CRCP) syndromes in patients referred to cancer genetics clinics.

PATIENTS AND METHODS: We developed a decision model to evaluate NGS panel testing compared with current standard of care in patients referred to a cancer genetics clinic. We obtained data on the prevalence of genetic variants from a large academic laboratory and calculated the costs and health benefits of identifying relatives with a pathogenic variant, in life-years and quality-adjusted life-years (QALYs). We
classified the CRCP syndromes according to their type of inheritance and penetrance of colorectal cancer. One-way and probabilistic sensitivity analyses were conducted to assess uncertainty.

RESULTS: Evaluation with an NGS panel that included Lynch syndrome genes and other genes associated with highly penetrant CRCP syndromes led to an average increase of 0.151 year of life, 0.128 QALY, and $4,650 per patient, resulting in an incremental cost-effectiveness ratio of $36,500 per QALY compared with standard care and a 99% probability that this panel was cost effective at a threshold of $100,000 per QALY. When compared with this panel, the addition of genes with low colorectal cancer penetrance resulted in an incremental cost-effectiveness ratio of $77,300 per QALY.

CONCLUSION: The use of an NGS panel that includes genes associated with highly penetrant CRCP syndromes in addition to Lynch syndrome genes as a first-line test is likely to provide meaningful clinical benefits in a cost-effective manner at a $100,000 per QALY threshold.

PMCID: PMC4461806 [Available on 2016-06-20]
PMID: 25940718 [PubMed - indexed for MEDLINE]


**Cost-effectiveness of prophylactic granulocyte colony-stimulating factor for febrile neutropenia in breast cancer patients receiving FEC-D.**

Lee EK(1), Wong WW, Trudeau ME, Chan KK.

5-fluorouracil, epirubicin, cyclophosphamide → docetaxel (FEC-D) has been associated with higher-than-expected rates of febrile neutropenia (FN) that meet the current guideline threshold of 20% for primary prophylaxis (PP) with granulocyte colony-stimulating factor (G-CSF). We examined the cost-effectiveness of FEC-D with varying strategies of G-CSF prophylaxis from the perspective of the public payer in Ontario, Canada. A state-transition model was developed to compare three strategies: FEC-D with secondary prophylaxis (SP) only, PP starting with the first cycle of D, and PP starting with the first cycle of FEC. Analysis was conducted for a hypothetical cohort of 50-year-old early-stage breast cancer patients undergoing adjuvant chemotherapy, at a 10-year horizon. Results were expressed in quality-adjusted life-years (QALYs) and 2013 Canadian dollars. Costs and benefits were discounted at 5%. Event rates, costs, and utilities were derived from the literature. One-way and probabilistic sensitivity analyses were conducted.

Using filgrastim, the incremental cost-effectiveness ratios (ICERs) for starting PP with the first cycle of D and starting PP with the first cycle of FEC, compared to using SP only, were $57,886/QALY and $116,186/QALY, respectively. With pegfilgrastim, the ICERs for the same strategies were $90,735/QALY and $149,483/QALY. Compared to using filgrastim SP only, starting PP with D had a 24% chance of being cost-effective at a willingness-to-pay (WTP) threshold of $50,000/QALY, and a 99% chance at a WTP threshold of $100,000/QALY. Results were sensitive to FN-related parameters,
such as the risk of FN per cycle with D and the associated mortality, but were robust to uncertainty in parameters related to breast cancer, such as the utilities and hazard of relapse. FEC-D with PP starting with the first cycle of D is most likely to be cost-effective, especially with increased risk of FN and mortality from FN.

PMID: 25694355 [PubMed - indexed for MEDLINE]


Cost-utility comparison of neoadjuvant chemotherapy versus primary debulking surgery for treatment of advanced-stage ovarian cancer in patients 65 years old or older.

Rowland MR(1), Lesnock JL(2), Farris C(3), Kelley JL(4), Krivak TC(5).

Comment in

OBJECTIVE: Treatment for advanced-stage epithelial ovarian cancer (AEOC) includes primary debulking surgery (PDS) or neoadjuvant chemotherapy (NACT). A randomized controlled trial comparing these treatments resulted in comparable overall survival (OS). Studies report more complications and lower chemotherapy completion rates in patients 65 years old or older receiving PDS. We sought to evaluate the cost implications of NACT relative to PDS in AEOC patients 65 years old or older.

STUDY DESIGN: A 5 year Markov model was created. Arm 1 modeled PDS followed by 6 cycles of carboplatin and paclitaxel (CT). Arm 2 modeled 3 cycles of CT, followed by interval debulking surgery and then 3 additional cycles of CT. Parameters included OS, surgical complications, probability of treatment initiation, treatment cost, and quality of life (QOL). OS was assumed to be equal based on the findings of the international randomized control trial. Differences in surgical complexity were accounted for in base surgical cost plus add-on procedure costs weighted by occurrence rates. Hospital cost was a weighted average of diagnosis-related group costs weighted by composite estimates of complication rates. Sensitivity analyses were performed.

RESULTS: Assuming equal survival, NACT produces a cost savings of $5616. If PDS improved median OS by 1.5 months or longer, PDS would be cost effective (CE) at a $100,000/quality-adjusted life-year threshold. If PDS improved OS by 3.2 months or longer, it would be CE at a $50,000 threshold. The model was robust to variation in costs and complication rates. Moderate decreases in the QOL with NACT would result in PDS being CE.

CONCLUSION: A model based on the RCT comparing NACT and PDS showed NACT is a cost-saving treatment compared with PDS for AEOC in patients 65 years old or older. Small increases in OS with PDS or moderate declines in QOL with NACT would result in PDS being CE at the $100,000/quality-adjusted life-
year threshold. Our results support further evaluation of the effects of PDS on OS, QOL and complications in AEOC patients 65 years old or older.

PMID: 25644442 [PubMed - indexed for MEDLINE]


**Point: Should lung cancer screening by chest CT scan be a covered benefit? Yes.**

Yankelevitz DF.

Comment in


PMID: 25412275 [PubMed - indexed for MEDLINE]


**Cost estimates and economic implications of expanded RAS testing in metastatic colorectal cancer.**

Kircher SM(1), Mohindra N(2), Nimeiri H(2).

BACKGROUND: In colorectal cancer (CRC), evidence shows that expanding RAS testing to analyze more mutations may better predict benefit from anti-EGFR therapy. The economic implications of expanding RAS testing for metastatic CRC were analyzed.

MATERIALS AND METHODS: Estimates of standard KRAS exon 2 testing were based on the Centers for Medicare and Medicaid Services (CMS) 2014 Diagnostic Laboratory Fee Schedule, and expanded RAS testing was estimated using a sensitivity analysis done with various potential cost scenarios (1, 2, 10, and 30 times the cost of the standard KRAS test). The cost estimates for cetuximab and panitumumab were based on the CMS payment allowance limits for Medicare Part B.

RESULTS: A total of 28,692 patients with metastatic CRC were estimated to be eligible annually for RAS testing. For cetuximab, the societal cost of standard KRAS testing plus the drug versus expanded testing plus the drug would be $1.16 billion versus $816 million if the cost of the tests were the same. If the cost of the expanded RAS test were 30 times the cost of the standard test, then the societal cost of standard KRAS
testing plus the drug versus expanded testing plus the drug would be $1.16 billion versus $980 million, a continued savings of more than $184 million annually. Similar savings were seen with panitumumab.

CONCLUSION: The increased societal cost of expanded RAS testing versus standard approved KRAS exon 2 testing was inconsequential when compared with the amount of money saved by not treating the additional 18% of patients who harbor additional RAS mutations (beyond exon 2) with anti-EGFR therapy.

PMCID: PMC4294607 [Available on 2016-01-01]
PMID: 25410095 [PubMed - indexed for MEDLINE]
Cost effectiveness of proton versus photon radiation therapy with respect to the risk of growth hormone deficiency in children.


BACKGROUND: Proton therapy in pediatrics may improve the risk/benefit profile of radiotherapy at a greater upfront financial cost, but it may prove to be cost effective if chronic medical complications can be avoided. Tools to assist with decision making are needed to aid in selecting pediatric patients for protons, and cost-effectiveness models can provide an objective method for this.

METHODS: A Markov cohort-simulation model was developed to assess the expected costs and effectiveness for specific radiation doses to the hypothalamus with protons versus photons in pediatric patients. Costing data included cost of investment and the diagnosis and management of growth hormone deficiency. Longitudinal outcomes data were used to inform risk parameters for the model. With costs in 2012 US dollars and effectiveness measured in quality-adjusted life years, incremental cost-effectiveness ratios were used to measure outcomes.

RESULTS: Proton therapy was cost effective for some scenarios based on the difference in hypothalamic sparing. Although some scenarios were not cost effective, others were not only cost effective for proton therapy but also demonstrated that protons were cost saving compared with photons.

CONCLUSIONS: The current results provide the first evidence-based guide for identifying children with brain tumors who may benefit the most from proton therapy with respect to endocrine dysfunction. Proton therapy may be more cost effective for scenarios in which radiation dose to the hypothalamus can be spared, but protons may not be cost effective when tumors are involving or directly adjacent to the hypothalamus if there is a high dose to this structure.

PMID: 25641407 [PubMed - indexed for MEDLINE]
Spacers in radiotherapy treatment of prostate cancer: is reduction of toxicity cost-effective?

Vanneste BG(1), Pijls-Johannesma M(2), Van De Voorde L(3), van Lin EN(4), van de Beek K(5), van Loon J(3), Ramaekers BL(6), Lambin P(3).

BACKGROUND AND PURPOSE: To compare the cost-effectiveness of treating prostate cancer patients with intensity-modulated radiation therapy and a spacer (IMRT+S) versus IMRT-only without a spacer (IMRT-O).

MATERIALS AND METHODS: A decision-analytic Markov model was constructed to examine the effect of late rectal toxicity and compare the costs and quality-adjusted Life Years (QALYs) of IMRT-O and IMRT+S. The main assumption of this modeling study was that disease progression, genito-urinary toxicity and survival were equal for both comparators.

RESULTS: For all patients, IMRT+S revealed a lower toxicity than IMRT-O. Treatment follow-up and toxicity costs for IMRT-O and IMRT+S amounted to €1604 and €1444, respectively, thus saving €160 on the complication costs at an extra charge of €1700 for the spacer in IMRT+S. The QALYs yielded for IMRT-O and IMRT+S were 3.542 and 3.570, respectively. This results in an incremental cost-effectiveness ratio (ICER) of €55,880 per QALY gained. For a ceiling ratio of €80,000, IMRT+S had a 77% probability of being cost-effective.

CONCLUSION: IMRT+S is cost-effective compared to IMRT-O based on its potential to reduce radiotherapy-related toxicity.

PMID: 25616537  [PubMed - indexed for MEDLINE]
METHODS: Between 2000 and 2012, eighty patients at our institution received post-hysterectomy 3DCRT (46) or IMRT (34) for uterine or cervical cancer. Baseline characteristics, outcome, and ≥CTCAE grade 2 toxicities were compared between the two groups. Predictors of toxicity-free survival were identified. A decision analysis model was designed to capture individual health states at 1, 2, and 3 years after treatment. Micro-costing technique and estimated quality-adjusted life years (QALYs) were used to calculate incremental cost-effectiveness ratio (ICER).

RESULTS: Utilization of IMRT increased from 25% (2005-2007) to 75% (2008-2012). Recurrence-free and overall survival rates were not different between the two groups. Toxicity rates were reduced with IMRT versus 3DCRT (HR 0.42, p=0.04). Women who received IMRT had numerically lower rates of late gastrointestinal and genitourinary toxicity and significantly lower rates of late overall toxicity at 3 years (16% vs. 45%, p=0.04). On univariate analysis, IMRT was associated with decreased late toxicity (HR 0.43, p=0.04). Treatment costs were higher and toxicity costs were lower with IMRT. IMRT had an ICER of $235,233 (year 1), $114,270 (year 2), and $75,555 (year 3) per QALY gained.

CONCLUSION: IMRT is associated with reduced late overall toxicity compared to 3DCRT without compromising clinical outcome. IMRT is not cost-effective during the early chronic toxicity phase, but it becomes more cost-effective over time.

PMID: 25562668 [PubMed - indexed for MEDLINE]

Clon Oncol (R Coll Radiol). 2015 Feb;27(2):115-24

HERO (Health Economics in Radiation Oncology): a pan-European project on radiotherapy resources and needs.

Lievens Y(1), Dunscombe P(2), Defourny N(3), Gasparotto C(3), Borras JM(4), Grau C(5).

Radiotherapy continues to evolve at a rapid rate in technology and techniques, with both driving up costs in an era in which health care budgets are of increasing concern at every governmental level. Against this background, it is clear that the radiotherapy community needs to quantify the costs of state of the art practice and then to justify those costs through rigorous cost-effectiveness analyses. The European Society for Radiotherapy and Oncology-Health Economics in Radiation Oncology project is directed towards tackling this issue in the European context. The first step has been to provide a validated picture of the European radiotherapy landscape in terms of the availability of equipment, personnel and guidelines. An 84-item questionnaire was distributed to the 40 countries of the European Cancer Observatory, of which 34 provided partial or complete responses. There was a huge variation in the availability and sophistication of treatment equipment and staffing levels across Europe. The median number of MV units per million inhabitants was 5.3, but there was a seven-fold variation across the European countries. Likewise, although average staffing figures per million inhabitants were 12.8 for radiation oncologists, 7.6 for physicists, 3.5 for
dosimetrist, 26.6 for radiation therapists and 14.8 for nurses, there was a 20-fold variation, even after grouping personnel with comparable duties in the radiotherapy process. Guidelines for capital and human resources were declared for most countries, but without explicitly providing metrics for developing capital and human resource inventories in many cases. Although courses delivered annually per resource item – be it equipment or staff – increase with decreasing gross national income (GNI) per capita, differences were observed in equipment and staff availability in countries with a higher GNI/n, indicating that health policy has a significant effect on the provision of services. Although more needs to be done to increase access to radiotherapy in Europe, the situation has improved considerably since the comparable RadioTherapy for Cancer: QUAnification of Infrastructure and Staffing Needs (QUARTS) study reported in 2005.

PMID: 25467072 [PubMed - indexed for MEDLINE]